



# Summary of Approvals of Substances transferred under the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (As Amended)

As at  
15 December 2008

## NOTES:

**This document sets out the classifications, variation codes and controls relating to the substances approved under the HSNO Act by virtue of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (As Amended). It takes into account amendments made to the approvals and related controls contained in the Transfer Notice, made under section 67A of the HSNO Act. Those approvals which have been amended under section 67A are denoted by a superscript 's67A'.**

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Notice came into force on 1<sup>st</sup> April 2006

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Dwelling, hospital, school, airport, commercial premises, office, & place of regular congregation

High, Medium Low Density Land Use <b>1-5 Regs</b>	<b>8</b>
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Low: 1,000 vehicle movements, 50 rail, 400 pers waterway, 200 pers RoW

Medium = between

High: 5,000 vehicle movements, 250 rail, 1,800 pers waterway, 900 pers

**Area of high intensity land use**, in relation to an area beyond the boundary of a place where a hazardous substance location is sited, includes an area of regular habitation, any other hazardous substance location, and a high density traffic route

**Area of low intensity land use**, in relation to an area beyond the boundary of a place where a hazardous substance location is sited, includes an area where any person may legally be present occasionally, and also includes a public park or reserve and a traffic route of low or medium traffic density, but does not include an area of regular habitation

**Area of regular habitation** includes any dwelling, hospital, school, airport, commercial premises, office, or other area where people regularly congregate

**Controlled zone** means an area abutting a hazardous substance location that is regulated so that—

(a) Within the zone, the adverse effects of a hazardous substance are reduced or prevented; and

(b) Beyond the zone, members of the public are provided with reasonable protection from those adverse effects

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**NOTES FOR INCLUSION IN FUTURE UPDATES:**



## 1. Introduction

This document sets out the approvals, classifications and controls for substances listed in the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (As Amended) and broadly follows the same structure of the Transfer Notice:

- Schedule 1 - the hazardous substances (dangerous goods) deemed to be approved under section 29 of the Hazardous Substances and New Organisms Act 1996 (the Act) by virtue of the Transfer Notice, are those listed in Schedule 1. Those substances are also deemed to have the hazard classifications specified opposite their descriptions in Schedule 1.
- Schedule 2 - the hazardous substances (scheduled toxic substances) deemed to be approved under section 29 of the Hazardous Substances and New Organisms Act 1996 (the Act) by virtue of the Transfer Notice, are those listed in Schedule 2. Those substances are also deemed to have the hazard classifications specified opposite their descriptions in Schedule 2.
- Schedules 3 – 10 and Schedule 12 - the controls that apply to these substances are prescribed by the regulations made under the HSNO Act (the ‘default’ controls) as varied in Schedules 3 – 10 and Schedule 12. The default controls are listed below in section 2.
  - Schedule 3 – Hazardous gases
  - Schedule 4 – Gases that are not hazardous substances
  - Schedule 5 – Class 3, 4 and 5 dangerous goods
  - Schedule 5A – Specific class 3, 4 and 5 dangerous goods
  - Schedule 6 – Petrol and Petroleum products
  - Schedule 7 – Scheduled toxic substances
  - Schedule 8 – Stationary container systems
  - Schedule 9 – Secondary containment
  - Schedule 10 – Adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances.
  - Schedule 12 – Transportation of packaged dangerous goods
- Schedule 11 – the ‘transitional’ controls listed in Schedule 11 only apply to the substances listed in Schedules 1 and 2 if the control clause in Schedule 11 states that the control has not yet expired.
- Schedule 13 – the substances listed in Schedule 13 are deemed to have the tolerable exposure limits and environmental exposure limits listed opposite their description in Schedule 13.

## 2. Applications of controls and changes to controls

The controls that apply to the substances described in Tables 1 to 3 (hazardous gases) of Schedule 1 are as follows:

- (a) the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001<sup>1</sup>, with the changes indicated in Schedule 3:
  - (b) the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001, with the changes indicated in Schedule 3:
  - (c) the Hazardous Substances (Identification) Regulations 2001, with the changes indicated in Schedule 3:
  - (d) the Hazardous Substances (Packaging) Regulations 2001:
  - (e) the Hazardous Substances (Disposal) Regulations 2001:
  - (f) the Hazardous Substances (Emergency Management) Regulations 2001, with the changes indicated in Schedule 3:
  - (g) the Hazardous Substances (Tracking) Regulations 2001, with the changes indicated in Schedule 3:
  - (h) the Hazardous Substances (Compressed Gases) Regulations 2004:
  - (i) the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004[, with the changes indicated in Schedule 3 .
- (2) The controls that apply to the substances described in Table 4 (gases that are not hazardous substances) of Schedule 1 are as follows:
- (a) the Hazardous Substances (Compressed Gases) Regulations 2004, with the changes indicated in Schedule 4:
  - (b) the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004.
- (3) The controls that apply to the substances described in Table 5 (classes 3, 4 and 5 dangerous goods) of Schedule 1 are as follows:
- (a) the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001[, with the changes indicated in Schedule 5 :
  - (b) the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001, with the changes indicated in Schedule 5:
  - (c) the Hazardous Substances (Identification) Regulations 2001:
  - (d) the Hazardous Substances (Packaging) Regulations 2001, with the changes indicated in Schedule 5:
  - (e) the Hazardous Substances (Disposal) Regulations 2001:

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<sup>1 1</sup> These and other regulations referenced can be accessed online at [Public Access Legislation](#).

- (f) the Hazardous Substances (Emergency Management) Regulations 2001, with the changes indicated in Schedule 5:
  - (g) the Hazardous Substances (Tracking) Regulations 2001, with the changes indicated in Schedule 5:
  - (h) the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004.
- (4) The controls that apply to the substances described in Table 6 (petrol and petroleum products) of Schedule 1 are as follows:
- (a) the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001, with the changes indicated in Schedule 6:
  - (b) the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001, with the changes indicated in Schedule 6:
  - (c) the Hazardous Substances (Identification) Regulations 2001, with the changes indicated in Schedule 6:
  - (d) the Hazardous Substances (Packaging) Regulations 2001, with the changes indicated in Schedule 6:
  - (e) the Hazardous Substances (Disposal) Regulations 2001, with the changes indicated in Schedule 6:
  - (f) the Hazardous Substances (Emergency Management) Regulations 2001, with the changes indicated in Schedule 6:
  - (g) the Hazardous Substances (Tracking) Regulations 2001, with the changes indicated in Schedule 6:
  - (h) the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004, with the changes indicated in Schedule 6.
- (5) The controls that apply to the substances described in Schedule 2 (scheduled toxic substances) are as follows:
- (a) the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001:
  - (b) the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001, with the changes indicated in Schedule 7:
  - (c) the Hazardous Substances (Identification) Regulations 2001, with the changes indicated in Schedule 7:
  - (d) the Hazardous Substances (Packaging) Regulations 2001, with the changes indicated in Schedule 7:
  - (e) the Hazardous Substances (Disposal) Regulations 2001:
  - (f) the Hazardous Substances (Emergency Management) Regulations 2001, with the changes indicated in Schedule 7:

- (g) the Hazardous Substances (Tracking) Regulations 2001, with the changes indicated in Schedule 7:
- (h) the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004.

**3. Workplace exposure standards set for substances transferred**

Under regulation 29(2) of the Hazardous Substance (Classes 6, 8, and 9 Controls) Regulations 2001, the Authority adopts as a workplace exposure standard in relation to each hazardous substance listed in Schedule 1 or Schedule 2, the value specified in “Workplace Exposure Standards”, published by the Occupational Safety and Health Service, Department of Labour, January 2002, ISBN 0-477-03660-0 relating to that hazardous substance, if any.

**4. Tolerable exposure limits and environmental exposure limits set for substances transferred**

- (1) For the purpose of regulation 24(1) of the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001, the Authority sets as tolerable exposure limits for petrol, aviation gasoline and racing gasoline the values specified in Schedule 13.
- (2) For the purpose of regulation 33 of the Hazardous Substances (Classes 6, 8 and 9 Controls) Regulation 2001, the Authority sets as environmental exposure limits for petrol, aviation gasoline and racing gasoline the values specified in Schedule 13.

## Schedule 1

### List of substances (dangerous goods) to be transferred

**Table 1**

**Flammable gases (that are not otherwise hazardous)**

Substance Description	CAS Number	UN Number	Hazard Classification
1-Butene (butylene)	25167-67-3	1012	2.1.1A
1-Propene, 2-methyl- (isobutene)	115-11-7	1055	2.1.1A
Butane	106-97-8	1011	2.1.1A
Cyclopropane	75-19-4	1027	2.1.1A
Deuterium	7782-39-0	1957	2.1.1A
Ethane	74-84-0	1035	2.1.1A
Ethane, 1-chloro-1,1difluoro-	75-68-3	2517	2.1.1A
Ethane, 1,1-difluoro- (Refrigerant gas R152A)	75-37-6	1030	2.1.1A
Ethane, 1,1,1-trifluoro- (Refrigerant gas R143A)	420-46-2	2035	2.1.1A
Ethene (ethylene)	74-85-1	1962	2.1.1A
Ethyne (acetylene)	74-86-2	1001	2.1.1A
Hydrogen	1333-74-0	1049	2.1.1A
LPG (liquefied petroleum gas)	68476-85-7	1075	2.1.1A
<p><u>Description:</u> A mixture of hydrocarbon gases liquefied by application of a few atmospheres pressure and/or refrigeration below their boiling points. The mixture consists of predominantly C<sub>3</sub> and C<sub>4</sub> hydrocarbons (propane and butanes) with small amounts of other hydrocarbons in the C<sub>1</sub> to C<sub>7</sub> range and additives, subject to the following limits:</p> <p>Ethane: Maximum 5%</p> <p>Propane: Maximum 100%</p> <p>Butanes: Maximum 100%</p> <p>Propylene: Maximum 5%</p> <p>Unsaturated hydrocarbons other than propylene: Maximum 0.3%</p> <p>Butadiene: Maximum 0.1%</p> <p>Additives: (&lt;0.1% v/v)</p> <p style="padding-left: 20px;">Anti-icing agents</p> <p style="padding-left: 20px;">Odorants</p>			
[Methane or natural gas but excluding refrigerated liquid methane or natural gas	74-82-8	1971	2.1.1A

Substance Description	CAS Number	UN Number	Hazard Classification
Propane	74-98-6	1978	2.1.1A
Methane, difluoro-	[75-10-5	3252	2.1.1A
Methane, fluoro- (Refrigerant gas R41)	593-53-3	2454	2.1.1A
Propane, 2-methyl- (isobutane)	[75-28-5	1969	2.1.1A
Propane, 2,2-dimethyl- (neopentane)	463-82-1	2044	2.1.1A
Propylene	115-07-1	1077	2.1.1A

**Table 2**

**Oxidising gases that are not toxic**

Substance Description	CAS Number	UN Number	Hazard Classification
Carbon dioxide and oxygen mixture, compressed (>23% oxygen)	8063-77-2	3261	5.1.2A
Oxygen	7782-44-7	1072 & 1073	5.1.2A

**Table 3**

**Oxidising and/or toxic gases**

Substance Description	CAS Number	UN Number	Hazard Classification(s)
1,3-Butadiene	106-99-0	1010	2.1.1A, 6.4A, 6.6A, 6.7A, 6.8B, 6.9A, 9.1D
2-Propanone, 1,1,1,3,3,3-hexafluoro- (hexafluoro acetone)	684-16-2	2420	6.1B, 6.8A, 6.9A, [8.2B , 8.3A
Ammonia, anhydrous	7664-41-7	1005	2.1.1B, 6.1C, 8.2B, 8.3A, 9.1A
Ammonia, >50% aqueous solution	1336-21-6	3318	2.1.1B, 6.1D, 8.1A, 8.2B, 8.3A, 9.1A, 9.3B
Ammonia, 35-50% aqueous solution	1336-21-6	2073	6.1D, 8.1A, 8.2B, 8.3A, 9.1A, 9.3B
Borane, trichloro-	10294-34-5	1741	6.1C, 6.9A, 8.1A, [8.2C , 8.3A, 9.1D, 9.3C
Borane, trifluoro-	7637-07-2	1008	6.1A, 6.9A, 8.1A, 8.2A, 8.3A, 9.1D
Carbon monoxide	630-08-0	1016	2.1.1A, 6.1C, 6.8A, 6.9A, 9.1D
Carbon oxide sulphide (carbonyl sulphide)	463-58-1	2204	2.1.1A, 6.1C, 6.3A, 6.4A, 6.9A, 9.1D
Chlorine	7782-50-5	1017	5.1.2A, 6.1A, 8.2A, 8.3A, 6.9A, 9.1A, 9.2A, 8.1A
Dinitrogen tetroxide [nitrogen dioxide	10544-72-6 [10102-44-0	1067	5.1.2A, 6.1A, 6.9A, 8.1A, [8.2B , 8.3A, 9.1D
Dinitrogen tetroxide and nitric oxide mixture [nitrogen dioxide and nitric oxide mixture	63907-41-5	1975	5.1.2A, 6.1A, 6.9A, 8.1A, [8.2B , 8.3A, 9.1D

<b>Substance Description</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
Ethanamine, anhydrous (ethylamine)	75-04-7	1036	2.1.1A, 6.1C, 6.9A, [8.2B , 8.3A, 9.1D, 9.3B
Ethane, chloro- (chloroethane)	75-00-3	1037	2.1.1A, 6.4A, 6.5B, 6.7B, 6.8B, 9.1C, 9.2B,
Ethene, bromo- (vinyl bromide)	593-60-2	1085	2.1.1A, 6.1D, 6.4A, 6.6A, 6.7A, 6.9A, 9.3B
Ethene, chloro- (vinyl chloride)	[75-01-4	1086	2.1.1A, 6.1D, 6.5B, 6.6A, 6.7A, 6.9A, 9.3B
Ethylene oxide and carbon dioxide mixture, >87% ethylene oxide		3300	2.1.1A, 6.1C, 6.3A, 6.4A, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 9.1D, 9.2D
Hydrogen sulphide	7783-06-4	1053	2.1.1A, 6.1B, 6.3B, 6.4A, 6.9A, 9.1A
Methanamine (methylamine)	74-89-5	1061	2.1.1A, 6.1C, 6.8B, 6.9B, 8.2B, 8.3A, 9.2D, 9.3B
Methanamine, N-methyl-, anhydrous (dimethylamine)	124-40-3	1032	2.1.1A, 6.1C, 6.3A, 6.4A, 6.5B, 6.9A, 9.1D
Methane, chloro- (methyl chloride)	74-87-3	1063	2.1.1A, 6.1D, 6.6B, 6.8B, 6.9A, 9.3C
Methane, oxybis (dimethyl ether)	115-10-6	1033	2.1.1A, 6.4A
Methanethiol (methyl mercaptan)	74-93-1	1064	2.1.1A, 6.1C, 6.9A, 8.2C, 8.3A, 9.1A
Nitrous oxide	10024-97-2	1070	5.1.2A, 6.8B, 6.9B
Nitric oxide	10102-43-9	1660	5.1.2A, 6.1B, 6.9A, 8.1A, 8.2A, 8.3A
Nitrosyl chloride	2696-92-6	1069	6.1A, 8.1A, 8.2B, 8.3A, 9.3A
Oxirane (ethylene oxide)	75-21-8	1040	2.1.1A, 6.1C, 6.3A, 6.4A, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 9.1D, 9.2D
Phosgene	75-44-5	1076	6.1A, 6.9A, 8.1A, 8.2B, 8.3A
Silane	7803-62-5	2203	2.1.1A, 6.1D, 6.3B, 6.4A, 6.9B, 9.3C
Silane, tetrafluoro-	7783-61-1	1859	6.1C, 8.1A, 8.2B, 8.3A, 9.4A
Sulphur dioxide	7446-09-5	1079	6.1C, 6.3B, 6.4A, 6.5A, 6.8B, 6.9A, 8.1A, 9.1A
Sulphuryl fluoride	2699-79-8	2191	6.1C, 6.3B, 6.4A, 6.8B, 6.9A, 9.3B
Trimethylamine, anhydrous	75-50-3	1083	2.1.1A, 6.1C, 6.3A, 8.3A, 9.1D, 9.3B

**Table 4****Gases that are not hazardous substances (but are controlled by the Hazardous Substances (Compressed Gases) Regulations 2004)**

<b>Substance Description</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification</b>
1,1,1,2-Tetrafluoroethane (Refrigerant gas R134A)	811-97-2	3159	Not hazardous
Argon	7440-37-1	1006	Not hazardous
Carbon dioxide	124-38-9	1013	Not hazardous
Chloropentafluoroethane (Refrigerant gas R115)	76-15-3	1020	Not hazardous
Compressed air		1002	Not hazardous
Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro- (Refrigerant gas R114)	76-14-2	1958	Not hazardous
Ethane, 2-chloro-1,1,1,2-tetrafluoro- (Refrigerant gas 124)	2837-89-0	1021	Not hazardous
Ethane, hexafluoro- (Refrigerant gas R116)	76-16-4	2193	Not hazardous
Helium	7440-59-7	1046	Not hazardous
Methane, chlorodifluoro- (Refrigerant gas R22)	75-45-6	1018	Not hazardous
Methane, chlorotrifluoro- (Refrigerant gas R13)	75-72-9	1022	Not hazardous
Methane, tetrafluoro- (Refrigerant gas R14)	75-73-0	1982	Not hazardous
Methane, trifluoro- (Refrigerant gas R23)	75-46-7	1984	Not hazardous
Neon	7440-01-9	1065	Not hazardous
Nitrogen gas	7727-37-9	1066	Not hazardous
[Propane, 1,1,1,3,3-pentafluoro	460-73-1		Not hazardous
Propane, heptafluoro, 1H-	2252-84-8	3296	Not hazardous
Propane, heptafluoro, 2H-	431-89-0	3296	Not hazardous
Propane, octafluoro-	76-19-7	2424	Not hazardous
Refrigerant gas R409A		3163	Not hazardous
Refrigerant gas R503		2599	Not hazardous
Refrigerant gas R404A		3337	Not hazardous
Refrigerant gas R407C		3340	Not hazardous
Refrigerant gas R500	420-46-2	2602	Not hazardous
Refrigerant gas R502 (mixture of chlorodifluoromethane and chloropentafluoroethane)		1973	Not hazardous
[Sulphur hexafluoride	2551-62-4	1080	Not hazardous
Xenon	7440-63-3	2036	Not hazardous



**Table 5**  
**Classes 3, 4 and 5 dangerous goods**

<b>Substance</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
1,2-Ethanediamine, N,N,N',N'-tetramethyl-	110-18-9	2372	3.1B, 6.1C, 8.2B, 8.3A, 9.1C, 9.3B
1,2-Ethandiol, diacetate	111-55-7	3272	3.1D, 6.1E, 6.3B, 6.4A, 9.1D
1,3,5,7-Tetraazatricyclo[3.3.1.1(3,7)decane	100-97-0	1328	4.1.1B, 6.1D, 6.3B, 6.4A, 6.5A, 6.5B, 9.3C
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-trichloro-	87-90-1	2468	5.1.1B, 6.1D, 6.3A, 8.3A, 9.1A, 9.2D, 9.3B
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt	2893-78-9	2465	5.1.1B, 6.1D, 6.3A, 6.4A, 9.1A, 9.2A, 9.3C
1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	1264	3.1C, 6.1D, 6.3B, 6.4A, 9.3C
1,3-Butadiene, 2-chloro-	126-99-8	1991	3.1B, 6.1C, 6.3A, 6.4A, 6.7B, 6.8B, 6.9A, 9.1D, 9.3B
1,3-Butadiene, 2-methyl-	78-79-5	1218	3.1A, 6.1E, 6.3B, 6.4A, 6.6B, 6.7B, 6.8B, 6.9B, 9.1C
1,3-Dioxolane	646-06-0	1166	3.1B, 6.1D, 6.3B, 6.4A, 6.6B, 6.9B
1,4-Dioxane	123-91-1	1165	3.1B, 6.1D, 6.3B, 6.4A, 6.7A, 6.9B, 9.3C
1,5-Cyclooctadiene	111-78-4	2520	3.1C, 6.1E, 6.3A, 6.4A, 6.5B, 9.1A
1,6-Octadiene, 7-methyl-3-methylene-	123-35-3	2319	3.1C, 6.3A, 6.4A, 6.8B, 9.1A
1-Butanamine	109-73-9	1125	3.1B, 6.1B, 8.1A, [8.2B , 8.3A, 9.1D, 9.3B
1-Butanol	71-36-3	1120	3.1C, 6.1D, 6.3A, 8.3A, 9.3C
1-Butanol, 3-methoxy-, acetate	4435-53-4	2708	3.1D, 6.1E, 9.1D
1-Butanol, 3-methoxy-3-methyl-	56539-66-3		3.1D
1-Butanol, 3-methyl-	123-51-3	1105	3.1C, 6.1D, 6.3B, 8.3A, 9.3C
1-Butanol, 3-methyl-, acetate	123-92-2	1104	3.1C, 6.3B, 6.4A, 9.1D
1-Decanol	112-30-1		3.1D, 6.1C, 6.3A, 6.4A, 9.1B
1-Heptanol	111-70-6		3.1D, 6.4A, 9.1D
1-Heptene	592-76-7	2278	3.1B
1-Hexanamine, 2-ethyl-	104-75-6	2276	3.1C, 6.1B, 8.2C, 8.3A, 9.1B, 9.3B
1-Hexanol	111-27-3	2282	3.1C, 6.1D, 6.3B, 6.4A, 9.1D, 9.3C
1-Hexanol, 2-ethyl-	104-76-7		3.1D, 6.1D, 6.3A, 6.4A, 9.1D, 9.3C
1-Hexanol, 2-ethyl-, titanium (4+) salt	1070-10-6		3.1D, 9.1B
1-Hexene	592-41-6	2370	3.1B, 6.3B, 9.1B
1H-Pyrrole	109-97-7	1993	3.1C, 6.1D, 6.3B, 6.4A, 6.9B
1-Nonanol	143-08-8	1987	3.1D, 6.1C, 6.3A, 6.4A, 9.1A
1-Octanol	111-87-5		3.1D, 6.1D, 6.3A, 6.4A, 9.1D, 9.3C
1-Pentanamine, N-pentyl-	2050-92-2	2841	3.1C, 6.1B, 8.2C, 8.3A, 9.1A, 9.3B
1-Pentanol	71-41-0	1105	3.1C, 6.1C, 6.3A, 6.4A, 9.1D, 9.2B, 9.3B
1-Propanamine <sup>s67A</sup>	107-10-8	1277	3.1B, 6.1C, 8.2C <sup>s67A</sup> , 8.3A, 9.3C
1-Propanamine, 2-methyl-N-(2-methylpropyl)-	110-96-3	2361	3.1C, 6.1C, 8.2C, 8.3A, 9.1D, 9.3B

<b>Substance</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
1-Propanamine, N-propyl-	142-84-7	2383	3.1B, 6.1C, 8.1A, [8.2B , 8.3A, 9.1D, 9.3B
1-Propanethiol	107-03-9	2402	3.1B, 6.1B, 6.3A, 6.4A, 9.1A, 9.3C
1-Propanol	71-23-8	1274	3.1B, 6.1D, 6.4A, 9.3C
1-Propanol, 2-methyl-	78-83-1	1212	3.1C, 6.1E, 6.3B, 6.4A
1-Propene, 1,3-dichloro-	542-75-6	2047	3.1B, 6.1C, 6.3A, 6.4A, 6.5B, 6.6B, 6.7B, 6.9B, 9.1A, 9.2D, 9.3B, [9.4B
2,3-Butanedione	431-03-8	2346	3.1B, 6.1D, 6.3A, 6.4A, 9.1D, 9.3C
2,4-Heptanedione, 6-methyl-	3002-23-1	1993	3.1C, 9.1C
2,4-Pentanedione	123-54-6	2310	3.1C, 6.1C, 6.3B, 6.4A, 6.9B, 9.1D, 9.3B
2,4-Pentanedione, peroxide, 35% in dipropylene glycol	37187-22-7	3105	5.2D, 6.3B, 8.3A
2-Butanol	78-92-2	1120	3.1C, 6.1E, 6.4A
2-Butanone	78-93-3	1193	3.1B, 6.1E, 6.3B, 6.4A, 6.9B
2-Butanone, 3-hydroxy-	513-86-0	2621	3.1C, 6.3A, 6.4A
2-Butanone, oxime	96-29-7	1993	3.1C, 6.1D, 6.3B, 6.4A, 6.5B, 6.7B, 6.9B, 9.1C, 9.2A, 9.3B
2-Butanone, peroxide, 33-40% in dimethyl phthalate + 1-10% methyl ethyl ketone,	1338-23-4	3107	3.1D, 5.2E, 6.1D, 8.2B, 8.3A, 9.1B, 9.3C
2-Butene, 2-methyl-	513-35-9	2460	3.1B, 6.1D, 6.3B, 9.1C, 9.3C
2-Cyclohexen-1-one, 3,5,5-trimethyl-	78-59-1		3.1D, 6.1D, 6.3B, 6.4A, 6.9B, 9.1C, 9.2A, 9.3C
2-Furanmethanol, tetrahydro-	97-99-4	1987	3.1D, 6.1D, 6.3B, 6.4A, 9.3C
2-Heptanone	110-43-0	1110	3.1C, 6.1D, 6.3B, 6.4A, 9.3C
2-Hexanol	626-93-7	2282	3.1C, 6.3B, 6.9B, 9.1D
2-Hexanone	591-78-6	1224	3.1C, 6.1E, 6.3B, 6.4A, 6.8B, 6.9A
2-Hexanone, 5-methyl-	110-12-3	2302	3.1C, 6.1D, 6.3B, 6.4A
2H-Pyran, 3,4-dihydro-	110-87-2	2376	3.1B, 6.1D, 6.3A, 9.1C
2H-Pyran-2-carboxaldehyde, 3,4-dihydro-	100-73-2	2607	3.1C, 6.1E, 6.3A, 6.4A, 6.6B, 9.1C
2-Octanol	123-96-6		3.1D, 6.3B, 6.4A, 6.9B, 9.1C
2-Pentanol	6032-29-7	1105	3.1C, 6.1D, 6.3A, 6.4A, 9.1D
2-Pentanol, 2-methyl-	590-36-3	2560	3.1C, 9.1D
2-Pentanol, 4-methyl-	108-11-2	2053	3.1C, 6.1C, 6.3B, 6.4A, 6.9B, 9.1D, 9.3C
2-Pentanol, acetate	626-38-0	1104	3.1C, 6.3B, 6.4A, 9.1D
2-Pentanone	107-87-9	1249	3.1B, 6.1D, 6.3B, 6.4A, 9.2D, 9.3C
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	1148	3.1C, 6.1E, 6.3B, 6.4A,
2-Pentanone, 4-methyl-	108-10-1	1245	3.1B, 6.1D, 6.3B, 6.4A, 9.3B
2-Propanamine	75-31-0	1221	3.1A, 6.1C, 6.9B, 8.1A, 8.2C, 8.3A, 9.1D, 9.2B, 9.3B
2-Propanamine, N-(1-methylethyl)-	108-18-9	1158	3.1B, 6.1D, 6.9A, 8.1A, 8.2B, 8.3A, 9.1B, 9.3B
2-Propanethiol	75-33-2	2402	3.1B, 6.1D, 6.3A, 6.4A, 9.1A, 9.3C
2-Propanethiol, 2-methyl-	75-66-1	2347	3.1B, 6.1C, 6.9B, 9.1A

Substance	CAS Number	UN Number	Hazard Classification(s)
2-Propanol	67-63-0	1219	3.1B, 6.1E, 6.3B, 6.4A
2-Propanol, 1-(1,1-dimethylethoxy)-	57018-52-7	1993	3.1C, 6.1E, 8.3A
2-Propanol, 1-butoxy-	5131-66-8	1993	3.1C, 6.1D, 6.3A, 6.4A, 9.3C
2-Propanol, 1-ethoxy-	1569-02-4		3.1C, 6.1E, 6.3B, 6.4A
2-Propanol, 1-methoxy-	107-98-2	3092	3.1C, 6.1E, 6.3B, 6.4A
2-Propanol, 1-methoxy-, acetate	108-65-6	3272	3.1C, 6.4A
2-Propanol, 1-propoxy-	1569-01-3		3.1C, 6.1E, 6.3B, 6.4A
2-Propanol, 2-methyl-	75-65-0	1120	3.1B, 6.1E, 6.3B, 6.4A
2-Propanol, 2-methyl-, aluminium salt	556-91-2	1325	4.1.2B, 9.1C
2-Propanone	67-64-1	1090	3.1B, 6.1E, 6.3B, 6.4A
2-Propenenitrile	107-13-1	1093	3.1B, 6.1B, 6.3A, 6.4A, 6.5B, 6.7A, 6.8B, 6.9A, 9.1B, 9.2A, 9.3A
2-Propenoic acid, 2-ethylhexyl ester	103-11-7		3.1D, 6.1E, 6.3A, [6.4A , 6.5B, 6.9A, 9.1C
2-Propenoic acid, 2-methyl-, 2-(diethylamino) ethyl ester	105-16-8	1993	3.1D, 6.1D, 6.3A, 6.4A, 9.1D
2-Propenoic acid, 2-methyl-, 2,2,2-trifluoroethyl ester	352-87-4		3.1C, 6.3B, 6.4A, 9.1C
2-Propenoic acid, 2-methyl-, 2-ethoxyethyl ester	2370-63-0		3.1D, 9.1D
2-Propenoic acid, 2-methyl-, 2-methylpropyl ester	97-86-9	2283	3.1C, 6.3B, 6.4A, 9.1A
2-Propenoic acid, 2-methyl-, 2-propenyl ester	96-05-9	1992	3.1C, 6.1B, 6.3B, 6.4A, 9.1A, 9.3B
2-Propenoic acid, 2-methyl-, butyl ester	97-88-1	2227	3.1C, 6.3A, 6.4A, 6.5B, 6.9B, 9.1C
2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	2277	3.1B, 6.3B, 6.5B, 9.1D
2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	1247	3.1B, 6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1D
2-Propenoic acid, 2-methylpropyl ester	106-63-8	2527	3.1C, 6.1C, 6.3A, 6.4A, 6.5B, 9.1D
2-Propenoic acid, butyl ester	141-32-2	2348	3.1C, 6.1C, 6.3A, 6.4A, 6.5B, 6.8B, 6.9B, 9.1D, 9.3C
2-Propenoic acid, ethyl ester	140-88-5	1917	3.1B, 6.1C, [6.3A, 6.4A , 6.5B, 6.9B, 9.1D, 9.2B, 9.3B
2-Propenoic acid, methyl ester	96-33-3	1919	3.1B, 6.1C, 6.3A, 6.4A, 6.5B, 6.9B, 9.1D, 9.2B, 9.3B
2-Pyrrolidinone, 1-methyl-	872-50-4		3.1D, 6.1E, 6.3A, 6.4A, 6.8A,
3-Butyn-2-ol, 2-methyl-	115-19-5	1987	3.1B, 6.1D, 6.3B, 6.4A, 9.3B
3-Hexanol	623-37-0	2282	3.1C, 9.1D
3-Octanone	106-68-3	2271	3.1C, 6.1E, 6.3B, 9.1D
3-Pentanone	96-22-0	1156	3.1B, 6.1E, 6.3B, 6.4A, 9.2D
3-Penten-2-one, 4-methyl-	141-79-7	1229	3.1C, 6.1C, 6.3B, 6.9B, 8.3A, 9.2B, 9.3C
4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-	77-73-6	2048	3.1C, 6.1C, 6.3A, 6.4A, 6.9B, 9.1B, 9.3B
4-Heptanone, 2,6-dimethyl-	108-83-8	1157	3.1C, 6.1D, 6.3B, 6.4A, 9.2D, 9.3C
Acetaldehyde	75-07-0	1089	3.1A, 6.1D, 6.4A, 6.6A, 6.7B, 6.8B, 6.9B, 9.1D, 9.2D, 9.3C

Substance	CAS Number	UN Number	Hazard Classification(s)
Acetic acid, >80% aqueous solution	64-19-7	2789	3.1C, 6.1D, 6.9B, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Acetic acid, 1,1-dimethylethyl ester	540-88-5	1123	3.1B, 6.3B, 6.4A
Acetic acid, 1-methylethyl ester	108-21-4	1220	3.1B, 6.1E, 6.3B, 6.4A
Acetic acid, 1-methylpropyl ester	105-46-4	1123	3.1B, 6.3B, 6.4A, 9.1D
Acetic acid, 2-methylpropyl ester	110-19-0	1213	3.1B, 6.1E, 6.3B, 6.4A
Acetic acid, 2-propenyl ester	591-87-7	2333	3.1B, 6.1B, 6.3A, 6.4A, 6.9B, 9.1D, 9.3B
Acetic acid, butyl ester	123-86-4	1123	3.1B, 6.1D, 6.3B, 6.4A, 9.1D
Acetic acid, chloro-, ethyl ester	105-39-5	1181	3.1C, 6.1B, 6.3A, 6.5B, 8.3A, 9.1A, 9.3A
Acetic acid, ethenyl ester	108-05-4	1301	3.1B, 6.1C, 6.3A, 6.4A, 6.6A, 6.7B, 6.8B, 6.9B, 9.1D, 9.3C
Acetic acid, ethyl ester	141-78-6	1173	3.1B, 6.1E, 6.4A, 6.9B
Acetic acid, methyl ester	79-20-9	1231	3.1B, 6.1E, 6.3A, 6.4A
Acetic acid, pentyl ester	628-63-7	1104	3.1C, 6.3B, 6.4A, 9.1D
Acetic acid, propyl ester	109-60-4	1276	3.1B, 6.3B, 6.4A, 9.1D
Acetonitrile	75-05-8	1648	3.1B, 6.1B, 6.4A, 9.2D, 9.3A
Acetyl chloride	75-36-5	1717	3.1B, 6.1D, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Aluminate (1-), tetrahydro-, lithium, (T-4)-	16853-85-3	1410	4.3A, 6.1A, [8.2C , 8.3A, 9.1C
[Aluminate (1-), tetrahydro-, lithium, (T-4)-, ethereal low flashpoint	16853-85-3	1411	3.1B, 4.3A, 6.1B, 6.9A, 8.2C, 8.3A, 9.1D, 9.3C
Aluminate (1-), tetrahydro-, lithium, (T-4)-, ethereal [very low flashpoint	16853-85-3	1411	3.1A, 4.3A, 6.1B, 6.9A, [8.2C , 8.3A, 9.1D, 9.3C
Aluminium phosphide	20859-73-8	1397	4.3A, 6.1A, 6.9B, 9.1A, 9.3A
Aluminium powder, coated PG II	7429-90-5	1309	4.1.1A, 6.9B, 9.1D,
Aluminium powder, coated PG III	7429-90-5	1309	4.1.1B, 6.9B, 9.1D,
Aluminium powder, uncoated PG II	7429-90-5	1396	4.3B, 6.9B, 9.1D,
Aluminium powder, uncoated PG III	7429-90-5	1396	4.3C, 6.9B, 9.1D,
Aluminium pyrophoric	7429-90-5	1383	4.2A, 6.9B, 9.1D,
Aluminium, hydrobis(2-methylpropyl)-	1191-15-7	3076	4.2A, 4.3A, [8.2C , 8.3A, 9.1D
Amyl nitrate	1002-16-0	1112	3.1C, 6.1D, 9.1B
Barium	7440-39-3	1400	4.3B, 6.1C, 6.3B, 6.4A, 6.9A, 9.1C, 9.3B
Barium peroxide	1304-29-6	1449	5.1.1B, 6.1B, 6.3B, 6.4A, 6.9B, 9.3B
Benzaldehyde	100-52-7	1990	3.1C, 6.1D, 6.3B, 6.5B, 9.1D, 9.2D, 9.3C
Benzenamine	62-53-3	1547	3.1D, 6.1C, 6.3A, 6.5B, 6.6A, 6.7B, 6.9A, 8.3A, 9.1A, 9.3B
Benzene	71-43-2	1114	3.1B, 6.1B, 6.3A, 6.4A, 6.6A, 6.7A, 6.8A, 6.9A, 9.1D, 9.3C
Benzene, (1-methylethenyl)-	98-83-9	2303	3.1C, 6.1E, 6.3B, 6.4A, 9.1B, 9.2C
Benzene, (1-methylethyl)-	98-82-8	1918	3.1C, 6.1D, 6.3B, 6.4A, 6.9B, 9.1B, 9.3C
Benzene, 1,2,4-trimethyl-	95-63-6	1992	3.1C, 6.1D, 6.3B, 6.4A, 6.9B, 9.1B

<b>Substance</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
Benzene, 1,2-dimethyl-	95-47-6	1307	3.1B, 6.1D, [6.3A , 6.4A, 9.1D, 9.3C
Benzene, 1,3,5-trimethyl-	108-67-8	2325	3.1C, 6.3B, 6.4A, 9.1B
Benzene, 1,3-dimethyl-	108-38-3	1307	3.1B, 6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C
Benzene, 1,4-dimethyl-	106-42-3	1307	3.1C, 6.1E, 6.3A, 6.4A, 6.8B, 9.1D
Benzene, 1-chloro-4-methyl-	106-43-4	2238	3.1C, 6.1D, 6.5B, 9.1B, 9.3C
Benzene, 1-methyl-2-(1-methylethyl)-	527-84-4	2046	3.1C, 6.1D, 9.1B
Benzene, 1-methyl-3-(1-methylethyl)-	535-77-3	2046	3.1C, 6.1D, 9.1B
Benzene, 1-methyl-4-(1-methylethyl)-	99-87-6	2046	3.1C, 6.1E, 6.3A, 6.4A, 9.1B
Benzene, butyl-	104-51-8	2709	3.1D, 9.1A
Benzene, chloro-	108-90-7	1134	3.1C, 6.1D, 6.3B, 6.4A, 6.9A, 9.1A, 9.3C
Benzene, diethyl-	25340-17-4	2049	3.1C, 6.1E, 6.3B, 6.4A, 9.1A
Benzene, dimethyl-, mixed isomers	1330-20-7	[1307	3.1C, 6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C
Benzene, ethenyl-	100-42-5	2055	3.1C, 6.1C, 6.3A, 6.4A, 6.6B, 6.7B, 6.8B, 6.9A, 9.1A, 9.3B
Benzene, ethenylmethyl-	25013-15-4	2618	3.1C, 6.1C, 6.3B, 6.4A, 6.6B, 6.8B, 6.9B, 9.1D
Benzene, ethyl-	100-41-4	1175	3.1B, 6.1D, 6.3B, 6.4A, 6.7B, 6.8B, 6.9B, 9.1D, 9.2D
Benzene, methoxy-	100-66-3	2222	3.1C, 6.1C, 6.3B, 6.4A, 9.1D, 9.2D
Benzene, methyl-	108-88-3	1294	3.1B, 6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C
Benzenecarboperoxoic acid, 1,1-dimethylethyl ester	614-45-9	3103	5.2C, 6.1E, 6.3B, 6.4A, [9.1D , 9.3C
Benzenemethanol	100-51-6		6.1D, 6.4A, 6.5B, 9.1D, 9.2B, 9.3C
Bicyclo[2.2.1 heptan-2-ol, 1,7,7-trimethyl-, (1R,2S,4R)-rel-	507-70-0	1312	4.1.1B, 6.1D, 6.3B, 6.4A, 6.5B, 9.1D, 9.3B
Bicyclo[2.2.1 heptan-2-one, 1,7,7-trimethyl-	76-22-2	2717	[4.1.1B , 6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1B, 9.3C
Bicyclo[2.2.1 heptane, 2,2-dimethyl-3-methylene-	79-92-5	1325	4.1.1B, 8.3A, 9.1A
Bicyclo[3.1.1 hept-2-ene, 2,6,6-trimethyl-	80-56-8	2368	3.1C, 6.1E, 6.3A, 6.4A, 9.1A
Bicyclo[3.1.1 heptane, 6,6-dimethyl-2-methylene-	127-91-3	2319	3.1C, 6.1E, 6.3A, 6.4A, 6.5B, 9.1A
Bismuth hydroxide nitrate oxide	1304-85-4	1477	5.1.1B
Borane, triethyl-	97-94-9	2845	4.2A, 6.1C, 8.2B, 8.3A, 9.3B
Borate (1-), tetrahydro-, potassium	13762-51-1	1870	4.3A, 6.1C, 8.2C, 8.3A, 9.3B
Borate (1-), tetrahydro-, sodium	16940-66-2	1426	4.3A, 6.1C, 8.2C, 8.3A, 9.3B
Boric acid, trimethyl ester	121-43-7	2416	3.1B, 6.1D, 6.3B, 6.4A, 6.8B, 9.3C
Boron, trifluoro[oxybis[methane -, (T-4)-	353-42-4	2965	4.3A, 6.1A, 6.9A, 8.2A, 8.3A, 9.1C, 9.3B
Bromic acid, potassium salt	7758-01-2	1484	5.1.1B, 6.1C, 6.3A, 6.4A, 6.6B, 6.7B, 6.8B, 6.9B, 9.3B
Bromic acid, sodium salt	7789-38-0	1494	5.1.1B, 6.1C, 6.3A, 6.4A, 6.6B, 6.7B, 6.8B, 9.3B

Substance	CAS Number	UN Number	Hazard Classification(s)
Butanal	123-72-8	1129	3.1B, 6.1E, 6.3B, 6.4A, 6.9B, 9.1D, 9.2A
Butane, 1-(ethenyloxy)-	111-34-2	2352	3.1B, 6.3B, 6.4A, 6.5B, 9.1C
Butane, 1,1'-oxybis-	142-96-1	1149	3.1C, 6.1E, 6.3A, 6.4A, 9.1C
Butane, 1-bromo-	109-65-9	1126	3.1B, 6.1E, 9.1C
Butane, 1-chloro-	109-69-3	1127	3.1B, 6.1E, 6.3B, 6.4A
Butane, 1-ethoxy-	628-81-9	1179	3.1B, 6.1D, 9.1D, 9.3C
Butane, 2-bromo-	78-76-2	2339	3.1B, 6.6B, 9.1D
Butane, 2-chloro-	78-86-4	1127	3.1B, 9.1B
Butane, 2-methyl-	78-78-4	1265	3.1A, 6.1E, 6.3B, 6.4A, 9.1D
Butanoic acid, ethyl ester	105-54-4	1180	3.1C, 6.3B, 6.4A, 9.1C
Butanoic acid, pentyl ester	540-18-1	2620	3.1C, 9.1A
Butanol 40-60% + butyl acetate 40-60%			3.1B, 6.1D, 6.3A, 6.4A, 9.1D, 9.3C
Butanol 5-60% + butyl acetate 5-60% + xylene 15-80%			3.1B, 6.1D, 6.3A, 6.4A, 6.8B, [6.9B , 9.1D, 9.3C
Butyl methyl ether	628-28-4	2350	3.1B
Calcium	7440-70-2	1401	4.3B, 6.1E, 6.3A, 6.4A
Calcium carbide	75-20-7	1402	4.3A, 6.3A, 8.3A
Calcium cyanamide, with >0.1 % calcium carbide	156-62-7	1403	4.3C, 6.1D, 6.3A, 6.5B, 6.9B, 8.3A, 9.1D, 9.2D, 9.3B
Calcium hydride	7789-78-8	1404	4.3A, 6.1E, [8.2C , 8.3A, 9.1D
Calcium manganese oxide silicate	12205-44-6	2844	4.3C, 9.3C
Calcium peroxide	1305-79-9	1457	5.1.1B, 6.3B, 6.4A
Carbon	7440-44-0	1362	4.2C
Carbon disulfide	75-15-0	1131	3.1B, 6.1C, 6.3A, 6.4A, 6.6B, 6.8A, 6.9A, 9.1D, 9.3C
Carbonic acid disodium salt, compd. with hydrogen peroxide (2:3)	15630-89-4	[3378	5.1.1B, 6.1D, 6.4A, 9.1D, 9.3C
Carbonic acid, diethyl ester	105-58-8	2366	3.1C, 9.1D
Carbonic acid, dimethyl ester	616-38-6	1161	3.1B, 9.1D
Cellulose, nitrate with >25% water by mass	9004-70-0	2555	4.1.3B
Cellulose, nitrate, > 25% ethanol, (<12.6% nitrogen by dry mass)	9004-70-0	2556	4.1.3B, 6.4A, 9.1D
Cellulose, nitrate, > 25% isopropanol, (<12.6% nitrogen by dry mass)	9004-70-0	2556	4.1.3B, 6.1E, 6.3B, 6.4A
Chloric acid, potassium salt	3811-04-9	1485	5.1.1B, 6.1D, 6.3B, 6.4A, 6.9B, 9.1C, 9.2D, 9.3C
Chloric acid, sodium salt	7775-09-9	1495	5.1.1B, 6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1B, 9.2C, 9.3C
Chlorous acid, sodium salt	7758-19-2	1496	5.1.1B, 6.1B, 6.3A, 6.4A, 6.8A, 6.9B, 9.1A, 9.2A, 9.3B
Chromic acid, diammonium salt	7789-09-5	1439	5.1.1B, 6.1B, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 8.2C, 8.3A, 9.1A, 9.2B, 9.3B
Chromic acid, dipotassium salt	7778-50-9	3288	6.1B, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 8.2C, 8.3A, 9.1A, 9.2B, 9.3A

Substance	CAS Number	UN Number	Hazard Classification(s)
Chromic acid, disodium salt <sup>s67A</sup>	10588-01-9	1479	5.1.1B, 6.1A, 6.5A, 6.5B, [6.6A , 6.7A, 6.8A, [6.9A , 8.2C, 8.3A, 9.1A, 9.2B, 9.3A <sup>s67A</sup>
Chromic acid, disodium salt, dihydrate	7789-12-0	3288	6.1A, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 8.2C, 8.3A, 9.1A, [9.2B , 9.3A
Chromium oxide	1333-82-0	1463	5.1.1B, 6.1B, 6.5A, 6.5B, 6.6A, 6.7A, 6.8A, 6.9A, 8.1A, 8.2B, 8.3A, 9.1A, [9.2B , 9.3B
cis, cis 1,3-Cyclooctadiene <sup>s67A</sup>	3806-59-5	2520	3.1C, 6.1E <sup>s67A</sup> , 6.3A, 6.4A, 6.5B, 9.1A
Cyclohexane	110-82-7	1145	3.1B, 6.1D, 6.3B, 9.1B, 9.3C
Cyclohexane, methyl-	108-87-2	2296	3.1B, 6.1E, 6.3B, 6.4A, 9.1D
Cyclohexanol	108-93-0		3.1D, 6.1D, 6.3B, 6.4A, 6.8A, 9.1D
Cyclohexanol, methyl-	25639-42-3	2617	3.1C, 6.1D, 6.4A, 6.9B, 9.1C, 9.3C
Cyclohexanone	108-94-1	1915	3.1C, 6.1C, 6.4A, 9.2B, 9.3C
Cyclohexanone peroxide, 30-60% in dibutyl phthalate 30-60%, ethyl acetate 10-30%	12262-58-7	3105	5.2D, 6.1D, 6.5B, 6.8A, 6.9B, 8.2B, 8.3A, 9.1A, 9.3C
Cyclohexanone, 2-methyl-	583-60-8	2297	3.1C, 6.1D, 6.3B, 6.4A, 6.9B, 9.3C
Cyclohexene	110-83-8	2256	3.1B, 6.1D, 6.3B, 9.1B, 9.3C
Cyclohexene, 1-methyl-4-(1-methylethenyl)-	138-86-3	2052	3.1C, 6.3B, 6.4A, 9.1A
Cyclohexene, 1-methyl-4-(1-methylethylidene)-	586-62-9	2541	3.1C, 6.1E, 9.1A
Cyclopentane	287-92-3	1146	3.1B, 6.1E, 6.3B, 6.4A, 9.1C
Cyclopentanol	96-41-3	2244	3.1C, 6.1C, 6.4A, 6.9B, 9.3C
Decane	124-18-5	2247	3.1C, 9.1A
Diazenedicarboxamide	123-77-3	3242	4.1.3B, 6.5A, 9.1D
Dibutylamine, pyrophosphate (1:1)	16687-06-2	1993	3.1C, 6.1D, 6.3A, 8.3A, 9.3C
Disulfide, dimethyl	624-92-0	2381	3.1B, 6.1C, 6.3B, 6.4A, 6.9A, 9.1B, 9.3B
Dithionous acid, disodium salt	7775-14-6	1384	4.2B, 6.1D, 6.4A, 9.1C, 9.3C
Dodecane	112-40-3		3.1D
Ethanamine, 50-70% aqueous solution	75-04-7	2270	3.1B, 6.1C, 6.9A, 8.2B, 8.3A, 9.3B
Ethanamine, N,N-diethyl-	121-44-8	1296	3.1B, 6.1C, [8.2B , 8.3A, 9.1D, 9.3B
Ethanamine, N-ethyl-	109-89-7	1154	3.1B, 6.1C, 6.5B, 6.9B, [8.2B , 8.3A, 9.1D, 9.2B, 9.3B
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7		3.1C, 6.3A, 6.4A, 6.6B, 9.1C
Ethane, 1,1-dichloro-	75-34-3	2362	3.1B, 6.3B, 6.4A, 6.7B, 9.1D
Ethane, 1,1-diethoxy-	105-57-7	1088	3.1B, 6.1E, 6.3B, 9.1D, 9.2D
Ethane, 1,1'-oxybis-	60-29-7	1155	3.1A, 6.1D, 6.3B, 6.4A, 9.3C
Ethane, 1,1'-thiobis-	352-93-2	2375	3.1B, 6.1E, 6.3A, 6.4A
Ethane, 1,2-dichloro-	107-06-2	1184	3.1B, 6.1C, 6.3A, 6.4A, 6.5B, 6.6B, 6.7B, 6.9B, 9.1D, 9.3B
Ethane, 1,2-diethoxy-	629-14-1	1153	3.1C, 6.1E, 6.3B, 6.4A, 6.8B, 6.9B
Ethane, 1,2-dimethoxy-	110-71-4	2252	3.1B, 6.1D, 6.8A

Substance	CAS Number	UN Number	Hazard Classification(s)
Ethane, nitro-	79-24-3	2842	3.1C, 6.1D, 6.9B, 9.1C, 9.2C, 9.3C
Ethaneperoxoic acid, <5% in acetic acid and hydrogen peroxide	79-21-0	3149	3.1D, 5.1.1B, 6.1D, 6.9A, 8.1A, 8.2B, 8.3A, 9.1A, 9.3C
Ethaneperoxoic acid, 35-43% in acetic acid and hydrogen peroxide	79-21-0	3105	5.2D, 6.1B, 6.9A, 8.1A, [8.2B , 8.3A, 9.1A, 9.3A
Ethanethioic acid	507-09-5	2436	3.1B, 6.1B, 8.2B, 8.3A, 9.3B
Ethanethiol	75-08-1	2363	3.1A, 6.1C, 6.3B, 6.4A, 6.9B, 9.1A, 9.3C
Ethanol	64-17-5	1170	3.1B, 6.4A, 9.1D
Ethanol 40-80% + isopropanol 10-40% + methyl ethyl ketone 5-50%			3.1B, 6.1E, 6.3B, 6.4A, 6.9B, 9.1D
Ethanol, 2-(1-methylethoxy)-	109-59-1	1993	3.1C, 6.1D, 6.3A, 6.4A, 6.9B
Ethanol, 2-(2-butoxyethoxy)-	112-34-5		3.1D, 6.1E, 6.3B, 6.4A, 6.9B
Ethanol, 2-butoxy-	111-76-2		3.1D, 6.1C, 6.3B, 6.4A, 9.3B
Ethanol, 2-butoxy-, acetate	112-07-2		3.1D, 6.1D, 6.9B, 9.1D, 9.3C
Ethanol, 2-ethoxy-	110-80-5	1171	3.1C, 6.1D, 6.3B, 6.4A, 6.8A, 6.9B, 9.3C
Ethanol, 2-ethoxy-, acetate	111-15-9	1172	3.1C, 6.1D, 6.3B, 6.4A, 6.8A, 6.9B, 9.1D, 9.3C
Ethanol, 2-methoxy-	109-86-4	1188	3.1C, 6.1C, 6.3B, 6.4A, 6.8A, 6.9A, 9.3C
Ethanol, 2-methoxy-, acetate	110-49-6	1189	3.1C, 6.1D, 6.4A, 6.8A, 6.9A, 9.1C, 9.3C
Ethanol, 2-propoxy-	2807-30-9	1993	3.1C, 6.1C, 6.3B, 6.4A, 6.9B, 9.3C
Ethene, 1,2-dichloro-, (1E)-	156-60-5	1150	3.1B, 6.1D, 6.3A, 6.4A, 9.3C
Ethene, 1,2-dichloro-, (1Z)-	156-59-2	1150	3.1B, 6.1D, 6.3B, 6.4A, 6.9B
Ferrosilicon, with 30% or more but <90% silicon	8049-17-0	1408	4.3C, 6.1E
[Formaldehyde, >37% aqueous solution with >10% methanol	50-00-0	1198	3.1C, 6.1B, 6.5B, 6.6B, 6.7A, 6.9B, 8.2C, 8.3A, 9.1D, 9.2A, 9.3B
[Formaldehyde, >25% aqueous solution with ≤ 10% methanol	50-00-0	2209	3.1D, 6.1B, 6.5B, 6.6B, 6.7A, 6.9B, 8.2C, 8.3A, 9.1D, 9.2A, 9.3B
Formamide, N,N-dimethyl-	68-12-2	2265	3.1C, 6.1D, 6.3B, 6.4A, 6.8A, 6.9A, 9.3C
Formic acid [with more than 85% acid by mass <sup>s67A</sup>	64-18-6	1779	3.1C, 6.1C, <sup>s67A</sup> , 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Formic acid, ethyl ester	109-94-4	1190	3.1B, 6.1D, 6.3B, 6.4A, 9.3C
Formic acid, methyl ester	107-31-3	1243	3.1A, 6.1D, 6.3B, 6.4A, 6.9B, 9.3B
Furan	110-00-9	2389	3.1A, 6.1A, 6.3A, 6.6B, 6.7B, 6.9A, 8.3A, 9.1C, 9.3C
Furan, tetrahydro-	109-99-9	2056	3.1B, 6.1D, 6.3A, 6.4A, 6.7B, 6.9B, 9.3C
Furan, tetrahydro-2-methyl-	96-47-9	2536	3.1B, 6.1E, 6.4A, 9.1C
Heptanal	111-71-7	3056	3.1C, 6.1E, 6.4A, 9.1D, 9.2D
Heptane	142-82-5	1206	3.1B, 6.1E, 6.3B, 9.1B
Heptanol acetate, branched and linear	90438-79-2		3.1C, 9.1B
Hexane	110-54-3	1208	3.1B, 6.1E, 6.3B, 6.4A, 6.9A, 9.1B



<b>Substance</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
Hexaneperoxoic acid, 3,5,5-trimethyl-, 1,1-dimethylethyl ester	13122-18-4	3105	5.2D, 8.2B, 8.3A, 9.1A
Hexanol, acetate, branched and linear	88230-35-7	1993	3.1C, 9.1B
Hydrazine, anhydrous	302-01-2	2029	3.1C, 6.1B, 6.5B, 6.6A, 6.7B, 6.8B, 6.9A, 8.2A, 8.3A, 9.1A, 9.3A
Hydrazine hydrate, or >37-64% aqueous solution	7803-57-8	2030	3.1D, 6.1B, 6.5B, 6.6A, 6.7B, 6.8B, 6.9A, 8.2B, 8.3A, 9.1A, 9.2D, 9.3A
Hydrogen peroxide, >60% aqueous solution	7722-84-1	2015	5.1.1A, 6.1D, 6.9B, 8.2A, 8.3A, 9.1D, 9.3B
Hydrogen peroxide, 20-60% aqueous solution	7722-84-1	2014	5.1.1B, 6.1D, 6.9B, 8.2B, 8.3A, 9.1D, 9.3C
Hydrogen peroxide, 8-20% aqueous solution	7722-84-1	2984	5.1.1C, 6.1E, 6.9B, 8.3A, 9.1D
Hydroperoxide, 1,1-dimethylethyl, 70% aqueous solution	75-91-2	3109	5.2F, 6.1C, 6.6B, 6.9B, 8.2C, 8.3A, 9.1B, 9.3B
Hydroperoxide, 1-methyl-1-phenylethyl 90-98%, cumene 2-10%	80-15-9	3107	5.2E, 6.1B, 6.6B, 6.9A, 8.2B, 8.3A, 9.1B, 9.2B, 9.3B
[Hypochlorous acid, calcium salt (dry), > 39% available chlorine	7778-54-3	1748	5.1.1B, 6.1D, 8.1A, 8.2B, 8.3A, 9.1A, 9.2A, 9.3C
[Hypochlorous acid, calcium salt (dry), 10-39% available chlorine	7778-54-3	2208	5.1.1C, 6.1D, 8.1A, 8.2C, 8.3A, 9.1A, 9.2A, 9.3C
Iodic acid, calcium salt	7789-80-2	1479	5.1.1B, 6.1D,
Iodic acid, potassium salt	7758-05-6	1479	5.1.1B, 6.1D
Isooctanol	26952-21-6		3.1D, 6.1D, 6.3B, 6.4A, 9.1D, 9.3C
Isosorbide 5-nitrate	16051-77-7	3251	4.1.3C, 6.1D, 6.9A, 9.3C
Isosorbide dinitrate mixture with not <60% lactose, mannose, starch or calcium hydrogen phosphate	87-33-2	2907	4.1.3B, 6.1D, 6.3B, 9.3C
Lead oxide	1309-60-0	1872	5.1.1C, 6.1C, 6.7B, 6.8A, 6.9A, 9.1A, 9.3A
Lithium	7439-93-2	1415	4.3A, 6.8A, 8.2B, 8.3A, 9.1C, 9.2C
Lithium hydride	7580-67-8	1414	4.3A, 6.1A, 6.9A, [8.2C , 8.3A, 9.1C, 9.2C
Lithium, butyl-, 15% in hexane	109-72-8	2445	3.1B, 4.2A, 4.3A, 8.2B, 8.3A, 9.1B, 9.2C
Magnesium pellets, turnings, ribbon, alloys > 50%	7439-95-4	1869	4.1.1B, 6.1E, 9.3C
Magnesium powder PG I	7439-95-4	1418	4.2B, 4.3A, 6.1E, 9.3C
Magnesium powder PG II	7439-95-4	1418	4.2B, 4.3B, 6.1E, 9.3C
Magnesium powder PG III	7439-95-4	1418	4.2C, 4.3C, 6.1E, 9.3C
Methyl ethyl ketone 10-50% + toluene 10-40% + xylene 10-65%			3.1B, 6.1D, 6.3A, 6.4A, 6.8A, [6.9B , 9.1D, 9.3C
Methyl ethyl ketone 40-60% + toluene 40-60% + methyl isobutyl ketone 0-60%			3.1B, 6.1D, 6.3A, 6.4A, 6.8A, [6.9B , 9.1D, 9.3B
Metalddehyde (acetaldehyde, homopolymer)	9002-91-9	1332	4.1.1B, 6.1B, 6.4A, 6.8B, 6.9B, 9.1B, 9.3B
Methanamine, N,N-dimethyl-, 40-50% aqueous solution	75-50-3	1297	3.1A, 6.1C, 8.2C, 8.3A, 9.1D, 9.3C

Substance	CAS Number	UN Number	Hazard Classification(s)
Methanamine, N-methyl-, 40-60% aqueous solution	124-40-3	1160	3.1B, 6.1C, 6.5B, 6.9A, 8.2B, 8.3A, 9.1D, 9.3B
Methane, dimethoxy-	109-87-5	1234	3.1B, 6.3B, 6.4A
Methane, nitro-	75-52-5	1261	3.1C, 6.1D, 6.7B, 6.8B, 9.1C, 9.3C
Methane, thiobis-	75-18-3	1164	3.1B, 6.1D, 6.3B, 6.4A, 6.9A, 9.1D, 9.3C
Methanol	67-56-1	1230	3.1B, 6.1D, 6.4A, 6.8B, 6.9A, 9.3C
Methanol, sodium salt	124-41-4	1431	4.2B, 6.1D, 8.2B, 8.3A
Methyl propyl ether	557-17-5	2612	3.1B, 9.1C
Morpholine <sup>s67A</sup>	110-91-8	2054	3.1C, 6.1C <sup>s67A</sup> , 6.9A, 8.1A, 8.2A, 8.3A, 9.1C, 9.2C, 9.3B
Morpholine, 4-methyl-	109-02-4	2535	3.1C, 6.1C, 6.9B, 8.2B, 8.3A, 9.1C, 9.3C
Naphthalene	91-20-3	1334	4.1.1B, 6.1D, 6.3B, 6.4A, [6.7B , 6.9A, 9.1A, 9.3B
Naphthalene, 1-nitro-	86-57-7	2538	4.1.1B, 6.1C, 6.3B, 6.4A, 9.1D, 9.3B
Naphthalene, decahydro-	91-17-8	1147	3.1C, 6.1C, 6.3B, 6.4A, 6.9B, 9.1B
Naphthenic acids, copper salts (flammable solution; flashpoint 23-60°C)	1338-02-9	3009	3.1C, 6.1D, 6.3B, 6.4A, [6.9B , 9.1A, 9.2C, 9.3C
Neodecanoic acid, ethenyl ester	51000-52-3		3.1D, 9.1B
Nitric acid, >70%, other than red fuming	7697-37-2	2031	[5.1.1C , 6.1D, 6.9B, 8.1A, 8.2A, 8.3A, 9.1D
Nitric acid, aluminium salt	13473-90-0	1438	5.1.1C, 6.1D, 6.3B, 6.4A, 6.8B, 9.1B, 9.3C
Nitric acid, ammonium salt	6484-52-2	1942	5.1.1C, 6.1E, 6.4A, 9.1D
Nitric acid, barium salt	10022-31-8	1446	5.1.1B, 6.1D, 6.3B, 6.4A, 6.9B, 9.3B
Nitric acid, bismuth (3+) salt	10361-44-1	1479	5.1.1B
Nitric acid, cadmium salt	10325-94-7	3087	5.1.1B, 6.1C, 6.7A, 6.8A, 6.9A, 8.3A, 9.1A, 9.3B
Nitric acid, calcium salt	10124-37-5	1454	5.1.1C, 6.1D, 6.3B, 9.3B
Nitric acid, cerium (3+) salt	10108-73-3	1477	5.1.1B, 6.1E, 8.3A, 9.1B
Nitric acid, chromium (3+) salt	13548-38-4	2720	5.1.1C, 6.5A, 6.5B, 9.1C
Nitric acid, cobalt (2+) salt	10141-05-6	1477	5.1.1B, 6.1D, 6.3B, 6.4A, 6.5A, 6.5B, 6.7B, 6.8B, 6.9A, 9.1B, 9.3C
Nitric acid, copper (2+) salt	3251-23-8	1477	5.1.1B, 6.1D, 6.5A, 6.8B, 6.9A, 8.2C, 8.3A, 9.1A, 9.3B
Nitric acid, iron (3+) salt	10421-48-4	1466	5.1.1C, 6.1D, 6.3B, 6.4A
Nitric acid, lanthanum (3+) salt	10099-59-9	1477	5.1.1B, 6.1E, 6.3A, 6.4A,
Nitric acid, lead (2+) salt	10099-74-8	1469	5.1.1B, 6.1C, 6.3B, 6.4A, 6.6B, 6.7B, 6.8A, 6.8C, 6.9A, 9.1A, 9.3B
Nitric acid, lithium salt	7790-69-4	2722	5.1.1C, 6.3A, 6.4A, 6.8A
Nitric acid, magnesium salt	10377-60-3	1474	5.1.1C, 6.3B, 6.4A
Nitric acid, manganese (2+) salt	10377-66-9	2724	5.1.1C, 9.1B
Nitric acid, nickel (2+) salt	13138-45-9	2725	5.1.1C, 6.3B, 6.4A, 6.5A, 6.5B, 6.7A, 9.1B
Nitric acid, potassium salt	7757-79-1	1486	[5.1.1C , 6.1D, 6.3B, 6.4A, 9.3C

<b>Substance</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
Nitric acid, red fuming	7697-37-2	2032	[5.1.1C , 6.1A, 6.9B, 8.1A, 8.2A, 8.3A, 9.1C
Nitric acid, silver (1+) salt	7761-88-8	1493	5.1.1B, 6.1D, 6.9A, 8.2B, 8.3A, 9.1A, 9.2A, 9.3A
Nitric acid, sodium salt	7631-99-4	1498	5.1.1C, 6.1D, 9.3C
Nitric acid, strontium salt	10042-76-9	1507	5.1.1C, 6.1D, 6.3A, 6.4A, 6.9B, 9.1A, 9.3C
Nitric acid, zinc salt	7779-88-6	1514	5.1.1B, 6.1C, 9.1A, 9.3B
Nitric acid, zirconium (4+) salt	13746-89-9	2728	5.1.1C, 6.1E
Nitrous acid, 3-methylbutyl ester	110-46-3	1113	3.1B, 6.1C, 6.4A, 6.5A, 6.5B, 9.3C
Nitrous acid, potassium salt	7758-09-0	1488	5.1.1B, 6.1C, 6.3B, 6.4A, 6.6B, 6.9B, 9.1A, 9.3B
Nitrous acid, sodium salt	7632-00-0	1500	5.1.1C, 6.1C, 6.4A, 6.6B, 6.9B, 9.1A, 9.3B
Nonane	111-84-2	1920	3.1C, 6.1D, 6.3B, 6.4A, 9.1A
Octane	111-65-9	1262	3.1B, 6.1E, 6.3B, 6.4A, 9.1A
Oil, eucalyptus	8000-48-4	2319	3.1C, 6.1D, 6.3A, 6.4A, 9.2D, 9.4C
Oil, turpentine	8006-64-2	1299	3.1C, 6.1D, 6.3A, 6.4A, 6.5B, 9.1C
Oils, camphor	8008-51-3	1130	3.1D, 6.1D, 6.3B, 6.9A, 9.3C
Oils, pine (flammable; flashpoint 23-60°C)	8002-09-3	1272	3.1C, 6.1E, 6.3A, 6.4A, 9.1C
Oils, pine (flammable; flashpoint 60-93°C)	8002-09-3	1272	3.1D, 6.1E, 6.3A, 6.4A, 9.1C
Oxirane, chloromethyl-	106-89-8	2023	3.1C, 6.1B, 6.5B, 6.6A, 6.7A, 6.8B, 6.9B, 8.2C, 8.3A, 9.1D, 9.3A
Oxirane, methyl-	75-56-9	1280	3.1A, 6.1C, 6.3A, 6.4A, 6.6A, 6.7B, 6.8B, 6.9B, 9.1C, 9.3B
Paraformaldehyde	30525-89-4	2213	4.1.1B, 6.1D, 6.3A, 6.5B, [6.6B , 6.7A, [6.9B , 8.3A, 9.1D, 9.2D, 9.3C
Pentanal	110-62-3	2058	3.1B, 6.1D, 6.3A, 8.3A, 9.1D
Pentane	109-66-0	1265	3.1B, 6.1E, 6.3B, 6.4A, 9.1D
Pentane, 1-chloro-	543-59-9		3.1B, 6.1D, 6.3B, 6.4A, 9.1B
Pentane, 2,2,4-trimethyl-	540-84-1	1262	3.1B, 6.1E, 6.3B, 6.4A, 9.1A
Perboric acid, potassium salt	13769-41-0	[1479	5.1.1B, 6.1E, 6.4A
Perboric acid, sodium salt[, anhydrous	7632-04-4	3247	5.1.1B, 6.1E, 6.4A
Perchloric acid, 50-72% aqueous solution	7601-90-3	1873	5.1.1A, 6.1D, 6.8C, 6.9A, 8.1A, 8.2A, 8.3A, 9.1D, 9.3B
Perchloric acid, ammonium salt	7790-98-9	1442	5.1.1B, 6.1D, 6.3B, 6.4A, 6.8C, 6.9A, 9.3C
Perchloric acid, barium salt	13465-95-7	1447	5.1.1B, 6.1D, 6.3A, 6.4A, 6.8C, 6.9A, 9.1C
Perchloric acid, lead (2+) salt	13637-76-8	1470	5.1.1B, 6.1C, 6.6B, 6.7B, 6.8A, 6.9A, 9.1A, 9.3B
Perchloric acid, magnesium salt	10034-81-8	1475	5.1.1B, 6.1D, 6.3B, 6.4A, 6.8C, 6.9A
Perchloric acid, potassium salt	7778-74-7	1489	5.1.1B, 6.1D, 6.3B, 6.4A, 6.8C, 6.9A, 9.1B, 9.2B, 9.3C
Perchloric acid, sodium salt	7601-89-0	1502	5.1.1B, 6.1E, 6.3B, 6.4A, 6.8C, 6.9A

Substance	CAS Number	UN Number	Hazard Classification(s)
Orthoperiodic acid <sup>s67A</sup>	10450-60-9	3085	5.1.1A, 6.1B, 6.4A, 8.2C
Periodic acid, potassium salt	7790-21-8	1479	5.1.1A, 6.3A, 6.4A
Periodic acid, sodium salt	7790-28-5	1479	5.1.1A, 6.3B, 6.4A
Permanganic acid, potassium salt	7722-64-7	1490	5.1.1B, 6.1D, 6.8B, 6.9A, 8.2C, 8.3A, 9.1A, 9.2A, 9.3C
Permanganic acid, sodium salt	10101-50-5	1503	5.1.1B, 6.1D, 6.8B, 6.9A, 8.2C, 8.3A, 9.1A, 9.2C, 9.3C
Peroxide, (1,1,4,4-tetramethyl-1,4-butanediyl)bis(1,1-dimethylethyl)	78-63-7	3105	5.2D, 6.1E, 6.3A, 6.4A, 9.1D
Peroxide, (3,3,5-trimethylcyclohexylidene)bis(1,1-dimethylethyl), ≤57% in dibutyl phthalate ≥43%	6731-36-8	3107	5.2E, 6.3A, 6.4A, 6.5B, 6.8A, 9.1D
Peroxide, bis(1,1-dimethylethyl)	110-05-4	3107	5.2E, 6.1E, 6.3B, 6.4A
Peroxide, bis(1-methyl-1-phenylethyl)	80-43-3	3110	5.2F, 6.1E, 6.3A, 6.4A, 6.5B, 6.8B, 6.9B, 9.1B
Peroxide, bis(2,4-dichlorobenzoyl), paste in silicon oil	133-14-2	3106	5.2D, 6.3A, 6.4A,
Peroxide, dibenzoyl, ≥77% aqueous solution	94-36-0	3102	5.2B, 6.4A, 6.5B, 9.1D
Peroxydicarbonic acid, bis[4-(1,1-dimethylethyl)cyclohexyl ester	15520-11-3	3114	5.2C
Peroxydisulfuric acid, diammonium salt	7727-54-0	1444	5.1.1C, 6.1D, 6.3A, 6.4A, 6.5A, 6.5B, 6.9B, 9.1D, 9.3C
Peroxydisulfuric acid, dipotassium salt	7727-21-1	1492	5.1.1C, 6.1D, 6.3A, 6.4A, 6.5A, 6.5B, 9.1D, 9.3C
Peroxydisulfuric acid, disodium salt	7775-27-1	1505	5.1.1C, 6.1D, 6.3A, 6.4A, 6.5A, 6.5B, 9.1D, 9.2C, 9.3C
Phenol, 2,4,6-trinitro- (wetted with >30% water)	88-89-1	1344	4.1.3A, 6.1B, 6.3B, 6.5B, 8.3A, 9.1D, 9.3B
Phenol, 2,4-dinitro- (wetted with not less than 15% water by mass)	51-28-5	1320	4.1.3A, 6.1B, 6.3A, 6.4A, 6.5B, 6.9A, 9.1A, 9.2D, 9.3A
Phenol, 2,5-dinitro- (wetted with not less than 15% water by mass)	329-71-5	1320	4.1.3A, 6.1B, 6.9B, 9.1B, 9.3A
Phenol, 2,6-dinitro- (wetted with not less than 15% water by mass)	573-56-8	1320	4.1.3A, 6.1B, 6.9B, 9.1C, 9.3A
Phenol, 2-amino-4,6-dinitro-, monosodium salt, (wetted)	831-52-7	1349	4.1.3A, 6.1D, 6.5B, 9.3B
Phosphorous acid, trimethyl ester	121-45-9	2329	3.1C, 6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.3C
Phosphorus, amorphous (red)	7723-14-0	1338	4.1.1B, 6.1D, 6.9A, 9.1C
Phosphorus, white, yellow, dry or in solution	7723-14-0	1381	4.2A, 6.1A, 6.9A, 8.2A, 8.3A, 9.1A, 9.3A
Piperidine	110-89-4	2401	3.1B, 6.1B, 6.8B, 6.9B, 8.2A, 8.3A, 9.1D, 9.3A
Piperidine, 1-ethyl-	766-09-6	2386	3.1B, 8.2B, 8.3A, 9.1B
Piperidine, 1-methyl-	626-67-5	2399	3.1B, 8.2B, 8.3A, 9.1C
Potassium	7440-09-7	2257	4.3A, 8.2B, 8.3A, 9.1C
Potassium hydrosulphite	14293-73-3	1929	4.2B, 9.1C, 9.3C

Substance	CAS Number	UN Number	Hazard Classification(s)
Potassium perborate	13769-41-0	3247	5.1.1B, 6.1E, 6.4A
Potassium sulphide	37199-66-9	1382	4.2B, 6.1B, 8.2B, 8.3A
Potassium superoxide	12030-88-5	2466	5.1.1A, 6.1E, 8.2B, 8.3A
Propanal	123-38-6	1275	3.1B, 6.1D, 6.3B, 6.4A, 9.1D, 9.3C
Propanal, 2-methyl-	78-84-2	2045	3.1B, 6.1D, 6.3B, 6.4A, 6.6B, 9.1D, 9.3B
Propane, 1,1'-oxybis-	111-43-3	2384	3.1B, 6.3B, 6.4A, 9.1D
Propane, 1-nitro-	108-03-2	2608	3.1C, 6.1D, 6.4A, 9.1C, 9.3B
Propane, 2,2'-oxybis-	108-20-3	1159	3.1B, 6.3B, 9.1C
Propane, 2-bromo-2-methyl-	507-19-7	2342	3.1B, 6.3A, 6.4A, 9.1D
Propane, 2-chloro-	75-29-6	2356	3.1A, 6.1D, 9.1C, 9.3C
Propane, 2-nitro-	79-46-9	2608	3.1C, 6.1C, 6.4A, 6.6B, 6.7B, 6.9A, 9.1B, 9.3B
Propanenitrile, 2,2'-azobis(2-methyl)-	78-67-1	3234	4.1.2C, 6.1D, 9.1B
Propanenitrile, 2-methyl-	78-82-0	2284	3.1B, 6.1B, 6.3B, 6.4A, 6.9A, 9.1D, 9.3A
Propanoic acid, 2-hydroxy-, ethyl ester	97-64-3	1192	3.1C, 6.1E, 6.3A, 8.3A, 9.1D
Propanoic acid, 2-methyl-	79-31-2	2529	3.1C, 6.1C, 8.1A, 8.2C, 8.3A, 9.1D, 9.2D, 9.3B
Propanoic acid, 3-ethoxy-, ethyl ester	763-69-9	3272	3.1C, 6.3B, 9.1C
Propanoic acid, butyl ester	590-01-2	1914	3.1C, 6.3B, 6.4A
Propanoic acid, ethyl ester	105-37-3	1195	3.1B, 6.1E, 6.3A, 6.4A, 9.1D
Propanoic acid, methyl ester	554-12-1	1248	3.1B, 6.1E, 6.3A, 6.4A
Propanoic acid, pentyl ester	624-54-4		3.1C, 9.1D
Propanol, 1(or 2)-(2-methoxymethylethoxy)-	34590-94-8		3.1D
Pyridine	110-86-1	1282	3.1B, 6.1D, 6.3A, 6.7B, 6.9B, 8.3A, 9.1C, 9.3C
Pyridine, 2,4,6-trimethyl-	108-75-8	1993	3.1C, 6.1C, 6.3B, 6.9A, 9.1B, 9.3B
Pyridine, 2,6-dimethyl-	108-48-5	2929	3.1C, 6.1D, 6.3A, 6.4A, 9.1C, 9.3B
Pyrrolidine	123-75-1	1922	3.1B, 6.1C, 6.9A, 8.1A, 8.2B, 8.3A, 9.1C, 9.3B
Rubidium	7440-17-7	1423	4.3A
Silane, chlorotrimethyl-	75-77-4	1298	3.1B, 6.1C, 8.1A, 8.2B, 8.3A
Silane, dichlorodimethyl-	75-78-5	1162	3.1B, 6.1C, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Silane, trichloromethyl-	75-79-6	1250	3.1B, 6.1C, 8.1A, [8.2B , 8.3A, 9.1D, 9.3C
Silicic acid, tetraethyl ester	78-10-4	1292	3.1C, 6.1D, 6.3B, 6.4A, 6.9B
Silicon	7440-21-3	1346	4.1.1B, 6.1E, 6.3B, 6.4A
Silver oxide	20667-12-3	1479	5.1.1B, 6.1D, 9.1A, 9.3C
Sodium	7440-23-5	1428	4.3A, [8.2B , 8.3A, 9.1D
Sodium hydride	7646-69-7	1427	4.3A, 9.3C
Sodium hydrosulphide with less than 25% water of crystallisation	16721-80-5	2318	4.2B, 6.1B, 6.3A, 6.4A, 8.1A, 9.1D, 9.3B <sup>s67A</sup>
Sodium peroxide	1313-60-6	1504	5.1.1A, 8.1A, 8.2A, 8.3A, 9.1D

Substance	CAS Number	UN Number	Hazard Classification(s)
Sodium sulphide[, anhydrous, or with less than 30% water of crystallisation	1313-82-2	1385	4.2B, 6.1C, 8.2C, 8.3A, 9.1A, 9.3B
Sulfur, excluding formed sulfur	7704-34-9	1350	4.1.1B, 6.4A
Sulfuric acid, cerium (4+) salt (2:1)	13590-82-4	1479	5.1.1B
Thermit welding powder, 75% iron oxide, 25% aluminium, PG II		3178	4.1.1A, 6.3A, [6.4A , 6.9A, 9.1D, 9.3C
Thermit welding powder, 75% iron oxide, 25% aluminium, PG III		3178	4.1.1B, 6.3A, [6.4A , 6.9A, 9.1D, 9.3C
Thiophene	110-02-1	2414	3.1B, 6.1C, 6.3B, 6.4A, 6.9B, 9.3B
Thiophene, tetrahydro-	110-01-0	2412	3.1B, 6.1D, 6.3A, 6.4A, 9.1C, 9.3C
Thiourea dioxide	1758-73-2	3341	4.2C, 6.1B, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C
Tridecane	629-50-5		3.1D, 6.1E
Undecane	1120-21-4	2330	3.1C, 9.1D
Urea, compd. with hydrogen peroxide (1:1)	124-43-6	1511	5.1.1C, 6.1D, 8.2C, 8.3A, 9.1D
Zinc ashes	7440-66-6	1435	4.3B, 6.1E, 9.1A
Zinc phosphide	1314-84-7	1714	4.3A, 6.1B, 6.6B, 6.9B, 9.1A, 9.3A
Zinc powder pyrophoric	7440-66-6	1383	4.2A, 6.1E, 9.1A
Zinc powder/dust, PG I	7440-66-6	1436	4.2B, 4.3A, 6.1E, 9.1A
Zinc powder/dust, PG II	7440-66-6	1436	4.2B, 4.3B, 6.1E, 9.1A
Zinc powder/dust, PG III	7440-66-6	1436	4.2C, 4.3C, 6.1E, 9.1A

**Table 6**

**Petrol and petroleum products**

Substance Description	UN Number	Hazard classification(s)
<b>Petrol (unleaded)</b>	1203	3.1A, 6.1E, 6.3B, 6.7B, 9.1B
<p><u>Description:</u> A complex combination of hydrocarbons consisting primarily of straight chain and branched chain paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly in the range C<sub>4</sub> to C<sub>12</sub>, and boiling in the range 15°C to 220°C.</p> <p>Aromatic hydrocarbons: Maximum 55% (volume)</p> <p>Benzene: Maximum 1% (volume) <sup>s67A</sup></p> <p><u>Additives:</u> (each &lt; 0.1% w/w)</p> <ul style="list-style-type: none"> <li>Azo dyes</li> <li>Antioxidants</li> <li>Metal deactivator</li> <li>Corrosion inhibitor</li> </ul> <p><u>Detergent additives:</u> (each &lt; 0.5% w/w) <sup>s67A</sup></p>		

Substance Description	UN Number	Hazard classification(s)
<b>Aviation gasoline and racing gasoline (Avgas 100 and Avgas 100LL)</b>	1203	3.1A, 6.1E, 6.3B, 6.7B, 6.8A, 9.1B
<p><u>Description:</u> A complex combination of hydrocarbons consisting primarily of straight chain and branched chain paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly in the range C<sub>4</sub> to C<sub>12</sub>, and boiling in the range 15°C to 180°C.</p>		
<p>Aromatic hydrocarbons: Maximum 55% (volume)</p>		
<p>Benzene: Maximum 4% (volume)</p>		
<p><u>Additives:</u> (each &lt;0.1% w/w)</p>		
<p>Azo dyes</p>		
<p>Detergent additives</p>		
<p>Antioxidants</p>		
<p>Metal deactivator</p>		
<p>Corrosion inhibitor</p>		
<p>Tetraethyl lead &lt;0.14% w/v (&lt;0.85 g Pb/L )</p>		
<p>1,2-Dibromoethane &lt;0.1% w/v (&lt;1 g/L)</p>		
<b>Diesel fuel (automotive gas oil and marine diesel fuel)</b>		3.1D, 6.1E, 6.3B, 6.7B, 9.1B
<p><u>Description:</u> A complex combination of hydrocarbons having carbon numbers predominantly in the range C<sub>9</sub> to C<sub>20</sub> and boiling in the range of 160°C to 400°C, with a flashpoint above 60°C [including up to 20% of fatty acid esters, which are methyl or ethyl esters of long chain fatty acids derived from vegetable oils and animals fats .</p>		
<p><u>Additives:</u> (each &lt;0.1% w/w)</p>		
<p>Cold flow improver</p>		
<p>Antistatic additive</p>		
<p>Cetane improver</p>		
<p>Corrosion inhibitor</p>		
<p>Lubricity additives</p>		
<p>Antioxidants</p>		
<p><u>Detergent additives</u> (each &lt; 0.5% w/w) <sup>s67A</sup></p>		
<b>Low flashpoint diesel (low flash domestic heating oil and alpine diesel)</b>	1202	3.1C, 6.1E, 6.3B, 6.7B, 9.1B
<p><u>Description:</u> A complex combination of hydrocarbons having carbon numbers predominantly in the range C<sub>9</sub> to C<sub>20</sub> and boiling in the range of 140°C to 400°C, with a flashpoint above 50°C.</p>		
<p><u>Additives:</u> (each &lt;0.1% w/w)</p>		
<p>Cold flow improver</p>		
<p>Antistatic additive</p>		
<p>Cetane improver</p>		
<p>Corrosion inhibitor</p>		
<p>Lubricity additives</p>		
<p>Antioxidants</p>		
<p><u>Detergent additives</u> (each &lt; 0.5% w/w) <sup>s67A</sup></p>		

Substance Description	UN Number	Hazard classification(s)
<p><b>Kerosene (kerosine)</b>  <b>(including Jet A-1, aviation turbine fuels)</b></p> <p><u>Description:</u> A complex combination of hydrocarbons consisting primarily of hydrocarbons having carbon numbers predominantly in the range C<sub>9</sub> to C<sub>16</sub> and boiling in the range of 140°C to 300°C.</p> <p><u>Additives:</u> (each &lt;0.1% w/w)</p> <ul style="list-style-type: none"> <li>Dyes</li> <li>Antistatic additives</li> <li>Metal deactivators</li> <li>Antioxidants</li> <li>Diethyleneglycol monomethyl ether (icing inhibitor) &lt;0.2%</li> </ul>	1223	3.1C, 6.1E, 6.3B, 9.1B
<p><b>Mineral turpentine</b></p> <p><u>Description:</u> A complex combination of hydrocarbons consisting primarily of aromatic hydrocarbons having carbon numbers predominantly in the range C<sub>8</sub> to C<sub>10</sub> and boiling in the range of 135°C to 210°C.</p> <p>A mixture of light aromatic petroleum naphtha, CAS number 64742-95-6, and medium aliphatic petroleum naphtha, CAS number 64742-88-7</p>	[1300	3.1C, 6.1E, 6.3B, 9.1B
<p><b>Crude oils – extremely flammable</b></p> <p><u>Description:</u> Crude oil consists predominantly of hydrocarbons of the aliphatic, aromatic and naphthenic types and it also contains smaller amounts of organic compounds containing sulphur, nitrogen and oxygen, as well as low concentrations of organo-metallic complexes, in particular of vanadium and nickel. Olefins are rarely found in crude oils.</p>		3.1A, 6.1E, 6.3B, 6.7B, 9.1C
<p><b>Crude oils – highly flammable</b></p> <p><u>Description:</u> Crude oil consists predominantly of hydrocarbons of the aliphatic, aromatic and naphthenic types and it also contains smaller amounts of organic compounds containing sulphur, nitrogen and oxygen, as well as low concentrations of organo-metallic complexes, in particular of vanadium and</p>		3.1B, 6.1E, 6.3B, 6.7B, 9.1C



<b>Substance Description</b>	<b>UN Number</b>	<b>Hazard classification(s)</b>
nickel. Olefins are rarely found in crude oils.		
<b>Crude oils – flammable</b>		3.1C, 6.1E, 6.3B, 6.7B, 9.1C
<u>Description:</u> Crude oil consists predominantly of hydrocarbons of the aliphatic, aromatic and naphthenic types and it also contains smaller amounts of organic compounds containing sulphur, nitrogen and oxygen, as well as low concentrations of organo-metallic complexes, in particular of vanadium and nickel. Olefins are rarely found in crude oils.		
<b>Crude oils – low flammability</b>		3.1D, 6.1E, 6.3B, 6.7B, 9.1C
<u>Description:</u> Crude oil consists predominantly of hydrocarbons of the aliphatic, aromatic and naphthenic types and it also contains smaller amounts of organic compounds containing sulphur, nitrogen and oxygen, as well as low concentrations of organo-metallic complexes, in particular of vanadium and nickel. Olefins are rarely found in crude oils.		
<b>Fuel oils</b>		3.1D, 6.3B, 6.7B, 9.1C
<u>Description:</u> Fuel oils are blended products based on the residues from various refinery distillation and cracking processes with flashpoints above 60°C. Fuel oil streams contain saturated, aromatic and olefinic hydrocarbons, mainly in the carbon number range C <sub>9</sub> to C <sub>50</sub> . The boiling ranges of these streams are approximately 160°C to 600°C and they may contain 4 to 6 ring polycyclic aromatic hydrocarbons. In addition, as they include residual streams, they may also contain low concentrations of heavy metals such as vanadium and nickel.		
<b>Fuel oil manufactured from waste lubricating oil</b>		3.1D, 6.3B, 6.7B, 9.1C
<u>Description:</u> A complex combination of hydrocarbons obtained by subjecting used motor lubricating oil to various treatment processes to remove heavy metals, additive components, water, sludge, solid particles and volatile fractions. It consists predominantly of hydrocarbons having carbon numbers in the range of C <sub>20</sub> to C <sub>40</sub> .		
The oil shall meet the following specification:		
Lead: (100 parts-per-million maximum)		
Arsenic: (5 parts-per-million maximum)		
Cadmium: (2 parts-per-million maximum)		
Chromium: (10 parts-per-million maximum)		
Total halogens*: (1,000 parts-per-million maximum)		
Flashpoint: greater than 60°C		
*The oil shall contain no polychlorinated biphenyls (PCBs)		

Substance Description	UN Number	Hazard classification(s)
<b>Cutback bitumen (containing more than 10% kerosene)</b>		3.1D, 6.3B, 9.1C
<u>Description:</u> Cutback bitumen is a mixture of bitumen and kerosene, with the kerosene content not exceeding 20% by mass.		
<b>Cutback bitumen (containing more than 7% but less than 10% kerosene)</b> <sup>s67A</sup>		3.1D, <sup>s67A</sup>
<u>Description:</u> Cutback bitumen is a mixture of bitumen and kerosene.		
<b>Cutback bitumen (containing more than 2.5% but less than 7% kerosene)</b> <sup>s67A</sup>		<sup>s67A</sup>
<u>Description:</u> Cutback bitumen is a mixture of bitumen and kerosene.		
<b>Aliphatic hydrocarbon solvents – very low flashpoint</b>		3.1A, 6.1E, 6.3B, 9.1B
Complex mixtures of hydrocarbons consisting predominantly of straight-chain, branched-chain, and cyclic alkanes. Aromatic hydrocarbons are less than 1%. Products typically have carbon numbers in the range C <sub>4</sub> to C <sub>12</sub> and boil from -20°C to 220°C.		
Flash Point: less than 23°C		
Initial Boiling Point: less than or equal to 35°C		
<b>Aliphatic hydrocarbon solvents – low flashpoint</b>		3.1B, 6.1E, 6.3B, 9.1B
Complex mixtures of hydrocarbons consisting predominantly of straight-chain, branched-chain, and cyclic alkanes. Aromatic hydrocarbons are less than 1%. Products typically have carbon numbers in the range C <sub>5</sub> to C <sub>12</sub> and boil from 35°C to 220°C.		
Flash Point: less than 23°C		
Initial Boiling Point: greater than 35°C		
<b>Aliphatic hydrocarbon solvents – medium flashpoint</b>		3.1C, 6.1E, 6.3B, 9.1B
Complex mixtures of hydrocarbons consisting predominantly of straight-chain, branched-chain, and cyclic alkanes. Aromatic hydrocarbons are less than 1%. Products typically have carbon numbers in the range C <sub>9</sub> to C <sub>16</sub> and boil from 150°C to 300°C.		
Flash Point: Greater than or equal to 23°C but less than or equal to 60°C		

Substance Description	UN Number	Hazard classification(s)
<p><b>Aliphatic hydrocarbon solvents – high flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting predominantly of straight-chain, branched-chain, and cyclic alkanes. Aromatic hydrocarbons are less than 1%. Products typically have carbon numbers in the range C<sub>11</sub> to C<sub>25</sub> and boil from 205°C to 400°C.</p> <p>Flash Point: Greater than 60°C but less than or equal to 93°C</p>		3.1D, 6.1E, 6.3B
<p><b>Low aromatic hydrocarbon solvents – very low flash point</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbons are less than 30%. Products typically have carbon numbers in the range C<sub>4</sub> to C<sub>12</sub> and boil from 20°C to 220°C.</p> <p>Flash Point: less than 23°C</p> <p>Initial Boiling Point: less than 35°C</p>		3.1A, 6.1E, 6.3B, 6.7B, 9.1B
<p><b>Low aromatic hydrocarbon solvents – low flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbons are less than 30%. Products typically have carbon numbers in the range C<sub>5</sub> to C<sub>12</sub> and boil from 35°C to 230°C.</p> <p>Flash Point: less than 23°C</p> <p>Initial Boiling Point: greater than 35°C</p>		3.1B, 6.1E, 6.3B, 6.7B, 9.1B
<p><b>Low aromatic hydrocarbon solvents – medium flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbons are less than 30%. Products typically have carbon numbers in the range C<sub>9</sub> to C<sub>18</sub> and boil from 140°C to 300°C.</p> <p>Flash Point: Greater than or equal to 23°C but less than or equal to [60°C</p>		3.1C, 6.1E, 6.3B, 9.1B
<p><b>Low aromatic hydrocarbon solvents – high flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbons are less than 30%. Products typically have carbon numbers in the range C<sub>11</sub> to C<sub>25</sub> and boil from 200°C to 400°C.</p> <p>Flash Point: Greater than 60°C but less than or equal to 93°C</p>		3.1D, 6.1E, 6.3B, 9.1B
<p><b>Medium aromatic hydrocarbon solvents – very low</b></p>		3.1A, 6.1E, 6.3B, 6.7B, 9.1B

Substance Description	UN Number	Hazard classification(s)
<p><b>flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbon content is between 30% and 70%. Products typically have carbon numbers in the range C<sub>4</sub> to C<sub>12</sub> and boil from 20°C to 220°C.</p> <p>Flash Point: less than 23°C</p> <p>Initial Boiling Point: greater than 35°C</p>		
<p><b>Medium aromatic hydrocarbon solvents – low flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbon content is between 30% and 70%. Products typically have carbon numbers in the range C<sub>5</sub> to C<sub>12</sub> and boil from 35°C to 230°C.</p> <p>Flash Point: less than 23°C</p> <p>Initial Boiling Point: greater than 35°C</p>		3.1B, 6.1E, 6.3B, 6.7B, 9.1B
<p><b>Medium aromatic hydrocarbon solvents – medium flashpoint<sup>s67A</sup></b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbon content is between 30% and 70%. Products typically have carbon numbers in the range C<sub>9</sub> to C<sub>20</sub> and boil from 150°C to 350°C.</p> <p>Flash Point: Greater than or equal to 23°C but less than or equal to 60°C</p>		3.1C, 6.1E, 6.3B, <sup>s67A</sup> , 9.1B
<p><b>Medium aromatic hydrocarbon solvents – high flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting of straight-chain, branched-chain, and cyclic alkanes and aromatic hydrocarbons. Aromatic hydrocarbon content is between 30% and 70%. Products typically have carbon numbers in the range C<sub>11</sub> to C<sub>25</sub> and boil from 200°C to 400°C.</p> <p>Flash Point: Greater than 60°C but less than or equal to 93°C</p>		3.1D, 6.1E, 6.3B, 9.1B
<p><b>Aromatic hydrocarbon solvents – medium flashpoint</b></p> <p>Complex mixtures of hydrocarbons consisting predominantly of aromatic hydrocarbons. Aromatic hydrocarbon content is greater than 70%. Products typically have carbon numbers in the range C<sub>8</sub> to C<sub>16</sub> and boil from 135°C to 290°C.</p> <p>Flash Point: Greater than or equal to 23°C but less than or equal to 60°C</p>		3.1C, 6.1E, 6.3B, 9.1B

Substance Description	UN Number	Hazard classification(s)
<p data-bbox="102 255 786 295"><b>Aromatic hydrocarbon solvents – high flashpoint</b></p> <p data-bbox="145 304 786 472">Complex mixtures of hydrocarbons consisting predominantly of aromatic hydrocarbons. Aromatic hydrocarbon content is greater than 70%. Products typically have carbon numbers in the range C<sub>11</sub> to C<sub>16</sub> and boil from 195°C to 290°C.</p> <p data-bbox="145 481 786 548">Flash Point: Greater than 60°C but less than or equal to 93°C</p>		3.1D, 6.1E, 6.3B, 9.1B

## Schedule 2

### List of substances (scheduled toxic substances) to be transferred

Substance Description	CAS Number	UN Number	Hazard Classification(s)
[1,1'-Biphenyl -4,4'-diamine, 3,3'-dimethyl-, (o-tolidine)	119-93-7	2811	6.1D, 6.3B, 6.4A, 6.6B, 6.7B, 9.1B, 9.3B
1,2-Ethandiol, (ethylene glycol)	107-21-1		6.1D, 6.4A, 6.9A, 9.3C
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-, (triglycidalisocyanurate)	2451-62-9		6.1C, 6.5A, 6.5B, 6.6A, 6.9A, 8.3A, 9.1C, 9.3B
1-Naphthalenamine	134-32-7	2077	6.1D, 6.4A, 6.6B, 9.1B, 9.3C
1-Octadecanamine	124-30-1		6.1D, 6.5B, 8.2C, 8.3A, 9.1B, 9.3C
2-Propenoic acid, 2-methyl- (stabilized), (methacrylic acid)	79-41-4	2531	3.1D, 6.1C, 6.9B, 8.2B, 8.3A, 9.1D, 9.2B, 9.3C
2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, (dimethylaminoethyl methacrylate)	2867-47-2	2522	3.1D, 6.1C, 8.2C, 8.3A, 9.1D, 9.3B
Acetic acid, >50-80% aqueous solution	64-19-7	2790	3.1D, 6.1D, 6.9B, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Acetic acid, >30-50% aqueous solution	64-19-7	2790	6.1D, 6.9B, 8.1A, 8.2C, 8.3A, 9.1D, 9.3C
Acetic acid, 10-30% aqueous solution	64-19-7	2790	6.1E, 6.9B, 8.1A, 8.2C, 8.3A
Acridine	260-94-6	2713	6.1D, 6.3A, 6.4A, 9.1A, 9.3B
Ammonia, >10-35% aqueous solution	1336-21-6	2672	6.1D, 8.1A, 8.2C, 8.3A, 9.1A, 9.3C
Ammonia, 2-10% aqueous solution	1336-21-6		6.1E, 6.3A, 6.4A, 9.1D
Antimony	7440-36-0	2871	6.3B, 6.4A, 6.7B, 6.8B, 6.9B, 9.1D
Arsenic	7440-38-2	1558	6.1B, 6.6B, 6.7A, 6.9A, 9.1A, 9.3A
Benzene, 2,4-diisocyanato-1-methyl-, (toluene diisocyanate)	584-84-9	2078	6.1A, 6.3B, 6.4A, 6.5A, 6.5B, 6.7B, 6.9A, 9.1C, 9.3B
Benzenemethanaminium, N-[2-[(2,6-dimethylphenyl)amino -2-oxoethyl - N,N-diethyl-, benzoate, (denatonium benzoate, bitrex)	3734-33-6		6.1D, 6.4A, 6.9B, 9.3C
Cadmium	7440-43-9	2570	6.1B, 6.6A, 6.7A, 6.8A, 6.9A, 9.1A, 9.2C, 9.3B
Cyclohexanamine	108-91-8	2357	3.1C, 6.1B, 6.5B, 6.6B, 6.8B, 6.9A, 8.2B, 8.3A, 9.1D, 9.3A
Disulfurous acid, disodium salt, (sodium metabisulphite)	7681-57-4		6.1D, 6.3A, 6.5A, 6.5B, 8.3A, 9.1D, 9.2B, 9.3C
Ethane, 1,1,1-trichloro-	71-55-6	2831	6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.2A
Ethane, 1,1,2,2-tetrachloro-	79-34-5	1702	6.1C, 6.3A, 6.4A, 6.7B, 6.9B, 9.1D, 9.3B, 9.4C
Ethene, tetrachloro-, (perchloroethylene)	127-18-4	1897	6.1E, 6.3A, 6.4A, 6.7A, 6.9B, 9.1A, 9.2C, 9.3B
Ethene, trichloro-	79-01-6	1710	6.1D, 6.3A, 6.4A, 6.6B, 6.7A, 6.9B, 9.1D
Formaldehyde, >5-25% aqueous solution	50-00-0		6.1D, 6.3A, 6.4A, 6.5B, [6.6B , 6.7A, 6.9A, 9.1D, 9.2B, 9.3C

<b>Substance Description</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
[Formaldehyde, 0.25 – <1% aqueous solution	50-00-0		6.3A, 6.4A, 6.5B, 9.2B
[Formaldehyde, 1 – 5% aqueous solution	50-00-0		6.1E, 6.3A, 6.4A, 6.5B, 6.6B, 6.7A, 6.9B, 9.2B
Hexane, 1,6-diisocyanato-	822-06-0	2281	6.1A, 6.3A, 6.4A, 6.5A, 6.5B, 6.9A, 9.3B
Hydrazine, >10-37% aqueous solution	7803-57-8	3293	6.1C, 6.5B, 6.6A, 6.7B, 6.8B, 6.9A, 8.2C, 8.3A, 9.1A, 9.2D, 9.3A
Hydrazine, >3-10% aqueous solution	7803-57-8	3293	6.1D, 6.3A, 6.4A, 6.5B, 6.6A, 6.7B, 6.8B, 6.9A, 9.1A, 9.2D, 9.3B
Hydrazine, 1-3% aqueous solution	7803-57-8	3293	6.1E, 6.5B, 6.6A, 6.7B, 6.8B, 6.9A, 9.1A, 9.2D, 9.3C
Hydriodic acid, 57-67% aqueous solution	10034-85-2	1787	6.1B, 6.9A, 8.1A, 8.2B, 8.3A, 9.3C
Hydrobromic acid, 47-60% aqueous solution	10035-10-6	1788	6.1B, 6.9A, 8.1A, 8.2B, 8.3A, 9.3C
Hydrochloric acid, >25% aqueous solution	7647-01-0	1789	6.1B, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Hydrochloric acid, >10-25% aqueous solution	7647-01-0	1789	6.1D, 8.1A, 8.2B, 8.3A, 9.3C
Hydrochloric acid, >2-10% aqueous solution	7647-01-0	1789	6.1E, 8.1A, 8.2C, 8.3A
Hydrochloric acid, 0.5-2% aqueous solution	7647-01-0		6.1E, 6.3A, 6.4A
Hydrofluoric acid, >60% aqueous solution	7664-39-3	1790	6.1A, 6.9A, 8.1A, 8.2A, 8.3A, 9.1D, 9.3A
Hydrofluoric acid, >7-60% aqueous solution	7664-39-3	1790	6.1B, 6.9A, 8.1A, 8.2B, 8.3A, 9.1D, 9.3A
Hydrofluoric acid, >1-7% aqueous solution	7664-39-3	1790	6.1C, 6.9A, 8.1A, 8.2C, 8.3A, 9.3B
Hydrofluoric acid, >0.1-1% aqueous solution	7664-39-3	1790	6.1D, 6.3A, 6.4A, 6.9A, 8.1A, 9.3B
Hydrofluoric acid, 0.01-0.1% aqueous solution	7664-39-3	1790	6.1E, 6.3B, 6.4A, 6.9A, 8.1A
Iodine (solid)	7553-56-2	1759	6.1D, 6.5B, 6.9B, 8.2C, 8.3A, 9.1A, 9.3C
Methane, dichloro-	75-09-2	1593	6.1D, 6.3A, 6.4A, 6.7B, 6.9B, 9.3C
Methane, isothiocyanato-	556-61-6	2477	3.1C, 6.1A <sup>s67A</sup> , 6.5B, 6.9A, 8.2B, 8.3A, 9.1A, 9.2C, 9.3B
Naphthenic acids, copper salts	1338-02-9		6.1D, 6.3B, 6.4A, [6.9B, 9.1A, 9.2C, 9.3C
Nitric acid, >10-70% aqueous solution	7697-37-2	2031	6.1D, 6.9B, 8.1A, 8.2B, 8.3A
Nitric acid, 0.5-10% aqueous solution	7697-37-2		6.1E, 6.9B, 8.1A, 8.2C, 8.3A
Pentanedial, (glutaraldehyde)	111-30-8	2810	6.1A, 6.5A, 6.5B, 6.9B, 8.2B, 8.3A, 9.1A, 9.2A, 9.3A
Phenol	108-95-2	1671	6.1B, [6.6B, 6.8B, 6.9A, 8.2B, 8.3A, 9.1D, 9.2D, 9.3B
Phenol, methyl- mixed isomers, (cresol)	1319-77-3	2076	3.1D, 6.1A, 6.9A, 8.2B, 8.3A, 9.1D, 9.3B

<b>Substance Description</b>	<b>CAS Number</b>	<b>UN Number</b>	<b>Hazard Classification(s)</b>
Phosphoric acid, >10% aqueous solution	7664-38-2	1805	6.1D, 8.1A, 8.2C, 8.3A, 9.1D, 9.3C
Phosphoric acid, 1-10% aqueous solution	7664-38-2	1805	6.1E, 8.1A, 8.2C, 8.3A, 9.1D
Potassium hydroxide	1310-58-3	1813	6.1C, 8.1A, 8.2B, 8.3A, 9.1D, 9.3B
Potassium hydroxide, >5% aqueous solution	1310-58-3	1814	6.1D, 8.1A, 8.2B, 8.3A, 9.3B
Potassium hydroxide, >2-5% aqueous solution	1310-58-3	1814	6.1E, 8.1A, 8.2C, 8.3A
Potassium hydroxide, 0.5-2% aqueous solution	1310-58-3		6.1E, 6.3A, 6.4A
Sodium hydroxide	1310-73-2	1823	6.1D, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Sodium hydroxide, >5% aqueous solution	1310-73-2	1824	6.1D, 8.1A, 8.2B, 8.3A, 9.1D
Sodium hydroxide, >2-5% aqueous solution	1310-73-2	1824	6.1E, 8.1A, 8.2C, 8.3A
Sodium hydroxide, 0.5-2% aqueous solution	1310-73-2		6.1E, 6.3A, 6.4A
Strychnidin-10-one, 2,3-dimethoxy-, (brucine)	357-57-3	1570	6.1A, 6.3B, 6.4A, 6.9A, 9.1C, 9.3A
Sulfamic acid	5329-14-6	2967	6.1D, 8.1A, 8.2C, 8.3A, 9.1C, 9.3C
Sulphuric acid, >10% aqueous solution	7664-93-9	1830	6.1D, 6.7A, 6.9A, 8.1A, 8.2B, 8.3A, 9.1D
Sulphuric acid, >5-10% aqueous solution	7664-93-9	2796	6.1E, 6.9B, 8.1A, 8.2C, 8.3A, 9.1D
Sulphuric acid, 0.5-5% aqueous solution	7664-93-9		6.1E, 6.3A, 6.4A, 8.1A, 9.1D
Sulphuric acid, fuming	[8014-95-7	1831	6.1A, 6.7A, 6.9A, 8.1A, 8.2A, 8.3A, 9.1D
Zinc chloride	7646-85-7	2331	6.1C, 8.1A, 8.2C, 8.3A, 9.1A, 9.3B



## Schedule 3

### Changes to controls relating to hazardous gases

#### Control – Hazardous Substances (Classes 1 to 5 Controls)

#### Regulations 2001

#### Changes to Controls

[Regulation 7

This regulation applies to liquefied petroleum gas as if subclauses (1) and (2) were omitted and the following substituted:

- (1) Where a test certificate is required for a hazardous substance location comprising up to 300kg of liquefied petroleum gas under Regulation 81 of these regulations, that test certificate must be renewed at intervals of not more than 36 months.

Regulation 8

This regulation applies to liquefied petroleum gas as if subclause (2) were omitted and the following substituted:

- (2) A person must not carry or convey liquefied petroleum gas on any passenger service vehicle unless the quantity of liquefied petroleum gas is less than or equal to 20 kg.
- (3) A person in charge of a passenger service vehicle used to carry or convey liquefied petroleum gas must ensure that—
  - (a) no more than 20 kg of liquefied petroleum gas is carried or conveyed on the vehicle at any one time; and
  - (b) the liquefied petroleum gas is in 1 or more containers that are stowed in a separate compartment on the vehicle that complies with subclause (4); and
  - (c) no other hazardous substance is stored in the compartment with the liquefied petroleum gas; and
  - (d) the compartment is labelled with a ‘Class 2 - Flammable Gas’ diamond.
- (4) A compartment that is used to convey liquefied petroleum gas must be—
  - (a) adequately ventilated; and
  - (b) able to be accessed only from outside the vehicle; and
  - (c) made of fire-resistant material; and
  - (d) situated in the vehicle so as to provide maximum protection for the liquefied petroleum gas container in

the event of an accident.

Regulation 9

This regulation applies as if the heading were omitted and the following substituted:

**9. Exclusion for certain substances**

This regulation applies to anhydrous ammonia as if, after subclause (1), the following were inserted:

- (1A) These regulations do not apply to anhydrous ammonia that is contained in equipment that forms part of any other equipment in which anhydrous ammonia is used as a refrigerant.

Regulation 56

This regulation applies to liquefied petroleum gas at refuelling outlets as if the item in table 2 of Schedule 3 of the regulations relating to classification 2.1.1.A were omitted and the following substituted:

2.1.1.A any amount

The regulations apply to liquefied petroleum gas at refuelling outlets as if, in regulation 56(1), the words “subject to subclauses (2), (3), and (4)” were inserted before the words “Class 2, 3, or 4”.

The regulations apply to liquefied petroleum gas at refuelling outlets as if regulation 56(2) were omitted and the following substituted:

- (2) Liquefied petroleum gas at a refuelling outlet may be handled by a person who is not an approved handler if—
- (a) the person has been trained in the hazards associated with the substance and its safe use and handling, including steps to be taken in the event of spillage or other emergency; and
  - (b) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.
- (3) A person who is not an approved handler may self service refuel a vehicle with liquefied petroleum gas at a refuelling outlet if—
- (a) the dispensing nozzle of the liquefied petroleum gas stationary container system cannot be operated until it is connected to the vehicle filling point; and
  - (b) the dispensing nozzle cannot be disconnected from the vehicle filling point unless the fill trigger is in the off

position; and

- (c) the liquefied petroleum gas stationary container system is fitted with an emergency shutdown system that complies with section 9.5.14 of AS/NZS 1596; and
  - (d) the dispensing unit is clearly identified as such and displays a clear set of filling instructions; and
  - (e) the dispensing hose of the dispensing unit has a self-sealing hose break coupling that complies with section 9.3.3 of AS/NZS 1596; and
  - (f) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.
- (4) For the purposes of subclause (3)(c), a system that was installed prior to 1 July 1999 complies with paragraph (a) of section 9.5.14 of AS/NZS 1596 if it can be remotely activated.

[This regulation does not apply to liquefied petroleum gas when in non-refillable, threaded or self-sealing cartridges of up to 1,000 ml water capacity manufactured to EN 417 or other approved standards, if the aggregate water capacity of the cartridges at any one place is less than 3,000 litres.

#### Regulation 61

Subclauses (3), (4), and (5) of this regulation do not apply to a vehicle at the dispensing unit of a refuelling outlet if, when fuel is being delivered to the fuel tank of the vehicle—

- (a) the engine of the vehicle is turned off; and
- (b) no source of ignition is brought within 3 metres of the fuel tank of the vehicle.

#### [Regulation 77

This regulation applies to liquefied petroleum gas as if in subclause (2), the words “at least 30 working days” were omitted and substituted with the words “at least 5 working days”.

[This regulation does not apply to liquefied petroleum gas when in non-refillable, threaded or self-sealing cartridges of up to 1,000 ml water capacity manufactured to EN 417 or other approved standards, if the aggregate water capacity of the cartridges at any one place is less than 3,000 litres.

#### Regulation 81

[This regulation applies to class 2 hazardous substances as if, at the end of paragraph (g), the expression “.” were omitted and the following substituted:  
“; and”

This regulation applies to class 2 hazardous substances as if, after paragraph (g), the following were inserted:

- (h) the requirements of Schedule 10 (controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.

Regulation 88

This regulation applies to oxygen in a discrete cylinder or tank as if the item in table 2 of Schedule 4 of the regulations relating to classification 5.1.2A were omitted and the following substituted:

5.1.2A            200 m<sup>3</sup>

This regulation applies to chlorine as if the item in table 2 of Schedule 4 of the regulations relating to classification 5.1.2A were omitted and the following substituted:

5.1.2A            100 kg

[Regulation 94

This regulation applies to oxygen in a discrete cylinder or tank as if the item in table 2 of Schedule 4 of the regulations relating to classification 5.1.2A were omitted and the following substituted:

5.1.2A            200m<sup>3</sup>

This regulation applies to chlorine as if the item in table 2 of Schedule 4 of the regulations relating to classification 5.1.2A were omitted and the following substituted:

5.1.2A            100kg

[Regulation 95

This regulation applies to class 5.1.2A substances as if, in regulation 95(1)(c), the words “but excluding electrical equipment” were inserted after the words “ignition sources”.

This regulation applies to class 5.1.2 substances as if, regulation 95(1)(f) were omitted and the following substituted:

- (f) the location is designed and managed so that any moisture or any vapour, gas, or particulate matter of class 5.1.1 or 5.1.2 substances does not present a hazard in respect of electrical equipment that may be present.

[Regulation 98

This regulation applies for chlorine as if, in regulation 98(d), the number “100 kg” was omitted and the number “150 kg” substituted.

**Control – Hazardous  
Substances (Classes  
6, 8 and 9 Controls)  
Regulations 2001**

**Changes to Controls**

Regulation 4

This regulation applies to anhydrous ammonia as if, at the end of subclause (b), the expression “.” were omitted and the following inserted:

“; or”

This regulation applies to anhydrous ammonia as if after, subclause (b), the following were added:

- (c) in the case of anhydrous ammonia, contained in any equipment that forms part of any other equipment in which anhydrous ammonia is used as a refrigerant.

Regulation 9

This regulation applies to the following hazardous substances:

Carbon monoxide  
Carbon oxide sulphide (carbonyl sulphide)  
Methanamine (methylamine)  
Methanamine, N-methyl-, anhydrous (dimethylamine)  
Methanethiol (methyl mercaptan)  
Silane, tetrafluoro-  
Sulphur dioxide  
Sulphuryl fluoride  
Trimethylamine, anhydrous

as if regulation 9 were omitted and the following substituted:

**9. Substances that must be secured**

- (1) This regulation applies to the following hazardous substances:

Carbon monoxide  
Carbon oxide sulphide (carbonyl sulphide)  
Methanamine (methylamine)  
Methanamine, N-methyl-, anhydrous (dimethylamine)  
Methanethiol (methyl mercaptan)  
Silane, tetrafluoro-  
Sulphur dioxide  
Sulphuryl fluoride  
Trimethylamine, anhydrous

- (2) A hazardous substance to which this regulation applies must, if left unattended, be secured so that a person cannot gain access to the substance unless the person has a key or other

device used for operating locks.

This regulation applies to ammonia, >50% aqueous solution, and ammonia, 35-50% aqueous solution, as if regulation 9 were omitted.

This regulation applies to anhydrous ammonia as if the item in Schedule 1 of the regulations relating to classifications 6.1C and 9.1A were omitted and the following substituted:

6.1C            100 kg

9.1A            100 kg

This regulation applies to chlorine, hydrogen sulphide, and nitrosyl chloride as if chlorine, hydrogen sulphide, and nitrosyl chloride do not have a class 9 hazard classification.

Regulation 11            The regulations apply as if regulation 11 were omitted.

Regulation 32            This regulation applies as if subclauses (1) and (2) were omitted.

**Control – Hazardous  
Substances  
(Identification)  
Regulations 2001**

**Changes to Controls**

Regulation 4            This regulation applies to anhydrous ammonia as if the heading were omitted and the following substituted:

**4. Exclusion for certain substances**

This regulation applies to anhydrous ammonia as if, after subclause (1) the following was inserted:

(1A) These regulations do not apply to anhydrous ammonia that is contained in equipment that forms part of any other equipment in which anhydrous ammonia is used as a refrigerant [except in the case of quantities of anhydrous ammonia in excess of 100 kg in which event the requirements of Part 2 of these regulations apply.

[Regulations 13 and 24    These regulations shall not apply to chlorine.

**Control – Hazardous  
Substances  
(Emergency  
Management)  
Regulations 2001**

**Changes to Controls**

Regulation 4            This regulation applies to anhydrous ammonia as if the heading were omitted and the following substituted:

#### **4. Exclusion for certain substances**

This regulation applies to anhydrous ammonia as if, after subclause (1) the following was inserted:

(1A) The requirements of these regulations do not apply to anhydrous ammonia that is contained in equipment that forms part of any other equipment in which anhydrous ammonia is used as a refrigerant [except in the case of quantities of anhydrous ammonia in excess of 100 kg in which event the requirements of Part 3 and regulations 25 to 34 inclusive of Part 4 of these regulations apply.

[Regulation 23

This regulation applies to liquefied petroleum gas as if the following subclause was inserted:

(2) The fire extinguisher may be substituted by a hydrant system incorporating a 20mm diameter hose, fitted with a spray nozzle and of sufficient length to enable water to be directed to all sides of the tank or tanks.

#### **Control – Hazardous Substances**

**(Tracking)**

#### **Regulations 2001**

#### **Changes to Controls**

Regulations 4 to 6

The regulations apply to the following substances as if regulations 4 to 6 were omitted:

Ammonia, anhydrous  
Ammonia, >50% aqueous solution  
Ammonia, 35-50% aqueous solution  
Borane, trichloro-  
Carbon monoxide  
Carbon oxide sulphide (carbonyl sulphide)  
Ethanamine, anhydrous (ethylamine)  
Methanamine (methylamine)  
Methanamine, N-methyl-, anhydrous (dimethylamine)  
Methanethiol (methyl mercaptan)  
Silane, tetrafluoro-  
Sulphur dioxide  
Sulphuryl fluoride  
Trimethylamine, anhydrous

Regulation 7

Subclause (1) of this regulation applies to anhydrous ammonia as if, at the end of paragraph (b), the expression “.” were omitted and with the following substituted:

“; or”

Subclause (1) of this regulation applies to anhydrous ammonia as if after paragraph (b), the following were added:

- (c) anhydrous ammonia that is contained in equipment that forms part of any other equipment in which anhydrous ammonia is used as a refrigerant.

**[Control – Hazardous  
Substances (Tank  
Wagons and  
Transportable  
Containers)  
Regulations 2004**

**Change to Controls**

Regulation 14A

This regulation applies as if, after subclause (2), the following new subclause were inserted:

- (3) Subclause (2) does not apply to hazardous gases.

[Regulation 42

This regulation applies to road tank wagons containing liquefied petroleum gas as if the following subclause was inserted after subclause (5):

- (6) When a liquefied petroleum gas tank wagon with a capacity of 12,000 litres or greater is parked for a period of time greater than one hour, fire fighting facilities must be provided, such facilities must include a spray system capable of delivering water to the exposed surfaces of the tank at a rate of 600 litres per square metre per hour, and equipped with an automatic spray system that—

- (a) detects fire; and
- (b) starts delivering water to the tank; and
- (c) can be manually controlled from a safe location,

provided that if the tank wagon is parked whilst containing liquefied petroleum gas in gaseous form only, a hydrant system equipped with a monitor or equivalent means to direct water to all sides of the tank need only be provided.



## Schedule 4

### Changes to controls relating to gases that are not hazardous substances

**Control – Hazardous  
Substances  
(Compressed Gases)  
Regulations 2004**

**Changes to Controls**

Regulation 3

This regulation applies to compressed gases that are not hazardous substances as if, in the definition of **gas**, paragraph (b) were omitted.

This regulation applies to compressed gases that are not hazardous substances as if the following definitions were inserted in the appropriate order:

**AS/NZS 2299.1: 1999** means the standard on *Occupational diving operations - Standard operational practice*

**AS 3848.2: 1999** means the standard on *Filling of portable gas cylinders - Filling of portable cylinders for self-contained underwater breathing apparatus (SCUBA) and non-underwater self-contained breathing apparatus (SCBA) - Safe procedures*

**BA** means breathing apparatus

**SCUBA** means self-contained underwater breathing apparatus

Regulation 44

This regulation applies to compressed gases that are not hazardous substances as if, in paragraph (f), the expression “.” were omitted and replaced with:

“.”

This regulation applies to compressed gases that are not hazardous substances as if there were added, after paragraph (f), the following paragraph:

- (g) for SCUBA, the operating pressure of the—
  - (i) SCUBA; and
  - (ii) pressure relief device

Regulation 52

This regulation applies to compressed gases that are not hazardous substances as if the table were omitted and the following table substituted:

<b>Type of cylinder</b>	<b>Interval (years)</b>
SCUBA:	
Visual inspections	1
Hydrostatic tests	2
Cylinders that are a part of a self contained breathing apparatus not designed or used for underwater use, other than fibre wrapped composite cylinder	5
Fibre wrapped composite cylinder	3
Fire extinguisher	5
Cylinder with shrunk-on foot rings	2
Cylinder for any of the following gases: Air (except for SCUBA), argon, cyclopropane, ethylene, helium, hydrogen, krypton, neon, nitrogen, nitrous oxide, oxygen, xenon, and mixtures of the above containing not more than 30% by volume of carbon dioxide [having a dew point below -40°C at 1 atmosphere	10 (up to 40 years of age) then 5 year intervals
All other cylinders	5

New regulation 56A

The regulations apply to compressed gases that are not hazardous substances as if, after regulation 56, the following were inserted:

**56A Restriction on charging SCUBA or BA**

No person may charge SCUBA or BA with air unless the moisture level in the air complies with—

- (a) AS/NZS 2299.1: 1999; or
- (b) AS 3848.2: 1999; or
- (c) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a) or paragraph (b).

## Schedule 5

### Changes to controls relating to classes 3, 4 and 5 dangerous goods

#### [Control – Hazardous Substances (Classes 1 to 5 Controls)

#### Regulations 2001

#### Changes to Controls

#### Regulation 72

Subclause (1) of this regulation does not apply to class 4.1.1 or class 4.3 hazardous substances and the corresponding references to class 4.1.1 and class 4.3 substances in Table 6 of Schedule 3 to the regulations are repealed.

#### Regulation 81

This regulation applies to class 3.1 hazardous substances as if, at the end of paragraph (g), the expression “.” were omitted and the following substituted:

“; and”

This regulation applies to class 3.1 hazardous substances as if, after paragraph (g), the following were inserted:

- (h) the requirements of Schedule 10 (controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.

#### Regulation 95

This regulation applies to class 5.1.1 substances as if, in regulation 95(1)(c), the words “but excluding electrical equipment” were inserted after the words “ignition sources”.

This regulation applies to class 5.1.1 substances as if, regulation 95(1)(f) were omitted and the following substituted:

- (f) the location is designed and managed so that any moisture or any vapour, gas, or particulate matter of class 5.1.1 or 5.1.2 substances does not present a hazard in respect of electrical equipment that may be present.

#### Control – Hazardous Substances (Classes 6, 8 and 9 Controls)

#### Regulations 2001

#### Changes to Controls

#### Regulation 9

This regulation applies to the following hazardous substances:

1,2-Ethanediamine, N,N,N',N'-tetramethyl-

1,3-Butadiene, 2-chloro-

1-Decanol

1-Nonanol

1-Pentanol  
1-Propanamine  
1-Propanamine, 2-methyl-N-(2-methylpropyl)-  
1-Propanamine, N-propyl-  
1-Propene, 1,3-dichloro-  
2,4-Pentanedione  
2-Pentanol, 4-methyl-  
2-Propanamine  
2-Propanethiol, 2-methyl-  
2-Propenoic acid, 2-methylpropyl ester  
2-Propenoic acid, butyl ester  
2-Propenoic acid, ethyl ester  
2-Propenoic acid, methyl ester  
3-Penten-2-one, 4-methyl-  
4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-  
Acetic acid, ethenyl ester  
Barium  
Benzenamine  
Benzene, ethenyl-  
Benzene, ethenylmethyl-  
Benzene, methoxy-  
Borane, triethyl-  
Borate(1-), tetrahydro-, potassium  
Borate(1-), tetrahydro-, sodium  
Bromic acid, potassium salt  
Bromic acid, sodium salt  
Cyclohexanone  
Cyclopentanol  
Disulfide, dimethyl  
Ethanamine, 50-70% aqueous solution  
Ethanamine, N,N-diethyl-  
Ethanamine, N-ethyl-  
Ethane, 1,2-dichloro-  
Ethanethiol  
Ethanol, 2-butoxy-  
Ethanol, 2-methoxy-  
Ethanol, 2-propoxy-  
Formic acid  
Hydroperoxide, 1,1-dimethylethyl, 70% aqueous solution  
Lead oxide  
Methanamine, N,N-dimethyl-, 40-50% aqueous solution  
Methanamine, N-methyl-, 40-60% aqueous solution  
Morpholine, 4-methyl-  
Naphthalene, 1-nitro-  
Naphthalene, decahydro-  
Nitric acid, lead (2+) salt  
Nitric acid, zinc salt

Nitrous acid, 3-methylbutyl ester  
Nitrous acid, potassium salt  
Nitrous acid, sodium salt  
Oxirane, methyl-  
Perchloric acid, lead (2+) salt  
Propane, 2-nitro-  
Propanoic acid, 2-methyl-  
Pyridine, 2,4,6-trimethyl-  
Pyrrolidine  
Silane, chlorotrimethyl-  
Silane, dichlorodimethyl-  
Silane, trichloromethyl-  
[Sodium sulphide  
Thiophene

as if regulation 9 were omitted and the following substituted:

**9. Substances that must be secured**

(1) This regulation applies to the following hazardous substances:

1,2-Ethanediamine, N,N,N',N'-tetramethyl-  
1,3-Butadiene, 2-chloro-  
1-Decanol  
1-Nonanol  
1-Pentanol  
1-Propanamine  
1-Propanamine, 2-methyl-N-(2-methylpropyl)-  
1-Propanamine, N-propyl-  
1-Propene, 1,3-dichloro-  
2,4-Pentanedione  
2-Pentanol, 4-methyl-  
2-Propanamine  
2-Propanethiol, 2-methyl-  
2-Propenoic acid, 2-methylpropyl ester  
2-Propenoic acid, butyl ester  
2-Propenoic acid, ethyl ester  
2-Propenoic acid, methyl ester  
3-Penten-2-one, 4-methyl-  
4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-  
Acetic acid, ethenyl ester  
Barium  
Benzenamine  
Benzene, ethenyl-  
Benzene, ethenylmethyl-  
Benzene, methoxy-  
Borane, triethyl-

Borate(1-), tetrahydro-, potassium  
 Borate(1-), tetrahydro-, sodium  
 Bromic acid, potassium salt  
 Bromic acid, sodium salt  
 Cyclohexanone  
 Cyclopentanol  
 Disulfide, dimethyl  
 Ethanamine, 50-70% aqueous solution  
 Ethanamine, N,N-diethyl-  
 Ethanamine, N-ethyl-  
 Ethane, 1,2-dichloro-  
 Ethanethiol  
 Ethanol, 2-butoxy-  
 Ethanol, 2-methoxy-  
 Ethanol, 2-propoxy-  
 Formic acid  
 Hydroperoxide, 1,1-dimethylethyl, 70% aqueous solution  
 Lead oxide  
 Methanamine, N,N-dimethyl-, 40-50% aqueous solution  
 Methanamine, N-methyl-, 40-60% aqueous solution  
 Morpholine, 4-methyl-  
 Naphthalene, 1-nitro-  
 Naphthalene, decahydro-  
 Nitric acid, lead (2+) salt  
 Nitric acid, zinc salt  
 Nitrous acid, 3-methylbutyl ester  
 Nitrous acid, potassium salt  
 Nitrous acid, sodium salt  
 Oxirane, methyl-  
 Perchloric acid, lead (2+) salt  
 Propane, 2-nitro-  
 Propanoic acid, 2-methyl-  
 Pyridine, 2,4,6-trimethyl-  
 Pyrrolidine  
 Silane, chlorotrimethyl-  
 Silane, dichlorodimethyl-  
 Silane, trichloromethyl-  
 [Sodium sulphide  
 Thiophene

- (2) A hazardous substance to which this regulation applies must, if left unattended, be secured so that a person cannot gain access to the substance unless the person has a key or other device used for operating locks.

The regulations apply to the following hazardous substances as if regulation 9 were omitted:

1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-trichloro-  
 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt  
 1,5-Cyclooctadiene  
 1,6-Octadiene, 7-methyl-3-methylene-  
 2-Butanone, oxime  
 2-Cyclohexen-1-one, 3,5,5-trimethyl-  
 2-Propanethiol  
 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester  
 Benzene, butyl-  
 Benzene, chloro-  
 Benzene, diethyl-  
 Bicyclo[2.2.1 heptane, 2,2-dimethyl-3-methylene-  
 Bicyclo[3.1.1 hept-2-ene, 2,6,6-trimethyl-  
 Bicyclo[3.1.1 heptane, 6,6-dimethyl-2-methylene-  
 Butanal  
 Butanoic acid, pentyl ester  
 cis, cis 1,3-Cyclooctadiene  
 Cyclohexanone peroxide, 30-60% in dibutyl phthalate 30-60%, ethyl  
     acetate 10-30%  
 Cyclohexene, 1-methyl-4-(1-methylethenyl)-  
 Cyclohexene, 1-methyl-4-(1-methylethylidene)-  
 Decane  
 Ethaneperoxoic acid, <5% in acetic acid and hydrogen peroxide  
 Hexaneperoxoic acid, 3,5,5-trimethyl-, 1,1-dimethylethyl ester  
 Hypochlorous acid, calcium salt (dry), >30% available chlorine  
 Hypochlorous acid, calcium salt (dry), 10-30% available chlorine  
 Naphthenic acids, copper salts (flammable solution; flashpoint  
     23-60°C)  
 Nitric acid, copper (2+) salt  
 Nitric acid, silver (1+) salt  
 Nitric acid, strontium salt  
 Nonane  
 Octane  
 Pentane, 2,2,4-trimethyl-  
 Permanganic acid, potassium salt  
 Permanganic acid, sodium salt  
 Silver oxide  
 Zinc ashes  
 Zinc powder pyrophoric  
 Zinc powder/dust, PG I  
 Zinc powder/dust, PG II  
 Zinc powder/dust, PG III  
 Zinc powder pyrophoric<sup>s67A</sup>

This regulation applies to the following substances as if each substance does not have a class 9 hazard classification:

1-Pentanamine, N-pentyl-  
 1-Propanethiol  
 2-Propenenitrile  
 2-Propenoic acid, 2-methyl-, 2-propenyl ester  
 Acetic acid, chloro-, ethyl ester  
 Aluminium phosphide  
 Acetonitrile  
 Benzenecarboperoxoic acid, 1,1-dimethylethyl ester  
 Chlorous acid, sodium salt  
 Chromic acid, diammonium salt  
 Chromic acid, dipotassium salt  
 Chromic acid, disodium salt  
 Chromic acid, disodium salt, dihydrate  
 Chromium oxide  
 Ethaneperoxoic acid, 35-43% in acetic acid and hydrogen peroxide  
 Formaldehyde, >35% aqueous solution with 7-10% methanol  
 Formaldehyde, >25% aqueous solution, containing not more than 5%  
     methanol  
 Hydrazine, anhydrous  
 Hydrazine hydrate, or >37-64% aqueous solution  
 Naphthalene  
 Nitric acid, cadmium salt  
 Oxirane, chloromethyl-  
 Phenol, 2,4-dinitro- (wetted with not less than 15% water by mass)  
 Phenol, 2,5-dinitro- (wetted with not less than 15% water by mass)  
 Phenol, 2,6-dinitro- (wetted with not less than 15% water by mass)  
 Phosphorus, white, yellow, dry or in solution  
 Piperidine  
 Propanenitrile, 2-methyl-  
 Sodium hydrosulphide  
 Zinc phosphide

Regulation 11                      The regulations apply as if regulation 11 were omitted.

Regulation 32                      This regulation applies as if subclauses (1) and (2) were omitted.

**Control – Hazardous  
 Substances  
 (Packaging)  
 Regulations 2001**

**Changes to Controls**

Regulation 19                      This regulation applies as if paragraphs (b) and (c) of subclause (1) were omitted and the following substituted:

- (b) for a substance with a hazard classification of 6.1B must comply with the tests set out in Schedule 2:
- (c) for a substance with a hazard classification of 6.1C must



comply with the tests set out in Schedule 3.

Subclause (1) of this regulation applies to formaldehyde, >35% aqueous solution with 7-10% methanol, and formaldehyde, >25% aqueous solution, containing not more than 5% methanol as if, at the end of paragraph (b), the expression "Schedule 2" were omitted and the following substituted:

"Schedule 3"

**Control – Hazardous  
Substances**

**(Tracking)**

**Regulations 2001**

**Changes to Controls**

Regulations 4 to 6

The regulations apply to the following substances as if regulations 4 to 6 were omitted:

1,2-Ethanediamine, N,N,N',N'-tetramethyl-  
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-trichloro-  
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt  
1,3-Butadiene, 2-chloro-  
1,5-Cyclooctadiene  
1,6-Octadiene, 7-methyl-3-methylene-  
1-Decanol  
1-Nonanol  
1-Pentanol  
1-Propanamine  
1-Propanamine, 2-methyl-N-(2-methylpropyl)-  
1-Propanamine, N-propyl-  
1-Propene, 1,3-dichloro-  
2,4-Pentanedione  
2-Butanone, oxime  
2-Cyclohexen-1-one, 3,5,5-trimethyl-  
2-Pentanol, 4-methyl-  
2-Propanethiol  
2-Propanethiol, 2-methyl-  
2-Propenoic acid, 2-methyl-, 2-methylpropyl ester  
2-Propenoic acid, 2-methylpropyl ester  
2-Propenoic acid, butyl ester  
2-Propenoic acid, ethyl ester  
2-Propenoic acid, methyl ester  
3-Penten-2-one, 4-methyl-  
4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-  
Acetic acid, ethenyl ester  
Barium  
Benzenamine  
Benzene, butyl-  
Benzene, chloro-

Benzene, diethyl-  
Benzene, ethenyl-  
Benzene, ethenylmethyl-  
Benzene, methoxy-  
Bicyclo[2.2.1 heptane, 2,2-dimethyl-3-methylene-  
Bicyclo[3.1.1 hept-2-ene, 2,6,6-trimethyl-  
Bicyclo[3.1.1 heptane, 6,6-dimethyl-2-methylene-  
Bromic acid, potassium salt  
Bromic acid, sodium salt  
Butanal  
Butanoic acid, pentyl ester  
cis, cis 1,3-Cyclooctadiene  
Cyclohexanone  
Cyclohexanone peroxide, 30-60% in dibutyl phthalate 30-60%, ethyl acetate 10-30%  
Cyclohexene, 1-methyl-4-(1-methylethenyl)-  
Cyclohexene, 1-methyl-4-(1-methylethylidene)-  
Cyclopentanol  
Decane  
Disulfide, dimethyl  
Ethanamine, 50-70% aqueous solution  
Ethanamine, N,N-diethyl-  
Ethanamine, N-ethyl-  
Ethane, 1,2-dichloro-  
Ethaneperoxoic acid, <5% in acetic acid and hydrogen peroxide  
Ethanol, 2-butoxy-  
Ethanol, 2-methoxy-  
Ethanol, 2-propoxy-  
Formic acid  
Hexaneperoxoic acid, 3,5,5-trimethyl-, 1,1-dimethylethyl ester  
Hydroperoxide, 1,1-dimethylethyl, 70% aqueous solution  
Hypochlorous acid, calcium salt (dry), >30% available chlorine  
Hypochlorous acid, calcium salt (dry), 10-30% available chlorine  
Lead oxide  
Methanamine, N-methyl-, 40-60% aqueous solution  
Morpholine, 4-methyl-  
Naphthalene  
Naphthalene, 1-nitro-  
Naphthalene, decahydro-  
Naphthenic acids, copper salts (flammable solution; flashpoint 23-60°C)  
Nitric acid, copper (2+) salt  
Nitric acid, lead (2+) salt  
Nitric acid, silver (1+) salt  
Nitric acid, strontium salt  
Nitric acid, zinc salt  
Nitrous acid, 3-methylbutyl ester

Nitrous acid, potassium salt  
Nitrous acid, sodium salt  
Nonane  
Octane  
Oxirane, chloromethyl-  
Pentane, 2,2,4-trimethyl-  
Perchloric acid, lead (2+) salt  
Permanganic acid, potassium salt  
Permanganic acid, sodium salt  
Propane, 2-nitro-  
Propanoic acid, 2-methyl-  
Pyridine, 2,4,6-trimethyl-  
Pyrrolidine  
Silane, chlorotrimethyl-  
Silane, dichlorodimethyl-  
Silane, trichloromethyl-  
Silver oxide  
[Sodium sulphide  
Thiophene  
Zinc ashes  
Zinc powder/dust, PG I  
Zinc powder/dust, PG II  
Zinc powder/dust, PG III

**Control – Hazardous  
Substances  
(Emergency  
Management)  
Regulations 2001**

**Changes to Controls**

Regulation 36

This regulation applies as if there were added, after subclause (3), the following subclauses:

- (4) For the purposes of this regulation and regulations 37 to 40, any hazardous substance contained in pipework that is installed and operated so as to manage any loss of containment in the pipework—
- (a) is not to be taken into account in determining whether a place is required to have a secondary containment system; and
  - (b) is not required to be located in a secondary containment system.
- (5) In this clause, **pipework**—
- (a) means piping that—
    - (i) is connected to a stationary container; and

- (ii) is used to transfer a hazardous substance into or out of the stationary container; and
- (b) includes a process pipeline or a transfer line.

## Schedule 5A

### Controls relating to the use of certain class 3, 4 and 5 dangerous goods

#### 1 Restriction on use in cosmetic products

(1) The hazardous substance “2-Propenoic acid, 2-methyl-, methyl ester” is not to be used as a component or ingredient of any cosmetic product.

(2) For the purposes of this clause, **cosmetic product** means—

any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity, with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odours and/or protecting them or keeping them in good condition.

## Schedule 6

### Changes to controls relating to petrol and petroleum products

**Control – Hazardous  
Substances (Classes 1  
to 5 Controls)  
Regulations 2001**

**Changes to Controls**

Regulation 55

This regulation applies to petrol and aviation gasoline and racing gasoline as if the petrol aviation gasoline or racing gasoline (as the case may be) is subject to the tracking provisions of the Hazardous Substances (Tracking) Regulations 2001.

The regulations apply to low flashpoint diesel as if regulation 55 were omitted.

[This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in table 4 in Schedule 3 to the regulations relating to classification 3.1A were omitted and substituted with the following:

- |      |  |
|------|--|
| 3.1A | 50 L (quantity beyond which controls apply for closed containers)                  |
|      | 50 L (quantity beyond which controls apply when use occurring in open containers). |

Regulation 56

Subclause (1) of this regulation applies to petrol and aviation gasoline and racing gasoline as if the item in table 2 of Schedule 3 of the regulations relating to classification 3.1A were omitted and replaced with the following:

- |      |       |
|------|-------|
| 3.1A | 100 L |
|------|-------|

The regulations apply to petrol and aviation gasoline and racing gasoline as if, in regulation 56(1), the words “subject to subclause (2),” were inserted before the words “Class 2, 3, or 4”.

This regulation applies to petrol and aviation gasoline and racing gasoline as if regulation 56(2) were omitted and the following substituted:

- (2) Petrol and aviation gasoline and racing gasoline required to be under the personal control of an approved handler may be handled by a person who is not an approved handler if—
  - (a) where the petrol, aviation gasoline, or racing gasoline is being handled,—
    - (i) the person has been trained in the hazards associated with the substance and its safe use and handling, including steps to be taken in the event of spillage or other emergency; and
    - (ii) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person; or
  - (b) at a refuelling outlet—
    - (i) the person is self service refuelling a vehicle, aircraft or ship with petrol or aviation gasoline or racing gasoline; or
    - (ii) the person is self service filling a container with less than 250 litres of petrol or aviation gasoline or racing gasoline; and
    - (iii) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.

Regulation 58

The regulations apply to low flashpoint diesel as if regulation 58 were omitted.

## Regulation 61

Subclauses (3), (4), and (5) do not apply to a vehicle[, aircraft or ship at the dispensing unit of a refuelling outlet if, when petrol, or aviation gasoline, or racing gasoline is being delivered to the fuel tank of the vehicle[, aircraft or ship —

- (1) the engine of the vehicle[, aircraft or ship is turned off; and
- (2) no source of ignition is brought within 3 metres of the fuel tank of the vehicle[, aircraft or ship .

[This regulation applies as if there were added, after subclause (6) the following subclauses:

- (7) A ship that is being refuelled with class 3.1C or 3.1D substances may have its engines operating if no source of ignition is within the hazardous atmosphere zone.
- (8) Any aircraft that is being refuelled must comply with the Civil Aviation Rules.

## Regulation 77

This regulation applies to petrol and aviation gasoline and racing gasoline as if the petrol, aviation gasoline, or racing gasoline (as the case may be) is subject to the tracking provisions of the Hazardous Substances (Tracking) Regulations 2001.

The regulations apply to low flashpoint diesel as if regulation 77 were omitted.

[This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in table 4 in Schedule 3 to the regulations relating to classification 3.1A were omitted and substituted with the following:

- |      |  |
|------|--|
| 3.1A | 50 L (quantity beyond which controls apply for closed containers)                  |
|      | 50 L (quantity beyond which controls apply when use occurring in open containers). |



## [Regulation 81

This regulation does not apply to a person in charge of a hazardous substance location that is a farm of not less than 4 hectares, where petrol, aviation gasoline, racing gasoline, kerosene (“the fuel”) is stored in total quantities of less than 2,000 litres, if—

- (a) the fuel—
  - (i) is stored in one or more secure containers, each individual container with a capacity of less than 250 litres; and
  - (ii) the container or containers comply with regulation 11 and Schedule 2 or Schedule 3 (as appropriate) of the Hazardous Substances (Packaging) Regulations 2001; and
  - (iii) is situated at a distance not less than 15 metres from any area of high intensity land use or area of regular habitation; and
  - (iv) is situated either in the open or in a well ventilated building; and
  - (v) is in a compound or located so that any spillage of the fuel will not endanger any building, or flow into any stream, lake or natural water; or
- (b) the fuel is—
  - (i) stored in an above ground stationary tank that—
    - (1) complies with the Stationary Container Controls in Schedule 8 of this notice; and
    - (2) is situated—
      - (A) not less than 20 metres from any area of high-intensity land use or area of regular habitation; and
      - (B) 6 metres from any combustible materials; and
  - (ii) is in a compound or located so that any spillage of the fuel will not endanger any building, or flow into any stream, lake or natural water.

## [Regulation 81

This regulation does not apply to a person in charge of a hazardous substance location where petrol, aviation gasoline, racing gasoline, kerosene (“the fuel”) is stored in total quantities of less than 2,000 litres and the proposed or actual duration of the storage is for a continuous period of less than 14 days, if the fuel—

- (a) is stored in one or more secure containers, each individual container with a capacity of less than 250 litres; and
- (b) the container or containers comply with regulation 11 and Schedule 2 or Schedule 3 (as appropriate) of the Hazardous Substances (Packaging) Regulations 2001; and
- (c) is situated at a distance not less than 15 metres from any area of high intensity land use or area of regular habitation; and
- (d) is situated either in the open or in a well ventilated building; and
- (e) is in a compound or located so that any spillage of the fuel will not endanger any building, or flow into any stream, lake or natural water.

[This regulation applies to class 3.1 hazardous substances as if, at the end of paragraph (g), the expression “.” were omitted and substituted with the following:  
“; and”

This regulation applies to class 3.1 hazardous substances as if, after paragraph (g), the following were inserted:

- (h) the requirements of Schedule 10 (Controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.

## [Regulation 81

This regulation applies to class 3.1 hazardous substances as if, at the end of paragraph (g), the expression “.” was omitted and substituted with the following:

; and

and the following new subclause was inserted:

- (h) the requirements of Schedule 10 (Controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.

Regulation 83 This regulation applies to petrol and aviation gasoline and racing gasoline as if the petrol, aviation gasoline, or racing gasoline (as the case may be) is subject to the tracking provisions of the Hazardous Substances (Tracking) Regulations 2001.

[This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in table 4 in Schedule 3 to the regulations relating to classification 3.1A were omitted and substituted with the following:

- 3.1A 50 L (quantity beyond which controls apply for closed containers)
- 50 L (quantity beyond which controls apply when use occurring in open containers).

The regulations apply to low flashpoint diesel as if regulation 83 were omitted.

**Control – Hazardous Substance (Classes 6, 8 and 9 Controls) Regulations 2001**

**Changes to Controls**

Regulation 10 The regulations apply to petrol as if regulation 10 were omitted.

Regulation 11 The regulations apply to petrol and petroleum products other than petrol and aviation gasoline and racing gasoline, as if regulation 11 were omitted.

Regulation 32 This regulation applies to petrol and petroleum products other than petrol and aviation gasoline and racing gasoline, as if subclauses (1) and (2) were omitted.

**Control – Hazardous Substances (Identification) Regulations 2001**

**Changes to Controls**

Regulation 37 This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 2 of the regulations relating to classification 3.1A were omitted and the following substituted:

- 3.1A 5 L

Regulation 38 This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 2 of the regulations relating to classification 3.1A were omitted and the following substituted:

- 3.1A 5 L

Regulation 51	This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 3 of the regulations relating to classification 3.1A were omitted and the following substituted:  3.1A            250 L
Regulation 52	Subclause (1) of this regulation applies to any place where no more than 2,000 litres of petrol, aviation gasoline, or racing gasoline is located for use on a farm (being a farm of not less than 4 hectares in area) as if the words “, and every vehicular and pedestrian access to land where the building is located,” were omitted.
Regulation 53	The regulations apply as if regulation 53 were omitted.
<b>Control – Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004</b>	<p><b>Changes to Controls</b></p> <p>The regulations apply to cutback bitumen as if, after regulation 4, the following were inserted:</p> <p><b>4A Application of regulations to cutback bitumen</b></p> <p>These regulations do not apply to cutback bitumen if the bitumen is managed in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements of these regulations.</p>
<b>Control – Hazardous Substances (Packaging) Regulations 2001</b>	<b>Changes to Controls</b>
Regulation 9	This regulation applies to petrol and aviation gasoline and racing gasoline as if petrol and aviation gasoline and racing gasoline each have a hazard classification of 3.1B.
Regulation 11	<p>This regulation applies to petrol and aviation gasoline and racing gasoline as if petrol and aviation gasoline and racing gasoline each have a hazard classification of 3.1B[. The packaging for portable containers of [ such substances that has a capacity of 25 L or less shall comply with the requirements of:</p> <p>(a) AS/NZS 2906:2001 (Fuel Containers – Portable – Plastics and Metal); or</p> <p>(b) ASTM F-852-99e1 (Standard Specification for Portable Gasoline Containers for Consumer Use); or</p> <p>(c) a code of practice approved by the Authority under section</p>

79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a) or paragraph (b) [; or

- (d) an approval issued by the Authority or the Chief Inspector of Dangerous Goods under regulation 3 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 prior to the date of commencement of this notice.

Regulation 19 This regulation applies to petrol as if subclause (1) were omitted.

Regulation 21 The regulations apply to petrol as if regulation 21 were omitted.

**Control – Hazardous Substances (Disposal) Regulations 2001**

**Changes to Controls**

Regulation 11 Subclause (1) of this regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 1 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A 1 L

Regulation 13 Subclause (1) of this regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 2 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A 5 L

**Control – Hazardous Substances (Emergency Management) Regulations 2001**

**Changes to Controls**

Regulation 6 This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 1 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A 1 L

Regulation 7 This regulation applies to petrol and aviation gasoline and racing gasoline as if the item in Schedule 1 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A 1 L

Regulation 12 This regulation applies to a person selling or supplying to another person petrol, aviation gasoline, or racing gasoline as if the item in Schedule 2 of the regulations relating to classification 3.1A were

omitted and the following substituted:

3.1A            5 L

Regulation 14            This regulation applies to a place of work where there is held in it petrol, aviation gasoline, or racing gasoline as if the item in Schedule 2 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A            5 L

[Regulation 21            This regulation applies to an unattended dispensing station where there is stored petrol, aviation gasoline, racing gasoline, kerosene or diesel fuel, for self service refuelling as if the items in Schedule 3 of the regulations relating to classifications 3.1A, 3.1C and 3.1D were omitted.

[Regulation 25            This regulation applies to a place where there is stored—

- (a)            at a farm of not less than 4 hectares, petrol, aviation gasoline, racing gasoline, kerosene or diesel fuel, in total quantities of less than 2000 litres and or located so that any spillage will not endanger any building, or flow into any stream, lake or natural water; or
- (b)            petrol, aviation gasoline, racing gasoline, kerosene or diesel fuel, in total quantities of less than 2000 litres, contained in a tank wagon or in secure containers, each individual container with a capacity of less than 250 litres, located so that any spillage will not endanger any building, or flow into any stream, lake or natural water and where the proposed or actual duration of the storage is for a continuous period of less than 14 days,

as if the item in Schedule 4 of the regulations relating to classifications 3.1A and 9.1B were omitted and the following substituted:

3.1A and 9.1B            2000 L

Regulation 25            This regulation applies to a place where there is held in it petrol, aviation gasoline and racing gasoline as if the item in Schedule 4 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A            1,000 L

- Regulation 36 This regulation applies as if there were added, after subclause (3), the following subclauses:
- (4) For the purposes of this regulation and regulations 37 to 40, any hazardous substance contained in pipework that is installed and operated so as to manage any loss of containment in the pipework—
    - (a) is not to be taken into account in determining whether a place is required to have a secondary containment system; and
    - (b) is not required to be located in a secondary containment system.
  - (5) In this clause, **pipework**—
    - (a) means piping that—
      - (i) is connected to a stationary container; and
      - (ii) is used to transfer a hazardous substance into or out of the stationary container; and
    - (b) includes a process pipeline or a transfer line.

Regulation 42 Subclause (1) of this regulation applies to a place where there is held any petrol, aviation gasoline, or racing gasoline as if the item in Schedule 5 of the regulations relating to classification 3.1A were omitted and the following substituted:

3.1A            250 L Liquids

**Control – Hazardous  
Substances  
(Tracking)**

**Regulations 2001**

**Changes to Controls**

Regulations 4 to 6 The regulations apply to petrol and aviation gasoline and racing gasoline as if regulations 4 to 6 were omitted.

## Schedule 7

### Changes to controls relating to scheduled toxic substances

**Control – Hazardous  
Substances (Classes 6,  
8 and 9 Controls)  
Regulations 2001**

**Changes to Controls**

Regulation 9

The regulations apply to the following substances:

1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-,  
(triglycidalisocyanurate)  
2-Propenoic acid, 2-methyl- (stabilized), (methacrylic acid)  
2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester,  
(dimethylaminoethyl methacrylate)  
Formaldehyde, 0.25-5% aqueous solution  
Hydrazine, >10-37% aqueous solution  
Hydriodic acid, 57-67% aqueous solution  
Hydrobromic acid, 47-60% aqueous solution  
Hydrochloric acid, >25% aqueous solution  
Potassium hydroxide  
Sulphuric acid, >10% aqueous solution  
Zinc chloride

as if regulation 9 were omitted and the following inserted:

**Substances that must be secured**

(1) This regulation applies to the following hazardous substances:

1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-,  
(triglycidalisocyanurate)  
2-Propenoic acid, 2-methyl- (stabilized), (methacrylic acid)  
2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester,  
(dimethylaminoethyl methacrylate)  
Formaldehyde, 0.25-5% aqueous solution  
Hydrazine, >10-37% aqueous solution  
Hydriodic acid, 57-67% aqueous solution  
Hydrobromic acid, 47-60% aqueous solution  
Hydrochloric acid, >25% aqueous solution  
Potassium hydroxide  
Sulphuric acid, >10% aqueous solution  
Zinc chloride

(2) A hazardous substance to which this regulation applies must,



if left unattended, be secured so that a person cannot gain access to the substance unless the person has a key or other device used for operating locks.

The regulations apply to the following substances as if regulation 9 were omitted:

- Acridine
- Ammonia, >10-35% aqueous solution
- Ethane, 1,1,1-trichloro-
- Hydrazine, >3-10% aqueous solution
- Hydrazine, 1-3% aqueous solution
- Iodine (solid)
- Naphthenic acids, copper salts

This regulation applies to the following substances as if each substance does not have a class 9 hazard classification:

- Cadmium
- Cyclohexanamine
- Ethene, tetrachloro-, (perchloroethylene)
- Hydrofluoric acid, >60% aqueous solution
- Hydrofluoric acid, >7-60% aqueous solution
- Methane, isothiocyanato-
- Pentanedial, (glutaraldehyde)

Regulation 11                      The regulations apply as if regulation 11 were omitted.

Regulation 32                     This regulation applies as if subclauses (1) and (2) were omitted.

**Control – Hazardous Substances (Identification) Regulations 2001**

**Changes to Controls**

Regulation 51                     This regulation applies to [ethene, tetrachloro , (perchloroethylene) as if the item in Schedule 3 of the regulations relating to classification 9.1A were omitted and the following substituted:

9.1A                                1,000 L

**Control – Hazardous Substances (Packaging) Regulations 2001**

**Changes to Controls**

Regulation 19                     This regulation applies to disulfurous acid, disodium salt (sodium metabisulphite) as if subclause (1) were omitted.

Subclause (1) of this regulation applies to the following substances:

Benzene, 2,4-diisocyanato-1-methyl-, (toluene diisocyanate)  
 Hexane, 1,6-diisocyanato-  
 Pentanedial, (glutaraldehyde)  
 Phenol, methyl- mixed isomers, (cresol)

as if, at the end of paragraph (a), the expression “Schedule 1” were omitted and the following substituted:

“Schedule 2”

Subclause (1) of this regulation applies to the following substances:

1,2-Ethanediol, (ethylene glycol)  
 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-,  
 (triglycidalisocyanurate)  
 Ethene, tetrachloro-, (perchloroethylene)  
 Ethene, trichloro-  
 Formaldehyde, >5-25% aqueous solution  
 Formaldehyde, 0.25-5% aqueous solution  
 Hydrazine, >10-37% aqueous solution  
 Hydrazine, >3-10% aqueous solution  
 Hydrazine, 1-3% aqueous solution

as if, at the end of paragraph (b), the expression “Schedule 2” were omitted and the following substituted:

“Schedule 3”

Regulation 20                   The regulations apply to disulfurous acid, disodium salt, (sodium metabisulphite) as if subclause 3 were omitted.

Regulation 21                   The regulations apply to disulfurous acid, disodium salt, (sodium metabisulphite) as if regulation 21 were omitted.

**Control – Hazardous  
 Substances (Tracking)  
 Regulations 2001**

**Changes to Controls**

Regulations 4 to 6           The regulations apply to the following substances as if regulations 4 to 6 were omitted:

1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-,  
 (triglycidalisocyanurate)  
 2-Propenoic acid, 2-methyl- (stabilized), (methacrylic acid)  
 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester,  
 (dimethylaminoethyl methacrylate)  
 Acridine  
 Ammonia, >10-35% aqueous solution  
 Ethane, 1,1,1-trichloro-

Ethene, tetrachloro-, (perchloroethylene)  
 Hydrazine, >10-37% aqueous solution  
 Hydrazine, >3-10% aqueous solution  
 Hydrazine, 1-3% aqueous solution  
 Hydriodic acid, 57-67% aqueous solution  
 Hydrobromic acid, 47-60% aqueous solution  
 Hydrochloric acid, >25% aqueous solution  
 Iodine (solid)  
 Naphthenic acids, copper salts  
 Potassium hydroxide  
 Zinc chloride

**Control – Hazardous  
 Substances  
 (Emergency  
 Management)  
 Regulations 2001**

**Changes to Controls**

Regulation 36

This regulation applies as if there were added, after subclause (3), the following subclauses:

- (4) For the purposes of this regulation and regulations 37 to 40, any hazardous substance contained in pipework that is installed and operated so as to manage any loss of containment in the pipework—
  - (a) is not to be taken into account in determining whether a place is required to have a secondary containment system; and
  - (b) is not required to be located in a secondary containment system.
- (5) In this clause, **pipework**—
  - (a) means piping that—
    - (i) is connected to a stationary container; and
    - (ii) is used to transfer a hazardous substance into or out of the stationary container; and
  - (b) includes a process pipeline or a transfer line.

[Regulation 37

This regulation applies as if the following subclauses were inserted at the end:

- (1A) If pooling substances which do not have class 1 to 5 hazard classifications are held in a place above ground in containers each of which has a capacity of 60 litres or less,-

- (a) if the place's total pooling potential is less than 20,000 litres, the secondary containment system must have a capacity of at least 25% of that total pooling potential:
  - (b) if the place's total pooling potential is 20,000 or more, the secondary containment system must have a capacity of the greater of-
    - (i) 5% of the total pooling potential; or
    - (ii) 5,000 litres.
- (1B) Pooling substances to which subclause (1A) applies, must be segregated where appropriate to ensure that the leakage of one substance may not adversely affect the container of another substance.

[Regulation 38

This regulation applies as if the following subclauses were inserted at the end:

- (1A) If pooling substances which do not have class 1 to 5 hazard classifications are held in a place above ground in containers one or more of which have a capacity of more than 60 litres but none of which have a capacity of more than 450 litres,-
- (a) if the place's total pooling potential is less than 20,000 litres, the secondary containment system must have a capacity of either 25% of that total pooling potential or 110% of the capacity of the largest container, whichever is the greater:
  - (b) if the place's total pooling potential is 20,000 litres or more, the secondary containment system must have a capacity of the greater of-
    - (i) 5% of the total pooling potential; or
    - (ii) 5,000 litres.
- (1B) Pooling substances to which subclause (1A) applies, must be segregated where appropriate to ensure that the leakage of one substance may not adversely affect the container of another substance.

**Schedule 8**  
**Controls for stationary container systems**  
**Part 1**  
**Preliminary provisions**

**1 Application of controls**

- (1) This Schedule applies to every stationary container system that contains, or is intended to contain a hazardous substance described in Schedules 1 and 2.
- (2) Despite subclause (1), this Schedule does not apply to—
  - (a) a stationary tank, other than a stationary tank to which Part 13 applies, with a volume less than 250 litres; or
  - (b) a process container, if that process container—
    - (i) is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes and Passenger Ropeways) Regulations 1999; and
    - (ii) is—
      - (A) used to contain a class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substance; and
      - (B) is constructed of a fire-resisting material; or
  - (c) a stationary container system that is only intended to contain a hazardous substance that is—
    - (i) a solid; or
    - (ii) a class 6.1E, or class 6.3A, or class 6.3B, or class 6.4A, or class 9.3, or class 9.4 hazardous substance, or a substance with any combination of these classifications, that does not have any other hazard classification; or
  - (d) a stationary container that forms an integral part of a refrigerating unit.
- (3) This Schedule applies to a stationary container system—
  - (a) from each point where a hazardous substance enters the stationary container system; and
  - (b) up to each point where a hazardous substance—
    - (i) enters a distribution system that is subject to the Gas Act 1992; or
    - (ii) enters a pipeline that is subject to the Health and Safety in Employment (Pipelines) Regulations 1999; or
    - (iii) enters another container to which controls under the Act apply; or

- (iv) in the case of a substance that is used as the motive power for, or to control, a vehicle, ship, or aircraft, enters the fuel system, electrical system, or control system of the vehicle, ship, or aircraft; or
- (v) enters a vehicle, ship, or aircraft used to transport the hazardous substance if the vehicle, ship, or aircraft is under the jurisdiction of the Land Transport Rules, Maritime Rules, or Civil Aviation Rules, as the case may be.

[(4) For the purposes of this Schedule, low flashpoint diesel (low flash domestic heating oil and alpine diesel) shall be deemed to have a flammable classification of 3.1D.

## 2 Interpretation

In this Schedule, unless the context otherwise requires—

**above ground stationary tank** means a stationary tank that is—

- (a) fixed to or resting on the ground; or
- (b) fixed or attached to a structure that is fixed to or resting on the ground

**Act** means the Hazardous Substances and New Organisms Act 1996

**AIP** refers to the Australian Institute of Petroleum

**AIP CP26: 1995** means the *Code of Practice, Design and Operation of Low Pressure Liquid Petroleum Pipelines*

**alteration** means any change to the design or location of a stationary container system, and—

- (a) includes—
  - (i) the addition or removal of 1 or more elements of the stationary container system; and
  - (ii) a change to the physical dimensions or configuration of the stationary tank or process container; and
  - (iii) any reassembling of a stationary tank or process container that has been dismantled; but
- (b) does not include repair or maintenance

**API** refers to the American Petroleum Institute

**API 6FA: 1999** means the document entitled *Specification for Fire Test for Valves*

**API 570** means the document entitled *Piping Inspection Code: Inspection, Repair Alteration, and Re-rating of In-Service Piping Systems*

**API 607 4<sup>th</sup> Edition** means the document entitled *Fire Test for Soft-Seated Quarter Turn Valves*

**API 620** means the document entitled *Design and Construction of Large, Welded, Low-Pressure Storage Tanks*

**API 653** means the document entitled *Tank Inspection, Repair, Alteration*

**API 2000** means the document entitled *Venting Atmospheric and Low-Pressure Storage Tanks: Non-refrigerated and Refrigerated*

**API 2610** means the document entitled *Design, Construction, Operation, Maintenance, and Inspection of Tank and Terminal Facilities*

**area of high intensity land use—**

- (a) includes—
  - (i) an area of regular habitation; and
  - (ii) a structure made of or containing combustible materials that would sustain a significant fire; and
  - (iii) a high density traffic route; but
- (b) does not include a small office constructed of non-combustible materials associated with a hazardous substance location that is used by persons authorised to be at the location by the person in charge of that location

**area of low intensity land use—**

- (a) includes—
  - (i) an area where any person may be legally present occasionally; and
  - (ii) a public park or reserve; and
  - (iii) a traffic route of low or medium traffic density; but
- (b) does not include an area of regular habitation

**area of regular habitation** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**AS** refers to the Australian Standard

**AS 1345** means the standard on *Identification of the Contents of Pipes, Conduits and Ducts*

[**AS 1375-1985** means the code on *industrial fuel-fired appliances*

**AS 1690: 1975** means the standard on *Rules for the Safe Design, Construction and Performance of Domestic Oil-Fired Appliances (known as the SAA Domestic Oil-Fired Appliances Safe Design Code*

**AS 1692** means the standard on *Tanks for Flammable and Combustible Liquids*

**AS 1940** means the standard on *Chemical Storage and Transport: The Storage and Handling of Flammable and Combustible Liquids*

**AS 2634** means the standard on *Chemical Plant Equipment made from Glass-fibre Reinforced Plastics (GRP) based on Thermosetting Resins*

**AS 3780** means the standard on *The Storage and Handling of Corrosive Substances*

**AS 4326** means the standard on *The Storage and Handling of Oxidising Agents*

**ASME** refers to the American Society of Mechanical Engineering

**ASME B31.3** means the document entitled *Chemical Plant and Petroleum Refinery Piping*

**ASME B31.4** means the document entitled *Pipeline Transport Systems for Liquid Hydrocarbons and Other Liquids*

**AS/NZS** refers to the Joint Australian and New Zealand Standard

[**AS/NZS 1170.2** means the standard *Structural Design Actions – Wind actions*

[**AS/NZS 1170.5** means the standard *Structural Design Actions – Earthquake Actions – New Zealand Standard*

**AS/NZS 1596** means the standard on *The Storage and Handling of LP Gas*

**AS/NZS 2885.1: 1997** means the standard on *Pipelines – Gas and Liquid Petroleum – Design and Construction*

**AS/NZS 2885.3: 1997** means the standard on *Pipelines – Gas and Liquid Petroleum – Operation and Maintenance*

**AS/NZS 4452** means the standard on *The Storage and Handling of Toxic Substances*

**ASTM** refers to the American Society for Testing and Materials

**ASTM D4021-81** means the standard on *Glass Fibre Reinforced Polyester Underground Petroleum Storage Tanks*

**Authority** means the Environmental Risk Management Authority established under section 14 of the Act

**below ground stationary tank** means a tank that is situated below the surface of the ground, and includes—

- (a) a tank over which ground has been raised to provide cover for the tank; and
- (b) a tank covered by material other than ground

**BS** refers to the British Standard

[**BS 799-2:1991** means the standard on *Oil-burning equipment – Specification for vaporising equipment*

**BS 4994** means the standard on *Specification for Design and Construction of Vessels and Tanks in Reinforced Plastics*

**BS 6755.2** means the standard on *Testing of Valves – Part 2: Specification for Fire-Type Testing Requirements – Incorporates Amendments 1, 2*

[**BS EN 1 : 1998** means the standard on *flued oil stoves with vaporizing burners*



**BS EN 267: 1999** means the standard on *Forced Draught Oil Burners. Definitions, Requirements, Testing, Marking*

**BS EN 12285.1: 2003** means the standard on *Workshop Fabricated Steel Tanks Horizontal Cylindrical Single Skin and Double Skin Tanks for the Underground Storage of Flammable and Non-Flammable Water Polluting Liquids*

[**BS EN 13842 : 2004** means the standard on *oil fired forced convection air heaters stationary and transportable for space heating*

[**BS EN 14015** means the standard *Specification for the design and manufacture of site built, vertical cylindrical, flat-bottomed, above ground, welded, steel tanks for the storage of liquids at ambient temperature and above*

**change in service**, in relation to a stationary container system, means a change of use of the stationary container system to contain 1 or more hazardous substances—

- (a) that is or are different from the hazardous substances that the stationary container system was designed or certified to contain; or
- (b) at 1 or more pressures or temperatures, or both, that is or are different from the pressures or temperatures at which the stationary container system was designed or certified to contain hazardous substances

**compatible**, in relation to a hazardous substance, means that the hazardous substance—

- (a) is chemically inert if brought into contact with another hazardous substance for the range of temperatures and pressures that the mixture is exposed to during its life cycle; or
- (b) if it is chemically reactive when brought into contact with another hazardous substance, does not—
  - (i) cause combustion; or
  - (ii) generate an explosion; or
  - (iii) generate a new substance of a different class, subclass, or category

**compound**, in relation to the storage of a hazardous substance, means a basin, pit, excavation, hollow, or enclosure that—

- (a) is constructed of concrete, brick, clay, earth, or similar incombustible material; and
- (b) is of such a nature and construction that it will effectively retain a hazardous substance that is a liquid if the hazardous substance leaks or flows out of its container

**compressed gas container** has the meaning given to it by regulation 3 of the Hazardous Substances (Compressed Gases) Regulations 2004

**controlled zone** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**dispenser** includes a pump approved under section 214 of the Act

**distribution system** has the meaning given to it by section 2(1) of the Gas Act 1992

**EEMUA 159** means Publication No. 159 entitled *Users Guide to the Maintenance and Inspection of Above-ground Vertical Cylindrical Steel Storage Tanks*, published by the Engineering Equipment and Materials Users Association

**equipment** means equipment that—

- (a) is part of a container or pipework (for example, a burner, or a vaporiser or vent condenser for changing the state of a substance from liquid to gas or from gas to liquid); or
- (b) is used to fill or empty a tank (for example, a dispenser)

**fitting** means any part of a stationary container system that connects the stationary tank or process container with its associated pipework to ensure that hazardous substances passing into or out of the stationary tank or process container are contained and pass safely (for example, elbows, tees, valves, pressure relief equipment, and measuring instruments)

**gas** has the meaning given to it by regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

**hazard classification** means 1 of the classes referred to in regulation 4 of the Hazardous Substances (Classification) Regulations 2001

**hazardous substance** includes a compressed gas

**high pressure liquefiable gas** has the meaning given to it by regulation 3 of the Hazardous Substances (Compressed Gases) Regulations 2004

**ignition source** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**liquefiable gas** has the meaning given to it by regulation 3 of the Hazardous Substances (Compressed Gases) Regulations 2004

**liquid** has the meaning given to it by regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

**low pressure liquefiable gas** has the meaning given to it by regulation 3 of the Hazardous Substances (Compressed Gases) Regulations 2004

**maintenance** means the servicing of any component of a stationary container system to ensure that it continues to perform in accordance with the specifications to which it was designed

[**NFPA 86** means the standard for the *safe design, installation, operation, and maintenance of all ovens and furnaces*

**NZS** refers to the New Zealand Standard published by the Standards Association of New Zealand

**NZS 4203: 1992** means the standard on *General Structural Design and Design Loadings for Buildings*

**NZS/API** refers to the New Zealand Standard/American Petroleum Institute

**NZ/API 650** refers to the standard on *Welded Steel Tanks for Oil Storage*

**NZ/AS** refers to the New Zealand Standard/Australian Standard

**NZ/AS 1768** means the standard on *Lightning Protection*

[**NZ/AS 2229:2004** means the standard on *fuel dispensing equipment for explosive atmospheres*

**NZ/BS** refers to the New Zealand Standard/British Standard

**NZ/BS 2654** means the standard on *Specification for Manufacture of Vertical Steel Welded Non-Refrigerated Storage Tanks with Butt-Welded Shells for the Petroleum Industry*

**permanent gas** has the meaning given to it by regulation 3 of the Hazardous Substance (Compressed Gases) Regulations 2004

**person in charge**, in relation to a stationary container system, means—

- (a) the owner, lessee, or sublessee, of the stationary container system; or
- (b) any other person who, at the relevant time, is in effective control or possession of the stationary container system

**pipeline** has the meaning given to it by regulation 2 of the Health and Safety in Employment (Pipelines) Regulations 1999

**pipework**—

- (a) means **pipng** that—
  - (i) is connected to a stationary tank or process container; and
  - (ii) is used to transfer a hazardous substance into or out of the tank or container; and
- (b) includes a process pipeline and a transfer line

**process container** means a stationary container that contains or is intended to contain a hazardous substance in the course of manufacture or use of the hazardous substance (for example, a mixing container, reaction vessel, distillation column, drier, or dip tank)

**process pipeline**—

- (a) means **pipework** that—
  - (i) is connected to a process container; and
  - (ii) is used to transfer a hazardous substance into or out of the container; and
- (b) includes a fuel line and a lubricating line

**repair** means—

- (a) the restoration of any part of a stationary container system to its design specifications; but
- (b) does not include alterations or maintenance; and

- (c) in relation to a stationary tank or process container, includes—
- (i) removal and replacement of material of the structure of the tank or container; and
  - (ii) re-levelling or jacking of the tank or container; and
  - (iii) the addition of reinforcing plates to any part of the structure of the tank or container; and
  - (iv) repair to flaws in the structure of the tank or container, such as tears or gouges; and
  - (v) repair or replacement of strakes and plates

**service tank** means a stationary tank that—

- (a) is part of a stationary container system that consumes fuel; and
- (b) functions as the immediate source of fuel for that stationary container system; but
- (c) is not the main source of fuel for that stationary container system.

**solid** has the meaning given to it by regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

**stationary container system** means a stationary tank or process container and its associated equipment, pipework, and fittings, up to and including all transfer points

**stationary tank**—

- (a) means a tank that is—
  - (i) used or intended to be used for the storage or supply of 1 or more hazardous substances; and
  - (ii) normally located at a specific place; and
- (b) includes—
  - (i) all parts and materials (for example, coatings) that contribute to maintaining the structural and functional integrity of the tank; and
  - (ii) any means of closing the tank (for example, a lid or fitted cover); and
  - (iii) any component of the tank intended to protect the contents of the tank from harm (for example, lightning protection); and
  - (iv) any other component that is an integral part of the tank (for example, a liquid height indicator, heating coil, or internal valve); but
- (c) does not include—
  - (i) packaging to which the Hazardous Substances (Packaging) Regulations 2001 apply; or
  - (ii) packaging to which chapter 6.5, chapter 6.6, and chapter 6.7 of the UN Model Regulations apply; or

- (iii) a [cylinder to which the Hazardous Substances (Compressed Gases) Regulations 2004 apply

**SWRI** means the Southwest Research Institute

**SWRI 93-01** means *Test Procedures 93-01: Testing Requirements for Protected Aboveground Flammable Liquid/Fuel Storage or Tanks*

**SWRI 95-03** means *Test Procedures 95-03: Method for Evaluating the Fire Performance of Testing Requirements for Protected Aboveground Flammable Liquid/Fuel Storage Tanks*

**tank** means a stationary container used for the storage of 1 or more hazardous substances

**tank wagon** has the meaning given to it by regulation 3 of the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004

**testing** means a method of verifying that a stationary container system is structurally sound and suitable for the service for which it is to be used, and includes hydrostatic pressure tests, pressure tests, and non-destructive testing methods

**transfer line** means piping that—

- (a) is used or intended to be used to transfer a hazardous substance between a stationary tank and—
  - (i) another stationary tank; or
  - (ii) a vehicle, ship, or aircraft; and
- (b) includes a wharf line and a bunker line

**transfer point**, in relation to a stationary container system, means the point at which pipework connected to the stationary container system terminates at—

- (a) a dispensing device used to fill packaging or the fuel system, electrical system, or control system of a vehicle, ship, or aircraft; or
- (b) a fitting that is periodically connected to a transfer line to or from a ship or bulk transport container such as a tank wagon, ship, or aircraft

**transportable container** has the meaning given to it by regulation 3 of the Hazardous Substance (Tank Wagons and Transportable Containers) Regulations 2004

**UL** refers to Underwriter Laboratories

**[UL 896:1993** means the standard on *Oil-burning stoves*

**UL 1316** means the *Standard for Glass-Fibre-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures*

**UL 2085** means the *Standard for Protected Aboveground Tanks for Flammable Combustible Liquids*

**UN Model Regulations** means the [14<sup>th</sup> revised edition of the *Recommendations on the Transport of Dangerous Goods Model Regulations*, published in July 2003 by the United Nations (New York and Geneva)

**UPSS** means the 1<sup>st</sup> Edition of the *Code of Practice for the Design, Installation and Operation of Underground Petroleum Storage Systems*, published in 1992 by the Occupational Safety and Health Service of the Department of Labour

### **3 References to class, hazard classifications etc**

Where this Schedule refers to a substance or group of substances by reference to any 1 or more numerals and letters, then, unless the context otherwise requires, the combination of numbers and letters constitutes the hazard classification of the substance as follows:

- (a) the first (or only) numeral refers to the class of the substance, indicating the intrinsic hazardous properties of the substance as described in regulation 4(1)(a) of the Hazardous Substances (Classification) Regulations 2001; and
- (b) the second and any subsequent numerals (if any) refer to the subclass of the substance within that class, indicating the type of hazard of the substance as described in regulation 4(1)(b) of those regulations; and
- (c) the letter (if any) refers to the category of the substance indicating—
  - (i) for class 2, 3, 4, 5, 8, and 9 substances, the degree of hazard of the substance as described in regulation 4(1)(c) of those regulations;
  - (ii) for class 6 substances, the classification described in regulation 4(6) and (7) of those regulations.

### **4 Person in charge of stationary container must comply with controls**

- (1) The person in charge of a stationary container system to which this Schedule applies must—
  - (a) ensure that the stationary container system is designed, constructed, installed, operated, maintained, inspected, tested, and repaired so as to comply with this Schedule; and
  - (b) ensure that all test certificates required by this Schedule are obtained.
- (2) Subclause (1) does not apply if a provision of this Schedule states that a different person is responsible.

## **Part 2**

### **General requirements for stationary container systems**

#### **5 Accepted engineering principles and practice to be applied**

The question whether a stationary container system complies with this Schedule is to be determined having regard to the need to comply with this Schedule in a way that is—

- (a) practicable; and

- (b) consistent with accepted engineering principles and practice.

## 6 General performance requirements for stationary container systems

- (1) Subject to subclause (2)(a), all parts of a stationary container system must be designed, constructed, installed, operated, maintained, inspected, tested, and repaired so that the stationary container system contains any hazardous substance that is put into it without leakage of that hazardous substance (including any diluent or desensitising agent), when subjected to all likely—
  - (a) operating temperatures; and
  - (b) pressures; and
  - (c) stresses and loadings (including seismic and wind stresses and loadings); and
  - (d) environmental conditions.
- (2) All parts of a stationary container system that are likely to come into contact with a hazardous substance must be designed, constructed, installed, operated, maintained, inspected, tested, and repaired so that, when the stationary container system contains a hazardous substance—
  - (a) it is able to contain the hazardous substance—
    - (i) if the stationary container system is designed for use in specific environmental conditions or a specific temperature range, or both, in those environmental conditions, or that temperature range, or both; or
    - (ii) if a hazardous substance to be contained in the stationary container system is subject to requirements relating to environmental conditions or the temperature range in which it must be contained, or both, in those environmental conditions, or that temperature range, or both; or
    - (iii) in any other case, in the temperature range minus 10°C to 50°C; and
  - (b) any materials used in the construction, maintenance, or repair of the stationary container system do not react with the hazardous substance in or on the stationary container system, or interact to significantly affect or weaken the stationary container system so that the requirements of this Schedule cannot be complied with.

## 7 Requirements when contained hazardous substances change

- (1) This clause applies if a stationary tank that has contained 1 or more hazardous substances (**the old substance**) is to contain a different hazardous substance (**the new substance**).
- (2) The new substance must not be introduced into the stationary tank unless—
  - (a) the new substance and the old substance are compatible; or
  - (b) if the new substance and the old substance are not compatible, the stationary tank has been completely emptied of the old substance.

### Part 3

#### Obligations and restrictions for above ground stationary tanks for hazardous liquids

##### 8 Design, construction, and installation of above ground stationary tank for hazardous liquids

- (1) This clause does not apply to an above ground stationary tank that is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
- (2) Every above ground stationary tank used to store hazardous liquids must be designed and constructed in accordance with—
  - (a) NZS/API 650; or
  - (b) NZS/BS 2654; or
  - [(ba) BS EN 14015; or
  - (c) API 620; or
  - (d) SWRI 95-03; or
  - (e) SWRI 93-01; or
  - (f) UL 2085; or
  - [(fa) AS 1692; or
  - (g) if the tank is used to store toxic, corrosive, or ecotoxic liquids that do not have a flammable classification,—
    - (i) AS 2634; or
    - (ii) BS 4994; or
  - (h) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c), or paragraph (d), or paragraph (e), or paragraph (f), or paragraph (g).
- (3) Every above ground stationary tank used to store hazardous liquids must—
  - (a) be installed on foundations that will prevent dangerous subsidence; and
  - (b) if the volume of the stationary tank is greater than 150 m<sup>3</sup>, be installed in accordance with the requirements of—
    - (i) NZS/API 650; or
    - (ii) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in subparagraph (i).
- (4) Every above ground stationary tank used to store hazardous liquids must be designed, constructed, and installed to—



- (a) the seismic and wind loading requirements specified in—
  - (i) NZS/API 650; or
  - (ii) NZS/BS 2654; or
  - [(iiA) BS EN 14015; or
  - (iii) [until 31 December 2007 only, NZS 4203: 1992; or
  - [(iv) AS/NZS 1170.2; or
  - (v) AS/NZS 1170.5; or
- (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

*Pressure management*

**9 Design, construction, installation, and operation of above ground stationary tank for hazardous liquids for pressure management**

- (1) This clause does not apply to an above ground stationary tank that is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
- (2) Every above ground stationary tank used to store hazardous liquids must be designed, constructed, installed, and operated so as to ensure that the pressure or vacuum resulting from the conditions referred to in subclause (3) will not cause either of the following:
  - (a) stress in excess of the maximum design stress of the tank:
  - (b) the tank to collapse.
- (3) The conditions are—
  - (a) filling or emptying of the tank; and
  - (b) changes in atmospheric temperature.
- (4) An above ground stationary tank used to store liquids with a flammable classification complies with subclause (2) if it is vented in accordance with—
  - (a) section [5.4 of AS 1940; or
  - (b) API 2000; or
  - (c) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a) or paragraph (b).

**10 Emergency pressure management for above ground stationary tank for hazardous liquids**

- (1) This clause does not apply to an above ground stationary tank that is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.

- (2) Every above ground stationary tank used to store liquids with a flammable or oxidising classification must have an emergency pressure management system that ensures that—
- (a) the maximum design stress of the tank is not exceeded in any reasonably likely event; and
  - (b) the tank does not collapse in any reasonably likely event.
- (3) An above ground stationary tank complies with subclause (2)—
- (a) if—
    - (i) for a tank used to store hydrogen peroxide, it is vented in accordance with section 6.7.4(b) of AS 4326; or
    - (ii) for a tank used to store liquids with a flammable or oxidising classification, it is vented in accordance with—
      - (A) API 2000; or
      - (B) section [5.5 and [Appendix I of AS 1940; or
  - (b) [if it is vented in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in whichever of paragraph (a)(i) or paragraph (a)(ii) applies.

*Lightning and stray current protection*

**11 Lightning and stray current protection for above ground stationary tank for flammable liquids**

- (1) This clause applies to every above ground stationary tank that—
- (a) has a safe fill capacity greater than 60 m<sup>3</sup>; and
  - (b) is used to store flammable liquids of class 3.1A or class 3.1B.
- (2) Every above ground stationary tank to which this clause applies must be designed, constructed, installed, and operated in accordance with—
- (a) sections 1 to 5 and sections 7 to 8 of NZS/AS 1768; or
  - (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

*Liquid level indicator requirements*

**12 Filling above ground stationary tank with hazardous liquids**

An above ground stationary tank must not be filled with a hazardous liquid to a level that exceeds its safe fill capacity.

**13 Liquid level indicator required for above ground stationary tank for hazardous liquids**

- (1) An above ground stationary tank used to store a hazardous liquid must have a liquid level indicator that indicates the actual liquid level in relation to the safe fill level.

- (2) A liquid level indicator that is part of an above ground stationary tank must be designed, constructed, and installed to resist heat and impact to which the liquid level indicator may be subjected in any reasonably foreseeable situation.

## **Part 4**

### **Obligations and restrictions for above ground stationary tanks for gases**

#### **14 Design, construction, and installation of above ground stationary tank for gases**

Every above ground stationary tank used to store class 2.1.1 low pressure liquefiable gases must be designed, constructed, and installed in accordance with—

- (a) section 3.3 and section 3.5 of AS/NZS1596; or
- (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

#### **15 Above ground stationary tank for class 2.1.1 liquefiable gas not to be in compound**

An above ground stationary tank used to contain a class 2.1.1 liquefiable gas must not be installed in a compound or a depression in the ground.

#### *Pressure Management*

#### **16 Design, construction, installation, and operation of above ground stationary tank for gases for pressure management**

- (1) Every above ground stationary tank used to store gases must be designed, constructed, installed, and operated so as to ensure that the pressure or vacuum resulting from the conditions referred to in subclause (2) will not cause either of the following:
- (a) stress in excess of the maximum design stress of the tank;
  - (b) the tank to collapse.
- (2) The conditions are—
- (a) filling or emptying the tank; and
  - (b) changes in atmospheric temperature.

#### **17 Emergency pressure management for above ground stationary tank for gases**

- (1) Every above ground stationary tank used to store gases must have an emergency pressure management system that ensures that the maximum design stress of the tank is not exceeded in any reasonably likely event.
- (2) An above ground stationary tank used to store a class 2.1.1 low pressure liquefiable gas complies with subclause (1) if it complies with—
- (a) section 3.4 of AS/NZS 1596; or

- (b) it complies with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

## **Part 5**

### **Separation of above ground stationary tanks used to store hazardous substances**

*Separation between above ground stationary tanks containing hazardous substances of the same class*

#### **18 Separation between above ground stationary tanks containing class 2.1.1 substances**

- (1) An above ground stationary tank that contains a class 2.1.1 permanent gas must be separated from—
- (a) another above ground stationary tank that contains a class 2.1.1 permanent gas by a distance of not less than 1 metre; and
  - (b) an above ground stationary tank that contains a class 2.1.1 liquefiable gas by a distance not less than—
    - (i) for quantities of class 2.1.1 permanent gas not exceeding 100 m<sup>3</sup>, 3 metres; or
    - (ii) for quantities of class 2.1.1 permanent gas exceeding 100 m<sup>3</sup> but not exceeding 500 m<sup>3</sup>, 5 metres; or
    - (iii) for quantities of class 2.1.1 permanent gas exceeding 500 m<sup>3</sup>, 10 metres.
- (2) An above ground stationary tank that contains a class 2.1.1 liquefiable gas must be separated from another above ground stationary tank that contains a class 2.1.1 liquefiable gas by the greater of—
- (a) the diameter of the largest tank; or
  - (b) if the capacity of the largest tank is less than or equal to 10,000 litres water capacity, 1 metre; or
  - (c) if the capacity of the largest tank is greater than 10,000 litres water capacity, 2 metres; or
  - (d) if the tanks are located end to end on a horizontal plane, the greater of—
    - (i) 3 metres; or
    - (ii) twice the diameter of the largest tank.

#### **19 Separation between above ground stationary tanks containing class 3 hazardous substances**

- (1) An above ground stationary tank that contains a class 3 hazardous substance must be separated from another above ground stationary tank that contains a class 3 hazardous substance by [a distance of not less than that specified in column 2 or column 3 of the table in subclause (2) opposite the capacity of the above ground stationary tank in column 1 of that table.

(2) The capacities, classifications, and distances are:

<b>Column 1</b> <b>Capacity of</b> <b>above ground</b> <b>stationary tank</b> <b>(000 litres)</b>	<b>Separation Distance (metres)</b>	
	<b>Column 2</b> <b>Tanks containing class</b> <b>3.1A, B &amp; C and class 3.2</b> <b>substances</b>	<b>Column 3</b> <b>Tanks containing class</b> <b>3.1D substances</b>
Less than 5	1	0.5
50	1	1
100	1.5	1
250	3	2
500	5	3
1,000	8	5
2,000	11	8
4,000	13	9
10,000	14	10
40,000 or greater	20	14

(3) If the capacity of an above ground stationary tank is between any 2 successive capacities specified in the table in subclause (2), it must be separated from another above ground stationary tank that contains the same class of hazardous substance by a distance that is [not less than that which is proportional to the difference in capacity.

**20 Separation between above ground stationary tanks containing class 5, 6, 8, or 9 hazardous substances**

An above ground stationary tank that contains a hazardous substance of class 5, or class 6, or class 8, or class 9 that does not have a flammable classification must be separated from another above ground stationary tank that contains a hazardous substance of the same class by not less than 1 metre.

*Separation between above ground stationary tanks containing hazardous substances of different classes*

**21 Separation between above ground stationary tank containing class 2.1.1 hazardous substance and stationary tank containing substance of a different class**

(1) An above ground stationary tank that contains a class 2.1.1 permanent gas must be separated from any other above ground stationary tank that contains a hazardous substance of a different class by a distance not less than—

(a) for quantities of class 2.1.1 permanent gas not exceeding 100 m<sup>3</sup>, 3 metres; or

- (b) for quantities of class 2.1.1 permanent gas exceeding 100 m<sup>3</sup> but not exceeding 500 m<sup>3</sup>, 5 metres; or
  - (c) for quantities of class 2.1.1 permanent gas exceeding 500 m<sup>3</sup>, 10 metres.
- (2) An above ground stationary tank that contains a class 2.1.1 liquefiable gas must be separated from—
- (a) an above ground stationary tank that contains any class 3 hazardous substance, by—
    - (i) if the capacity of the tank that contains the class 3 substance does not exceed 100,000 litres, [not less than 6 metres; or
    - (ii) if the capacity of the tank that contains the class 3 hazardous substance has a capacity exceeding 100,000 litres, [not less than 15 metres; and
  - (b) an above ground stationary tank that contains a class 2.1.1 permanent gas, or a class 5, or class 6, or class 8, or class 9 hazardous substance that does not have a flammable classification, by—
    - (i) if the water capacity of the tank containing the class 2.1.1 liquefiable gas does not exceed 100,000 litres, [not less than 6 metres; or
    - (ii) if the water capacity of the tank containing the class 2.1.1 liquefiable gas exceeds 100,000 litres, [not less than 15 metres; and
  - (c) any opening into a below ground stationary tank that contains a class 3 hazardous substance by [not less than 6 metres; and
  - (d) the centre line of the outer wall of a compound that contains a class 3 hazardous substance by [not less than 3 metres.

**22 Separation between above ground stationary tank containing class 3 hazardous substance and above ground stationary tank containing hazardous substance of different class**

An above ground stationary tank that contains a class 3 hazardous substance must be separated from an above ground stationary tank that contains a hazardous substance of a different class, other than a class 2.1.1 hazardous substance, by—

- (a) if the capacity of the tank containing the class 3 hazardous substance does not exceed 100,000 litres, [not less than 8 metres; or
- (b) if the capacity of the tank containing the class 3 hazardous substance exceeds 100,000 litres, [not less than 15 metres.

**23 Separation between above ground stationary tank containing class 6, 8, or 9 hazardous substance and stationary tank containing a substance of a different class**

An above ground stationary tank that contains a class 6, or class 8, or class 9 hazardous substance that does not have a flammable classification must be separated from a stationary tank that contains another class 6, or class 8, or class 9 hazardous substance that does not have a flammable classification[—

- (a) by not less than 1 metre; or

- (b) in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements that address the relevant risks of reducing the separation distance to less than 1 metre.

*Separation between tanks designed and constructed to certain specifications*

**24 Separation between tanks designed and constructed to certain specifications**

Despite clause 19, an above ground stationary tank that contains a class 3.1 hazardous substance may be separated from another above ground stationary tank that contains a class 3.1 hazardous substance by a distance of not less than 1 metre if 1 of the tanks is designed and constructed in accordance with—

- (a) SWRI 95-03; or
- (b) SWRI 93-01; or
- (c) UL 2085; or
- (d) a code of practice approved by the Authority under section 79 of the Act specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c).

*Separation of chemically incompatible substances*

**25 Above ground stationary tanks containing chemically incompatible substances to have separate secondary containment systems**

- (1) This clause applies to 2 or more above ground stationary tanks if—
  - (a) each tank contains a hazardous substance of any class except a hazardous substance of class 2.1.1; and
  - (b) the hazardous substance in one tank is not compatible with the hazardous substance in the other tank or tanks.
- (2) Each above ground stationary tank to which this clause applies must be installed with a separate secondary containment system.

*Transfer point separation*

**26 Separation between transfer point and above ground stationary tank containing class 2.1.1 or class 3 hazardous substance**

- (1) An above ground tank used to store a class 2.1.1 permanent gas must—
  - (a) if its transfer point is used to refuel vehicles, be separated from that transfer point by not less than 2.5 metres; and
  - (b) be separated from any transfer point used to transfer class 2.1.1 liquefiable gases, or class 3.1A, or class 3.1B hazardous substances, by not less than 5 metres.
- (2) An above ground stationary tank used to store a class 2.1.1 liquefiable gas must—

- (a) if its transfer point is used to fill that tank, be separated from that transfer point by not less than the distance specified in the following table:

<b>Water capacity of tank (000 litres)</b>	<b>Distance (metres)</b>
Less than 7.5	0
7.5 to less than 50	3
50 to less than 100	6
100 and over	9

- (b) if its transfer point is used to refuel vehicles (for example, with liquefied petroleum gas fuel), be separated from that transfer point by not less than 3 metres; or
- [(c) if its transfer point is used to fill cylinders (for example, with liquefied petroleum gas fuel), be separated from that transfer point by not less than 8 metres if more than 100 kg of a class 2.1.1 liquefiable gas is stored at the transfer point or by not less than 3 metres if less than 100 kg of such gas is stored at the transfer point.
- [(3) An above ground stationary tank of a capacity greater than 25,000 litres that is used to store a class 3.1A or class 3.1B hazardous substance, or greater than 60,000 litres that is used to store a class 3.1C hazardous substance and which is connected to a transfer point that is used to fill or empty packages, or tank wagons, or transportable containers, must be separated from that transfer point-
- (a) by not less than 8 metres and that transfer point must be separated from any other tank by not less than 8 metres; or
- (b) in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirement specified in paragraph (a).
- (4) A transfer point that is used to fill [or empty] an above ground stationary tank with a class 3.1 hazardous substance is not required to be separated from the above ground stationary tank if that tank is designed and constructed in accordance with the following:
- (a) SWRI 95-03; or
- (b) SWRI 93-01; or
- (c) UL 2085; or
- (d) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c).

## **27 Separation between transfer points**

A transfer point that is used to fill [cylinders or] packages with a class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substance must be separated from a transfer point used to fill a tank



wagon with a class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substance by not less than 8 metres.

*Separation between tank wagon and above ground stationary tank*

**28 Separation between tank wagon and above ground stationary tank [containing class 2.1.1 hazardous substances]**

(1) A tank wagon being filled from, a stationary tank with a class 2.1.1 hazardous substance must be separated by not less than 15 metres from—

- (a) the stationary tank that it is being filled from; and
- (b) any other stationary tank that contains a class 2.1.1 or class 3.1 hazardous substance.

(2) [Repealed]

*Location and separation of above ground stationary tanks for class 6, 8, and 9 hazardous substances from buildings*

**29 Location of above ground stationary tanks containing class 6 hazardous substance**

An above ground stationary tank that contains a class 6.1A, or class 6.1B, or class 6.1C, or class 6.1D hazardous substance that does not have a flammable classification must be located in accordance with—

- (a) the requirements specified in section 5.8.2 of AS/NZS 4452; or
- (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

**30 Location of above ground stationary tank containing class 8 hazardous substance**

An above ground stationary tank that contains a class 8 hazardous substance that does not have a flammable classification or an acutely toxic classification [of 6.1A, 6.1B or 6.1C] must be located in accordance with—

- (a) the requirements specified in section 5.8.2 of AS 3780; or
- (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements in paragraph (a).

**31 Separation of tanks containing class 9 hazardous substances**

An above ground stationary tank that contains a class 9.1 or class 9.2 hazardous substance that does not also have a flammable classification, or a class 6.1A, or class 6.1B, or class 6.1C or class 6.1D, classification, or a class 8 classification, must be separated from an area of high intensity land use by a distance not less than the distance specified in the following table in relation to the size of the tank:

<b>Container Capacity (litres)</b>	<b>Distance (metres)</b>
Up to 3,000	3
3,001 to 50,000	5
Greater than 50,000	8

## **Part 6**

### **Below ground tanks for hazardous liquids**

#### **32 Design and construction of below ground stationary tank for hazardous liquids**

- (1) This clause does not apply to a below ground stationary tank that is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
- (2) Every below ground stationary tank used to store hazardous liquids must be designed and constructed in accordance with—
  - (a) AS 1692 (category 4); or
  - (b) BS EN 12285.1:2003; or
  - (c) UL 1316; or
  - (d) ASTM D4021-81; or
  - (e) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c), or paragraph (d).

#### **33 Installation of below ground stationary tank for hazardous liquids**

Every below ground stationary tank used to store hazardous liquids must be installed in accordance with—

- (a) sections 12.8, 12.9, 15, and 16 of UPSS; [and
- [(aa) the requirement that any permanently fixed equipment, structures or tanks, must be effectively bonded to the main body of earth so that the resistance to earth shall not exceed 10 ohms; or
- (b) a code of practice approved by the Authority that specifies requirements equivalent to the requirements specified in paragraph (a) [and paragraph (aa) .

#### *Pressure management*

#### **34 Design, construction, installation, and operation of below ground stationary tank for hazardous liquids for pressure management**

- (1) Every below ground stationary tank used to store hazardous liquids must be designed, constructed, installed, and operated so as to ensure that the pressure or vacuum resulting from filling or emptying the tank will not cause either of the following:

- (a) stress in excess of the maximum design stress:
  - (b) the tank to collapse.
- (2) A below ground stationary tank complies with subclause (1) if—
- (a) for a tank constructed in accordance with AS 1692, it is vented in accordance with section [5.4 of AS 1940; or
  - (b) it is vented in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

*Liquid level indicator requirements*

**35 Filling a below ground stationary tank with a hazardous liquid**

A below ground stationary tank must not be filled with a hazardous liquid to a level that exceeds its safe fill capacity.

**[35A Filling [a below ground stationary tank from a tank wagon**

A below ground stationary tank must not be filled with a hazardous liquid of class 3.1A or 3.1B from any tank wagon (other than a refuelling unit) except by gravity [through a line having all connections gas tight and liquid tight unless—

- (a) another means of delivery had been approved under regulation 17 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985; or
- (b) the tank is filled in accordance with a code of practice approved by the Authority under section 79 of the Act.

**36 Liquid level indicator requirements for below ground stationary tank for hazardous liquids**

- (1) A below ground stationary tank used to store hazardous liquids must have a liquid level indicator that indicates the actual liquid level in relation to the safe fill level.
- (2) A liquid level indicator that is part of a below ground stationary tank must be designed, constructed, and installed to resist heat and impact to which the liquid level indicator may be subjected in any reasonably foreseeable situation.

## Part 7

### Obligations and restrictions for below ground stationary tanks for gases

**37 Design, construction, and installation of below ground stationary tank for gases**

Every below ground stationary tank used to store a class 2.1.1 low pressure liquefiable gas must be designed, constructed, and installed in accordance with—

- (a) section 3.3 and section 3.5 [and section 5.3 of AS/NZS1596; or
- (b) a code of practice approved by the Authority under section 79 of the Act relating to the safety of below ground stationary tanks that specifies requirements equivalent to the requirements specified in subparagraph (a).

*Pressure management***38 Design, construction, installation, and operation of below ground stationary tank for gases for pressure management**

Every below ground stationary tank used to store gases must be designed, constructed, installed, and operated to ensure that the pressure or vacuum resulting from filling or emptying the tanks will not cause either of the following:

- (a) stress in excess of the maximum design stress of the tank;
- (b) the tank to collapse.

**39 Emergency pressure management for below ground stationary tank for gases**

Every below ground stationary tank used to store gases must have an emergency pressure management system that ensures that the maximum design stress of the tank is not exceeded in any reasonably likely event.

**Part 8****Disused below ground stationary tanks****40 Disused tanks**

- (1) If a below ground stationary tank has ceased to store a hazardous substance, action must be taken in relation to the below ground stationary tank that complies with subclause (2).
- (2) The action that must be taken is—
  - (a) the below ground stationary tank and pipes connected to it must be removed; or
  - (b) an action that—
    - (i) is approved by the Authority as ensuring that the tank and any pipes connected to it are not a hazard; or
    - (ii) complies with a code of practice approved by the Authority under section 79 of the Act for the purposes of this clause.
- (3) When determining whether or not to approve an action under subclause (2)(b)(i), the Authority must have regard to—
  - (a) the hazards associated with any substance that may remain in the below ground stationary tank; and
  - (b) the likelihood and impact of any discharge of substance from the below ground stationary tank; and
  - (c) whether it is practicable, in all the circumstances, to remove the below ground stationary tank; and
  - (d) whether the location of the below ground stationary tank will [continue to store or use hazardous substances; and

- (e) any other matter the Authority thinks fit.
- (4) For the purposes of subclause (1), a below ground stationary tank has ceased to store a hazardous substance if the below ground stationary tank has not stored a hazardous substance for 3 months, unless the Authority is satisfied, on the basis of evidence provided by the person in charge of the stationary tank, that the tank has not ceased to be used.

## Part 9

### Fire fighting facilities

#### 41 Fire fighting facilities

- (1) This clause does not apply to an above ground stationary tank that is used to contain a class 3.1 substance and is designed and constructed in accordance with—
- (a) SWRI 95-03; or
  - (b) SWRI 93-01; or
  - (c) UL 2085; or
  - (d) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c).
- (2) Facilities for fighting a fire must be available in respect of every above ground stationary tank that—
- (a) has a water capacity greater than 12,000 litres and contains a class 2.1.1 low pressure liquefiable gas; or
  - (b) is in a cluster with 1 or more other above ground stationary tanks containing a class 2.1.1 low pressure liquefiable gas and the total capacity of the clustered tanks is greater than 12,000 litres; or
  - (c) has a water capacity greater than 60 m<sup>3</sup> and contains a class 3.1 hazardous substance; or
  - (d) is in a [group with 1 or more other above ground stationary tanks that contain a class 3 hazardous substance and the total capacity of the [grouped tanks is greater than 60 m<sup>3</sup>.
- (3) For the purposes of subclause (2)(b)—
- (a) an above ground stationary tank is in a cluster with 1 or more other above ground stationary tanks if it is separated from that tank, or those tanks, by a distance that is less than or equal to the distance specified in the following table:

Water Capacity (litres)	Distance (metres)
Less than 500	2
1,000	3
5,000	5

10,000	7
20,000	9
50,000	10
100,000	12
200,000 or greater	14

- (b) if an above ground stationary tank is in a cluster with another above ground stationary tank, it is also in a cluster with every stationary tank that is in a cluster with that other above ground stationary tank[;
- (c) if the capacity of an above ground stationary tank is between any 2 successive capacities specified in this subclause, then, for the purposes of the table in subclause (3)(a), it is to be taken as having the smaller of those capacities.

[(4) Repealed

[(5) For the purpose of subclause (2)(d), where there are groups of above ground stationary tanks within the boundaries of a single property, they may be treated as separate groups for the purpose of determining total fire protection requirements, provided that they are physically separated from each other by at least the distances specified in the table set out in clause 30(4) of Schedule 10 to this notice.

(6) Fire fighting facilities that are required under subclauses (2)(a) or subclause (2)(b) must be—

- (a) permanently erected around the tank; and
- (b) capable of delivering water to the entire surface of the tank at a rate of 600 litres per square metre an hour; and
- (c) equipped with an automatic system that—
  - (i) detects fire; and
  - (ii) starts delivering water to the stationary tank; and
  - (iii) can be manually controlled from a safe location.

(7) Subject to subclause (1), fire fighting facilities that are required under subclause (2)(c) or subclause (2)(d) must comply with—

- (a) sections [11.3, 11.12, 11.13, 11.15, 11.16, and Appendix J of AS 1940; or
- (b) a code of practice approved by the Authority that specifies requirements equivalent to the requirements specified in paragraph (a).

## 42 Variation or waiver of fire fighting facility requirements

- (1) The Authority, on the application of the person in charge of a stationary tank to which clause 41 [applies, may vary whichever of the requirements specified in clause 41(6) or clause 41(7) apply to that tank if the separation distance between that tank and an area of high intensity land use or an area of low intensity land use (as the case may be) exceeds the separation distance required by these or any other controls in relation to controlling the adverse effects of unintended ignition of class 2 or class 3.1 substances.
- (2) When considering whether to grant an application made under subclause (1), the Authority must have regard to—
- (a) any hazards within the site where the stationary tank is located; and
  - (b) the exposure of the stationary tank to or from any other property; and
  - (c) the available water supply; and
  - (d) the likely response time and available resources of the local unit or units of the New Zealand Fire Service; and
  - (e) the ability of the tank to resist fire; and
  - (f) any other matter that the Authority thinks fit.
- (3) The Authority, on application of the person in charge of a stationary tank to which clause 41 applies may waive whichever of the requirements specified in clause 41(6) or clause 41(7) apply to that tank if the Authority is satisfied that—
- (a) a fire will not endanger—
    - (i) any person; or
    - (ii) any property not owned by the person in charge of the stationary container; and
  - (b) the stationary tank is separated from an area of high intensity land use or low intensity land use (as the case may be) by at least the greater of—
    - (i) 5 times the distance specified in relation to the capacity of the stationary tank in clause 41; or
    - (ii) 5 times the distance specified in relation to the capacity of the stationary tank in any other controls that relate to controlling the adverse effects of the unintended ignition of class 2 or class 3.1 hazardous substances.

## 43 Testing of fire fighting facilities

The fire fighting facilities specified in clause 41 must be tested in accordance with the following:

- (a) a fire fighting facility for an above ground stationary tank used to store class 2.1.1 low pressure liquefiable gas must be tested annually for compliance with clause 41; or

- (b) a fire fighting facility for an above ground stationary tank used to store a class 3.1 hazardous substance must be tested in accordance with section [11.3.10 of AS 1940; or
- (c) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in whichever of paragraph (a) or paragraph (b) applies.

## **Part 10**

### **General requirements for process containers and equipment**

#### **44 Material for process containers and equipment**

- (1) This clause applies to—
  - (a) every process container and any associated equipment used to contain a hazardous substance of a class specified in subclause (2); and
  - (b) any structure that supports a process container or equipment to which paragraph (a) refers.
- (2) The classes are:
  - (a) class 2.1.1:
  - (b) class 3.1A:
  - (c) class 3.1B:
  - (d) class 3.1C.
- (3) Every process container, any equipment, and any structure to which this clause applies must be made from fire-resisting material.

#### **45 Liquid level indicators for process containers or equipment**

A liquid level indicator that is part of a process container or any associated equipment must be—

- (a) designed, constructed, and installed to resist heat and impact to which the liquid level indicator may be subjected in any foreseeable operating condition; and
- (b) if the liquid level indicator is a sight glass, installed so that the sight glass can be isolated from the process container.

#### **46 Filling open process container**

An open process container must not be filled to a level less than 150mm from the top of the container.

#### **47 Overflow provision**

An open process container in which the surface area of the hazardous substance exposed to the air is greater than 1m<sup>2</sup> or which has a capacity greater than 750 litres must have an overflow provision that discharges overflow into a safe location.



## Part 11

### Dispensers for the retail sale of class 2.1.1, 3.1A, 3.1B, and 3.1C hazardous substances

#### 48 Dispensers to be approved

Every [type or kind of dispenser that is connected to a stationary container system for the retail sale of a class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substance, must be—

- (a) approved by the Authority in accordance with clause 49 for its intended use; and
- (b) installed in accordance with accepted engineering principles and practice.

#### 49 Authority to approve dispensers

- (1) The Authority must approve a [type or kind of dispenser if—
  - (a) [it complies with the requirements of NZS/AS 2229 : 2004 [; or
  - (b) the Authority is satisfied that it meets an equivalent level of safety to the level of safety provided by the standards specified in paragraph (a).
- (2) The Authority must register every [type or kind of dispenser approved under subclause (1) on the register kept under clause 51.
- [(3) The Authority may add such conditions as it thinks fit to the approval of dispensers under this clause.

#### 50 Deemed registration of previously approved dispensers

- (1) Every dispenser that was approved under section 214 of the Act for the retail sale of class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substances is deemed to be approved under clause 49 [subject to such conditions as applied to the approval given under that section .
- (2) The Authority must keep a record of every dispenser to which subclause (1) applies on the register established under clause 51.

#### 51 Register of dispensers for retail sale

- (1) The Authority must keep a register of every dispenser approved under clause 49 or deemed to be approved under clause 50.
- (2) The Authority must ensure that the register is available for public inspection.

#### [51A Removal from register of dispensers

The Authority may remove the approval of a dispenser from the register if the Authority considers that the dispenser-

- (a) does not comply with the requirements of this Part of this Schedule; or
- (b) is unsafe.

**52 Shutdown of dispenser**

Every dispenser used for the retail sale of class 2.1.1, or class 3.1A, or class 3.1B, or class 3.1C hazardous substances, must be able to be shut down immediately if an event occurs that gives rise to safety concerns.

**Part 12****Vaporisers****53 Approval of vaporisers**

- (1) A vaporiser must not be used unless it is of a type or kind approved and registered in accordance with this clause.
- (2) When determining whether or not to approve a vaporiser, the Authority must consider—
  - (a) the design that the vaporiser is or is intended to be constructed to; and
  - (b) the hazards associated with the substance that the vaporiser will be used to vaporise; and
  - (c) the quantity of the substance that will be held in the vaporiser; and
  - (d) the rate at which that substance will flow through the vaporiser; and
  - (e) any other matter the Authority considers appropriate.
- (3) The Authority must register every approved vaporiser on the register kept under clause 54.
- [4] The Authority may add such conditions as it thinks fit to the approval of vaporisers under this Part of this Schedule.
- [5] Every vaporiser that was approved by the Chief Inspector of Dangerous Goods under regulation 76 of the Dangerous Goods (Class 2 – Gases) Regulations 1980 before the commencement of this notice, is deemed to be approved in accordance with this Schedule subject to the conditions as applied to the approval given under that regulation.

**54 Register of vaporisers**

- (1) The Authority must keep a register of every vaporiser approved under clause 53.
- (2) The Authority must ensure that the register is available for public inspection.

**[54A Removal from register of vaporisers**

The Authority may remove the approval of a vaporiser from the register if the Authority considers that the vaporiser-

- (a) does not comply with the requirements of this Part of this Schedule; or
- (b) is unsafe.

**55 Other requirements for vaporisers**

- (1) Every vaporiser used to vaporise liquefiable gases must be designed and constructed so that—

- (a) the flow of liquid to the vaporiser is automatically cut off if the vaporiser ceases to vaporise the liquefiable gas; and
  - (b) it is not possible for a liquefiable gas in its liquid phase to discharge from the vaporiser outlet nozzle.
- (2) Every vaporiser that is direct fired or may be an ignition source, and is used to vaporise a liquefiable gas, must be installed—
- (a) for an anhydrous ammonia vaporiser, not less than 15 metres from a tank that contains liquid anhydrous ammonia; or
  - (b) for a liquefied petroleum gas vaporiser with a capacity of 610 litres per hour or less, not less than 8 metres from—
    - (i) an area of low intensity land use or an area of high intensity land use; or
    - (ii) an above ground stationary tank used to store liquefied petroleum gas; or
    - (iii) the filling connections of a tank referred to in subparagraph (ii); or
  - (c) for a liquefied petroleum gas vaporiser with a capacity of greater than 610 litres per hour, not less than 15 metres from—
    - (i) an area of low intensity land use or an area of high intensity land use; or
    - (ii) an above ground stationary tank used to store liquefied petroleum gas; or
    - (iii) the filling connections of a tank referred to in subparagraph (ii).
- (3) Every vaporiser used to vaporise anhydrous ammonia or liquid oxygen must be indirectly heated.
- (4) A vaporiser that is direct fired or may be an ignition source and is located together with 1 or more other such vaporisers, the separation distance under subclause (2) must be determined based on the aggregate capacity of the vaporisers grouped together.

### **Part 13**

#### **Stationary container system used in connection with oil burning installations**

##### **56 Installation of stationary container system used in connection with oil burning installations**

- (1) This clause applies to every stationary container system that is—
- (a) [Repealed
  - (b) used to contain a class 3.1 hazardous substance; and
  - (c) used to provide fuel to an internal combustion engine or burner.
- [(1A) This clause does not apply to a stationary container system that-
- (a) does not have a service tank; and
  - (b) has a capacity less than-

- (i) 500 litres for class 3.1D substances supplying an internal combustion engine; or
  - (ii) 50 litres for class 3.1A, 3.1B and 3.1C substances supplying an internal combustion engine; or
  - (iii) 60 litres for class 3.1 substances supplying a burner.
- (2) Every stationary container system to which this clause applies must be installed—
- (a) to ensure that—
    - (i) the hazardous substance does not discharge or leak from any part of the stationary container system within the building in which the stationary container system is located; and
    - (ii) any transfer point used for filling the stationary container system with the hazardous substance is located outside the building in which the stationary container system is located; and
    - (iii) any vent pipe, relief valve, or overfill pipe that is part of the stationary container system terminates outside the building in which the stationary container system is located; and
    - (iv) exhaust fumes created as a result of using the hazardous substance are discharged into a safe place that is outside the building in which the stationary container system is located; and
    - (v) the flow of hazardous substance to the equipment of the stationary container system is modulated to match the capacity of the equipment; and
    - (vi) the supply of hazardous substance to the equipment of the stationary container system, or any pump used to supply the substance to that equipment, is cut off if the temperature [of the air above the engine reaches 90°C; and
    - (vii) if the hazardous substance spills or leaks into the secondary containment system of the stationary container system, any pump that is part of the stationary container system is located so that it will not come into contact with the spilled substance; or
  - (b) in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements in paragraph (a).
- [(2A) Despite subclause (2)(a)(ii), a tank used to contain a class 3.1D substance may be directly filled from a nozzle if-
- (a) there is spill containment capacity of 15 litres around the fill point; and
  - (b) the maximum tank size is no greater than 1,000 litres; and
  - (c) the requirements of sections 5.3.2(a) to (f) of AS 1940 are complied with; and
  - (d) the fill point is clearly identified.

[2B] Despite subclause (2)(a)(ii), a tank used to contain a class 3.1D substance may be directly filled utilising a connection that is both liquid tight and vapour tight and which seals without spillage when disconnected (dry break coupling) if—

- (a) the tank size is no greater than 15,000 litres; and
- (b) the fill point is clearly identified; and
- (c) there is a manual valve directly upstream of the coupling; and
- (d) the requirements of sections 5.3.2(a) to (f), 5.3.3 (a) to (c) and 5.3.4 of AS 1940 are met.

(3) A stationary container system to which this clause applies must have means of preventing the substance from draining from any stationary tank that is part of the stationary container system in the event that pipework that is part of the stationary container system fails. Examples of the means that may be included are anti-siphoning devices, and non-return or other valves.

(4) The means of preventing the substance from draining referred to in subclause (3) must be fitted as close as practicable to each stationary tank that is part of the stationary container system to which this clause applies.

#### **57 Stationary container system to have automatic cut-off**

(1) This clause applies to a stationary container system to which clause 56 applies that is used to contain—

- (a) a class 3.1C hazardous substance that has a flashpoint of not less than 50°C that flows into the stationary container system by gravity; or
- (b) a class 3.1D hazardous substance that flows into the stationary container system by gravity.

(2) A stationary container system to which this clause applies must have a means of automatically cutting off the flow of the substance from a stationary tank that is part of the stationary container system in the event of a fire near the stationary container system.

[(2A) Despite subclause (2), a stationary container system supplying fuel to an internal combustion engine used for fire protection purposes is not required to be equipped with the automatic means referred to in that subclause.

(3) The automatic means referred to in subclause (2) must be located as close as practicable to each stationary tank that is part of the stationary container system.

#### **58 Requirements for pipework of stationary container system**

(1) This clause applies to pipework that is part of a stationary container system to which clause 56 applies.

(2) Pipework to which this clause applies must—

- (a) be—
  - (i) constructed of materials that are fire-resistant; and

- (ii) constructed of corrosion-resistant materials that do not react with the hazardous substance, or interact to significantly affect or weaken the pipework, so that the requirements of this schedule cannot be complied with; and
  - (iii) installed securely; and
  - (iv) tested to ensure that the pipework does not leak at a pressure that is the greater of—
    - (A) 350kPa; or
    - (B) 1.5 times the maximum working pressure of that pipework; or
  - (b) be constructed, installed, and tested in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).
- (3) For the purposes of subclauses (2)(a)(i) and 2(a)(ii), pipework is constructed of a fire-resistant and corrosion-resistant material if it is constructed from—
- (a) solid-drawn steel tubing; or
  - (b) mild-steel or wrought iron tubing; or
  - (c) solid-drawn copper tubing; or
  - [(d) short lengths (not longer than 500mm [unless it is impractical to use pipework of the type specified in subclauses 3(a) to 3(c) in which case not longer than 1 metre ] of stainless steel [or high tensile steel braided hose.

## **59 Requirements for heaters to transfer heat to hazardous substance in stationary container system**

- (1) This clause applies to a heater that is—
- (a) part of a stationary container system to which clause 56 applies; and
  - (b) used for the purpose of transferring heat to the hazardous substance contained in the stationary container system so that the substance remains fluid.
- (2) A heater to which this clause applies must—
- (a) have elements that—
    - (i) do not generate a heat flux greater than 1.25 watts/cm<sup>2</sup>; and
    - (ii) are sheathed in material that does not react with the hazardous substance, or interact to significantly affect or weaken the element, to prevent fuel coming into direct contact with the heating element; and
  - (b) have a thermostat control and a back-up control to ensure that fuel cannot be heated in the stationary container system to a temperature that is higher than 20°C below the flashpoint of the fuel.

**60 Requirements for heater for combustion of substance in stationary container system**

- (1) This clause applies to a heater that is—
  - (a) part of a stationary container system to which clause 56 applies; and
  - (b) used for the purpose of efficient combustion of the substance contained in the stationary container system.
- (2) A heater to which this clause applies must—
  - (a) be designed to ensure that no gas or air pockets develop in the heater; and
  - (b) have elements that—
    - (i) do not generate a heat flux greater than 1.25 watts/cm<sup>2</sup>; and
    - (ii) are sheathed in material that does not react with the hazardous substance, or affect or interact to significantly weaken the element, to prevent fuel coming into direct contact with the heating element; and
  - (c) have a thermostat control and a back-up control to ensure that fuel cannot be heated in the stationary container system to a temperature that is higher than 20°C below the flashpoint of the fuel; and
  - (d) be capable of maintaining a pre-set temperature range for fuel transferred into any burner that is part of the stationary container system; and
  - (e) be able to withstand normal operating pressures; and
  - (f) be fitted with a pressure relief valve.

**61 Stationary tank in stationary container system for class 3.1A or class 3.1B hazardous substances**

- (1) This clause applies to a stationary tank that—
  - (a) is part of a stationary container system to which clause 56 applies; and
  - (b) supplies the equipment of the stationary container system with a class 3.1A or class 3.1B hazardous substance.
- (2) A stationary tank to which this clause applies must be located outside the building in which the stationary container system is located.
- (3) Despite subclause (2), a stationary tank may be located inside a building if—
  - (a) the capacity of the tank does not exceed 5 litres; or
  - (b) the capacity of the tank does not exceed 100 litres and the substance is not supplied to the equipment by gravity.

**62 Stationary tank in stationary container system for certain class 3.1C hazardous substances and class 3.1D hazardous substances**

- (1) This clause applies to a stationary tank that—

- (a) is part of a stationary container system to which clause 56 applies; and
  - (b) supplies the equipment of the stationary container system directly through pipework with—
    - (i) a class 3.1C substance that has a flashpoint of not less than 50°C; or
    - (ii) a class 3.1D substance.
- (2) A stationary tank to which this clause applies must not be installed in a stationary container system located in a building if, when the stationary tank is installed, the aggregate capacity of all stationary tanks that are part of every stationary container system located in the building exceeds—
- (a) if the building is not of fire-resistant construction, 25,000 litres; or
  - (b) if the building is of fire-resistant construction, 50,000 litres.
- (3) A stationary tank to which this clause applies must—
- (a) be located outside the building in which the [burner or internal combustion engine] is located; or
  - (b) if it is located in a building,—
    - (i) be located in a room or chamber with a 240/240/240 fire rating that is—
      - (A) in the building in which the stationary container system is located such that no level of the building is located below the tank unless that is impracticable; or
      - (B) in an adjoining building; and
    - (ii) have with a secondary containment system of sufficient capacity to retain the capacity of the stationary tank; or
  - [(ba) be located in a building containing only the tank which is separated from any other building by the distances specified in the table set out in clause 30(4) of Schedule 10 to this notice; or
  - (c) be located in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirement specified in paragraph (b).

### **63 Service tank in stationary container system**

- (1) This clause applies to a service tank that is part of a stationary container system to which clause 56 applies that is used to store—
- (a) a class 3.1C substance that has a flashpoint of not less than 50°C; or
  - (b) a class 3.1D substance.
- (2) A service tank to which this clause applies must not be installed in a stationary container system located in a building if, when the service tank is installed, the aggregate capacity of all service tanks in every stationary container system located in the building exceeds—
- (a) if the service tank provides fuel to a burner,—



- (i) if the burner normally consumes more than 300 litres in an 8 hour period, 1,200 litres; or
    - (ii) in any other case, 300 litres; or
  - (b) if the service tank provides fuel to an internal combustion engine,—
    - (i) if the engine normally consumes more than 500 litres in an 8 hour period, 1,200 litres; or
    - (ii) in any other case, 500 litres.
- (3) If the capacity of a service tank to which this clause applies exceeds 500 litres, the service tank must—
- (a) be located—
    - (i) outside the building in which the stationary container system is located; or
    - (ii) in a room or chamber that complies with clause 62(3)(b)(i); and
  - (b) have a secondary containment system of sufficient capacity to retain the capacity of the tank; or
  - (c) be located in accordance with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a) or paragraph (b).

#### **64 Supply of certain hazardous substances to domestic oil-burning installations**

- (1) This clause applies to a stationary container system to which clause 56 applies that is used to contain—
- (a) a class 3.1C hazardous substance that has a flashpoint of not less than 50°C; or
  - (b) a class 3.1D hazardous substance.
- (2) Despite clauses 56 to 63, a stationary container system used to supply a domestic oil-burning installation may be installed in a building if—
- (a) the stationary tank used to store the substance that is part of the stationary container system—
    - (i) does not exceed 2,500 litres in capacity; and
    - (ii) is installed outside the building; and
    - (iii) if the capacity of the stationary tank is greater than 1,200 litres, has a secondary containment system; and
  - (b) the burner of the stationary container system is fed by gravity; and
  - (c) any valves required by clause 56(3) are fitted outside the building; and
  - (d) any pipework that forms part of the stationary container system complies with clause 58.

**65 Stationary container system [- operational requirements**

- [(1) This clause applies to every stationary container system to which clause 56 applies.
- (2) Every stationary container system to which this clause applies must be operated in accordance with the following:
- (a) if the hazardous substance is contaminated with solid particles or water, those particles or that water must be trapped and prevented from entering the equipment of the stationary container system:
  - (b) if the hazardous substance is contaminated with any volatile fractions that have a flashpoint of less than 60°C, those volatile fractions are removed:
  - (c) when the stationary tank that is part of the stationary container system is being filled, such filling is monitored to prevent over-filling:
  - (d) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirement specified in paragraphs (a) to (c).
- (3) Operating instructions for any burner that is part of a stationary container system to which this clause applies must be displayed at all times so that any person checking on or monitoring the stationary container system can see them.

**Part 14****Burners****66 Deemed declaration that burner not permitted for use**

Every burner for the combustion of a class 3.1D hazardous substance or a class 3.1C hazardous substance with a flashpoint of not less than 50°C that was declared as not permitted for use in New Zealand under regulation 116 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 before the commencement of this notice is deemed to be a burner that is not permitted for use under this notice.

**67 Register of burners not permitted for use**

- (1) The Authority must keep a register of every burner for the combustion of a class 3.1D hazardous substances or a class 3.1C hazardous substance with a flashpoint of not less than 50°C that was declared as not permitted for use in New Zealand under regulation 116 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985.
- (2) The Authority must ensure that the register is available for public inspection.

**68 Approval of burners**

- (1) This clause applies to every [type or kind of burner that will be used for the combustion of [class 3.1 hazardous substances.
- (2) A [type or kind of burner to which this clause applies must not be used unless it is approved and registered in accordance with this clause.

- (3) Every [type or kind of burner to which this clause applies must be—
- (a) approved by the Authority; and
  - (b) registered on the register kept under clause 70.
- (4) The Authority may only approve a burner to which this clause applies if the burner complies with—
- (a) [AS 1690 : 1975; or
  - [(aa) AS 1375-1985; or
  - (b) BS EN 267: 1999 or
  - [(ba) BS EN 1 : 1998; or
  - [(bb) BS EN 13842 : 2004; or
  - [(bc) UL 896:1993; or
  - [(bd) BS 799-2:1991; or
  - [(be) NFPA 86; or
  - (c) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in [any of paragraphs (a), (aa), (b), (ba), (bb), (bc), (bd) or (be).
- [(5) The Authority may add such conditions as it thinks fit to the approval of burners under this clause.

### **69 Deemed approval of previously approved burners**

- (1) Every burner for the combustion of a hazardous substance specified in subclause (2) that was approved for use by the Authority under regulation 116 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 before the commencement of this notice is deemed to be approved for use in accordance with this Schedule, subject to such conditions as applied to the approval given under that regulation.
- (2) The substances are—
- (a) class 3.1C hazardous substances with a flashpoint of not less than 50°C; and
  - (b) class 3.1D hazardous substances.
- (3) The Authority must keep a record of every burner to which subclause (1) applies on the register established under clause 70.

### **70 Register of approved burners**

- (1) The Authority must keep a register of every burner approved under clause 68 or deemed to be approved under clause 69.
- (2) The Authority must ensure that the register is available for public inspection.
- (3) For each burner, the Authority must record any conditions on which the approval was granted.

**[70A Removal from register of burners**

The Authority may remove the approval of a burner from the register if the Authority considers that the burner-

- (a) does not comply with the requirements of this Part of this Schedule; or
- (b) is unsafe.

**71 Installation requirements for burners**

- (1) Every burner that will be used for a hazardous substance specified in subclause (2) must—
  - (a) be installed with a remote cut-off valve; and
  - (b) have a combustion chamber capable of resisting an explosion.
- (2) The substances are—
  - (a) class 3.1C hazardous substances with a flashpoint of not less than 50°C; and
  - (b) class 3.1D hazardous substances.

**72 Operating instructions for burners**

A person who supplies a burner that will be used for class 3.1 hazardous substances must provide the person in charge of the burner with comprehensive operating instructions for the burner.

**Part 15****Pipework****73 Requirements for pipework**

- (1) This clause applies to pipework used to convey a hazardous substance if the pipework is not required to comply with any of the following:
  - (a) [Repealed :
  - (b) the Health and Safety in Employment (Pipelines) Regulations 1999;
  - (c) the Gas Regulations 1993.
- (2) Pipework to which this clause applies must be designed, constructed, installed, operated, inspected, tested, and maintained so as to ensure that the pipework is suitable for all reasonably foreseeable working pressures, temperatures, and structural stresses to which it is likely to be subjected.
- (3) Pipework to which this clause applies must comply with the following:
  - (a) transfer lines must be designed, constructed, and installed in accordance with—
    - (i) ASME B31.4; or
    - (ii) AS/NZS 2885.1: 1997; or

- (iii) if the transfer lines are part of the underground pipework of an underground petroleum storage system, section 13 and section 14 of the UPSS; or
  - (iv) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in subparagraph (i), or subparagraph (ii), or subparagraph (iii):
- (b) transfer lines must be operated, inspected, tested, and maintained in accordance with—
- (i) AIP CP26: 1995; or
  - (ii) AS/NZS 2885.3: 1997; or
  - (iii) if the transfer lines are part of the underground pipework of an underground petroleum storage system, section 14 of the UPSS; or
  - (iv) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in subparagraph (i), or subparagraph (ii), or subparagraph (iii):
- (c) process pipework must be designed, constructed, and installed in accordance with—
- (i) ASME B31.3; or
  - (ii) ASME B31.4; or
  - (iii) AS/NZS 2885.1: 1997; or
  - (iv) a code of practice approved by the Authority under section 79 of the Act that specifies requirements [equivalent to the requirements specified in subparagraph (i), or subparagraph (ii), or subparagraph (iii):
- (d) process pipework must be operated, inspected, tested, and maintained in accordance with—
- (i) API 570; or
  - (ii) AS/NZS 2885.3: 1997; or
  - (iii) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in subparagraph (i) or subparagraph (ii).
- [(4) Pipework used to convey a hazardous substance, which is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999, is not required to comply with the requirements of subclause (3), except that-
- (a) transfer lines must be operated, inspected, tested and maintained in accordance with the requirements of subclause (3)(b); and
  - (b) transfer lines which are part of the underground pipework of an underground petroleum storage system, must be designed, constructed and installed in accordance with sections 13 and 14 of the UPSS.

**74 Installation of pipework for class 3.1 hazardous substance**

A transfer point that is used to fill a stationary tank with a class 3.1 hazardous substance must be installed in accordance with—

- (a) section [6.3.1(b) of AS 1940; or
- (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).

**75 Installation of transfer [line between ship and stationary tank**

- (1) Pipework that is used to transfer a hazardous substance between a ship and a stationary tank must be provided with—
  - (a) a stop valve located in the section of the pipework that runs over or adjacent to the water to ensure that, in the event that the pipework fails, spillage into the water is minimised; and
  - (b) a [back flow prevention system as close as practicable to the transfer point, on the landward side of the transfer point; and
  - (c) a stop valve located as close as practicable to the [back flow prevention system , on the landward side of the [back flow prevention system ; and
  - (d) blank flanges or screwed caps at the seaward end of the pipe to ensure the pipework is watertight when it is not in use.
- (2) If the pipework referred to in subclause (1) is used to transfer a class 9.1 hazardous substance, the non-return valve required under subclause (1)(b) must be fitted to ensure that—
  - (a) when the pipework is not being used to transfer the class 9.1 hazardous substance, any substance remaining in the pipework cannot leak from the transfer point; and
  - (b) when the pipework is being used to transfer the class 9.1 hazardous substance to a ship, the non-return valve may be bypassed or otherwise made ineffective only if the bypass is closed or the non-return valve may be made effective when the transfer is complete.
- (3) If the pipework referred to in subclause (1) is used to transfer a class 3.1 substance, the stop valves required by subclause (1)(a) and subclause (1)(c) must comply with—
  - (a) section [6.3.3 of AS 1940; or
  - (b) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).
- (4) If a fire safe stop valve is required under subclause (3), a stop valve is fire safe if it complies with—
  - (a) BS 6755.2; or
  - (b) API Specification 6FA; or
  - (c) API 607 4<sup>th</sup> edition; or

- (d) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c).
- (5) If a stop valve required by subclause (1) is located in an area to which the public has access, the valve must be locked closed when—
- (a) not in use; or
  - (b) unattended.

## **Part 16**

### **Fittings**

#### **76 Valve for stationary tank containing a hazardous substance**

- (1) This clause applies to an above ground stationary tank used to store a hazardous substance if—
- (a) pipework connected to the tank has 1 or more nozzles; and
  - (b) the hazardous substance could escape from 1 or more of those nozzles if the pipework fails.
- (2) Every stationary tank to which this clause applies must be fitted with a valve that is—
- (a) as close as practicable to each nozzle referred to in subclause (1); and
  - (b) positioned so as to be able to cut off the flow of hazardous substance from the tank.
- (3) If the tank referred to in subclause (1) contains a class 3.1 hazardous substance, the valve required by subclause (2)—
- (a) must—
    - (i) comply with section [6.3.3 of AS 1940; and
    - (ii) if the tank has a capacity greater than 2,500 litres, only have valves that are—
      - (A) made of cast steel; and
      - (B) fire safe; or
  - (b) must comply with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a).
- (4) If a fire safe valve is required under subclause (3), a valve is fire safe if it complies with—
- (a) BS 6755.2; or
  - (b) API 6FA: 1999; or
  - (c) API 607 4<sup>th</sup> edition; or

- (d) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a), or paragraph (b), or paragraph (c).

## **Part 17**

### **Marking and records for stationary container systems**

#### *Markings*

#### **77 Marking of stationary tanks**

Every stationary tank used to store a hazardous substance must be marked—

- (a) if the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 apply, in accordance with those regulations; or
- (b) if those regulations do not apply,—
- (i) permanently and legibly with the following information:
- (A) the specification to which the tank was designed (if any):
- (B) the date on which the tank was manufactured:
- (C) the materials used in the construction of the tank:
- (D) the name or mark and address of the manufacturer of the tank:
- (E) the maximum and minimum design pressure of the tank:
- (F) the maximum and minimum design temperature of the tank:
- (G) the maximum permitted density of any liquid that may be contained in the tank:
- (H) the maximum safe fill level of the tank:
- (I) an identifier that links the tank to the records and test certificate that relate to the tank; or
- (ii) in accordance with a code of practice approved by the Authority under section 79 of the Act for the purposes of this clause.

#### **78 Renewal of stationary tank markings**

The markings on a stationary tank required by clause 77 must be renewed as often as is necessary to ensure that they are legible.

#### **79 Markings for pipework connected to above ground stationary tank in stationary container system**

- (1) This clause applies to pipework connected to an above ground stationary tank that forms part of a stationary container system used to store a hazardous substance [but does not apply where the water capacity of the stationary tank is less than—



- (a) 12,000 litres for a stationary tank used or intended to be used to contain a class 2.1.1A flammable gas; or
  - (b) 60,000 litres for a stationary tank used or intended to be used to contain a class 3.1 substance; or
  - (c) 500 litres for a stationary tank used or intended to be used to contain a class 6.1A or 6.1B substance; or
  - (d) 5000 litres for a stationary tank used or intended to be used to contain other hazardous liquids.
- (2) Pipework to which this clause applies must be marked—
- (a) permanently and legibly with the following information:
    - (i) the applicable colour code in accordance with AS 1345; and
    - (ii) an arrow or arrows indicating the direction in which fluid flows through the pipework; or
  - (b) in accordance with a code of practice approved by the Authority under section 79 of the Act for the purposes of this clause.

## **80 Renewal of pipework markings**

The markings on pipework required by clause 79 must be renewed as often as is necessary to ensure that such markings are legible.

### *Records*

## **81 Records for stationary container systems**

- (1) There must be available for inspection in relation to every stationary container system used to store a hazardous substance, a plan that describes the physical position of the stationary container system in relation to—
- (a) if the boundary of any controlled zone is within 5 metres of the legal boundaries of the place, the legal boundaries of the place where the stationary container system is located; and
  - (b) every building within the place; and
  - (c) every other stationary tank within the place; and
  - (d) every storage area for packages containing hazardous substances within the place; and
  - (e) every storage area for compressed gas cylinders within the place; and
  - (f) every secondary containment system for the tank within the place; and
  - (g) every fire fighting system, including firewalls and vapour barriers within the place; and
  - (h) every transfer point for a class 2.1.1 or class 3.1 hazardous substance within the place; and
  - (i) every transfer point for a class 9.1 hazardous substance that is located above water.

- (2) There must be available for inspection, in relation to every stationary container system, records that describe how a stationary container system complies with—
- (a) this Schedule; and
  - (b) the requirements for secondary containment in Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001.
- (3) The plan specified in subclause (1), and the records specified in subclause (2), must be updated when the stationary container system to which the plan and records relate is—
- (a) modified; or
  - (b) repaired; or
  - (c) relocated.
- (4) The plan specified in subclause (1), and the records specified in subclause (2), may be part of any other management documentation relating to the safety of a stationary container system whether or not that documentation is—
- (a) required under the Act or any other Act; or
  - (b) prepared for any other reason.

## **82 Requirement to keep records for stationary container system**

- (1) The documents specified in subclause (2) must be readily available for inspection.
- (2) The documents are—
- (a) the plan specified in clause 81(1); and
  - (b) the records specified in clause 81(2); and
  - (c) the documents (if any) referred to in clause 81(4).

## **Part 18**

### **Repairs, alterations, and maintenance**

#### **83 Repair, alteration, etc of above ground stationary tank for hazardous liquids**

- (1) This clause does not apply to an above ground stationary tank that is required to comply with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
- (2) The repair, alteration, maintenance, inspection, and testing of an above ground stationary tank [in excess of 250,000 litres capacity used to store hazardous liquids must be carried out in accordance with—
- (a) API 653; or
  - (b) EEMUA 159; or

- (c) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in paragraph (a) or paragraph (b).

[(2A) Where any inspection or testing is required to be undertaken in relation to the repair, alteration or maintenance of an above ground stationary tank used to store hazardous liquids and which has a capacity of less than 250,000 litres, the person undertaking the inspection must be able to demonstrate appropriate and relevant experience.

#### **84 Test certificate becomes invalid if above ground stationary tank repaired, altered, relocated etc**

A test certificate issued under Part 19 in respect of a stationary container system becomes invalid if—

- (a) for a stationary container system that includes an above ground stationary tank certified as suitable to contain a hazardous liquid,—
  - (i) repairs or alterations [(other than minor repairs or alterations) are carried out on the tank below the maximum liquid level of the tank; or
  - (ii) the tank is altered so that the shell height or length is changed; or
  - (iii) other than in the case of a tank that is constructed to be movable and has an integral support structure that rests on the ground, the tank is relocated; or
  - (iv) the tank is reconstructed; or
  - (v) there is a change in service in respect of the tank; or
- (b) for a stationary container system that includes an above ground stationary tank certified as suitable to contain a gas,—
  - (i) if the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 do not apply to the tank, the tank is repaired or altered; or
  - (ii) the tank is relocated; or
  - (iii) there is a change in service in respect of the tank; or
- (c) for a stationary container system that includes a stationary tank, any certificate of inspection issued in respect of that tank under the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 is suspended or cancelled in accordance with regulation 34 of those regulations.

#### **85 Repair, alteration, etc of below ground stationary tank for hazardous liquids**

Every below ground stationary tank used to store hazardous liquids must be repaired, altered, tested, inspected, and maintained in a manner that ensures that the tank continues to meet the standards and codes to which the tank was designed and constructed.

#### **86 Maintenance of below ground stationary tank used to store hazardous liquids**

- (1) Every below ground stationary tank used to store a hazardous liquid must—

- (a) have inventory control checks in accordance with—
    - (i) section 17 of UPSS and Appendix A of Supplement No. 1 to UPSS; or
    - (ii) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements specified in subparagraph (i); and
  - (b) be leak-tested in accordance with—
    - (i) in UPSS —
      - (A) section 19; and
      - (B) appendix A or appendix E; or
    - (ii) a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements in subparagraph (i).
- (2) Records must be kept of each test or check performed under subclause (1) in accordance with section 20 of UPSS.

**87 Test certificate becomes invalid if below ground stationary tank repaired, altered, relocated, etc**

A test certificate issued under Part 19 in respect of a stationary container system that includes a below ground stationary tank used to store a hazardous liquid or a gas becomes invalid if—

- (a) in the case of a below ground stationary tank that is not subject to the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999, the tank is repaired or altered; or
- (b) the tank is—
  - (i) relocated; or
  - (ii) reconstructed; or
- (c) there is a change in service in relation to the tank; or
- (d) tests show that any cathodic protection system or tank coating system no longer provides effective protection from corrosion; or
- (e) there is evidence that the tank is leaking; or
- (f) a certificate of inspection issued in relation to the tank in accordance with the Health and Safety Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 is suspended or cancelled under regulation 34 of those regulations.

**88 Repair, maintenance, etc of equipment**

- (1) All equipment that forms part of a stationary container system must be repaired, inspected, tested, and maintained to ensure that the equipment continues to comply with the relevant approval, standard, or code specified in this Schedule to which the equipment was designed, constructed, and installed.
- (2) To avoid doubt, equipment to which subclause (1) applies includes—

- (a) every vaporiser to which this Schedule applies; and
- (b) any equipment that is part of any stationary container system to which Part 13 applies.

### **89 Repair, maintenance, etc of process container**

Every process container must be repaired, maintained, inspected, and tested to ensure that the container continues to comply with the standard or code to which the container was designed, constructed, and installed.

### **90 Process container certification invalidated if process container repaired, altered, relocated, etc**

A test certificate issued under Part 19 in respect of a stationary container system that includes a process container becomes invalid if—

- (a) the process container is—
  - (i) repaired [(other than minor repairs) ; or
  - (ii) altered [(other than minor alterations) ; or
  - (iii) relocated; or
  - (iv) replaced; or
- (b) there is a change in service in respect of the container.

## **Part 19**

### **Test certification**

#### **91 Test certificate required for certain installed stationary container systems**

- (1) No person may put a hazardous substance into a stationary container system of the type specified in subclause (2) unless the stationary container system is certified in accordance with clause 92.
- (2) The types of stationary container system are—
  - (a) a stationary container system that includes a stationary tank intended to contain a hazardous substance if the stationary tank—
    - (i) is a below ground stationary tank; or
    - (ii) has a water capacity greater than 500 litres and is used or intended to be used to contain a gas; or
    - (iii) has a capacity greater than [2,500 litres and is used or intended to be used to contain a class 3.1A or class 3.1B hazardous substance; or
    - (iv) has a capacity greater than 5,000 litres and used or intended to be used to contain a hazardous liquid, other than a hazardous liquid that is a class 3.1A or class 3.1B hazardous substance:
  - (b) a stationary container system that includes a process container that is part of a stationary container system intended to contain a hazardous substance if the process container—

- (i) is situated under ground, including ground that has been raised to provide cover for the process container; or
  - (ii) is covered by material other than ground; or
  - (iii) has a water capacity greater than 250 litres and used, or intended to be used, to contain a hazardous gas; or
  - (iv) has a capacity greater than 1,000 litres and used or intended to be used to contain a hazardous liquid:
- (c) a stationary container system that includes a vaporiser to which this Schedule applies:
  - (d) a stationary container system to which Part 13 applies but excluding domestic oil burning installations as specified in clause 64.

## **92 Requirements for test certificate**

- (1) A test certifier may not issue a certificate in relation to a stationary container system of any of the types specified in clause 91(2) unless the test certifier is satisfied that—
  - (a) it complies with the requirements set out in subclause (2); or
  - (b) in the case of a stationary container system for which a compliance plan under Part 20 is in effect,—
    - (i) it does not comply with 1 or more requirements set out in subclause (2); but
    - (ii) it does comply with—
      - (A) the corresponding requirements in the compliance plan; and
      - (B) all of the other requirements set out in subclause (2); or
  - [(c) a code of practice approved by the Authority in accordance with clause 100(2)(c).
- (2) The requirements referred to in subclause (1) are—
  - (a) the stationary container system is—
    - (i) suitable for service with a specified hazardous substance, or specified substances, without leakage of the substance, for all reasonably foreseeable operating pressures, temperatures, stresses and loadings; and
    - (ii) constructed of materials that are compatible with any hazardous substance that the system is likely to contain; and
  - (b) if the stationary container system includes a stationary tank, the stationary tank complies with the requirements specified in this Schedule relating to—
    - (i) tank design; and
    - (ii) tank construction; and

- (iii) tank installation; and
  - (iv) pressure management; and
  - (v) emergency pressure management; and
  - (vi) the level indicator requirements specified in clauses 13 and 36; and
  - (vii) lightning and stray current protection; and
  - (viii) the separation requirements specified in Part 5; and
  - (ix) fire fighting systems; and
  - (x) the marking requirements under clause 77; and
  - (xi) the requirements relating to plans under clause 81; and
- (c) if the stationary container system includes a stationary tank with integral secondary containment, the stationary container system complies with regulation 39 or 40 as applicable of the Hazardous Substance (Emergency Management Regulations) 2001; and
- (d) if the stationary container system includes a stationary tank that contains a [class 3.1D, or class 6, or class 8, or class 9 hazardous substance that is not also a class 2, or class 3 [other than class 3.1D , or class 4, or class 5 hazardous substance, the stationary container system complies with the requirements of Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001; and
- (e) if the stationary container system includes a vaporiser, the vaporiser complies with clause 55; and
- (f) if the stationary container system complies with Part 13; and
- (g) if the stationary container system includes a burner, the burner is—
- (i) approved in accordance with clause 68; and
  - (ii) installed in accordance with clause 71; and
- (h) pipework complies with requirements for—
- (i) design, construction, and installation; and
  - (ii) operation, inspection, testing, and maintenance; and
  - (iii) installation of transfer point pipework in accordance with clause 75; and
- (i) the requirements for valves in clause 75 are complied with; and
- (j) the records specified in clause 81 are available; and
- (k) any repairs or alterations carried out comply with the requirements of Part 18.
- (3) A stationary container system that includes a stationary tank complies with subclause (2)(b)(i) if the stationary tank is—

- (a) constructed in accordance with a design that is certified under clause 94(1)(a); and
  - (b) marked in accordance with clause 77.
- (4) A stationary container system that includes a stationary tank complies with subclause (2)(b)(i) and subclause (2)(b)(ii) if the stationary tank—
- (a) constructed in accordance with a design that is certified under clause 94(1)(a); and
  - (b) is constructed by a fabricator that is certified under clause 94(1)(b) in respect of that design; and
  - (c) marked in accordance with clause 77.
- (5) A stationary container system that includes a stationary tank used to store a hazardous substance in respect of which a current certificate of inspection has been issued in accordance with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 complies with—
- (a) subclause (2)(a); and
  - (b) subclause (2)(b)(i) to (v); and
  - (c) subclause (2)(k).
- (6) Pipework forming part of a stationary container system used to store a hazardous substance in respect of which a current certificate of inspection has been issued in accordance with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 or the Health and Safety in Employment (Pipelines) Regulations 1999 complies with—
- (a) subclauses (2)(h)(i) and (ii); and
  - (b) subclause (2)(k).

### **93 Validity of test certificate for stationary container system**

- (1) A test certificate issued under clause 92 is valid for—
- (a) a period determined by the test certifier that issues the test certificate in accordance with—
    - (i) for an above ground stationary tank used to store a hazardous liquid,—
      - (A) API 653; or
      - (B) NZS/BS 2654; or
      - [(BA) BS EN 14015; or
      - (C) table 9.1 in AS 1940 for category 6 tanks; or
      - (D) a code of practice approved by the Authority that specifies requirements equivalent to the requirements specified in subparagraphs (A) to (C); or
    - (ii) for a place that has more than one above ground stationary tank used to store a hazardous liquid,—



- (A) API 2610; or
  - (B) EEMUA 159; or
  - (C) a code of practice approved by the Authority that specifies requirements equivalent to the requirements specified in subparagraph (A) or subparagraph (B); or
- (b) if the Authority has determined a validity period, that period; or
  - (c) if the stationary container test certificate is based on a certificate of inspection issued under the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999, the period for which the certificate of inspection is valid; or
  - (d) in any other case, 1 year.
- (2) The Authority may not determine a validity period for the purposes of subclause (1)(b) that is longer than—
- (a) for an above ground stationary tank, 15 years; or
  - (b) for a below ground stationary tank, 10 years; or
  - (c) for a process container, 15 years.
- (3) In determining a validity period for the purposes of subclause (1)(b), the Authority must consider—
- (a) the maximum quantity and type of hazardous substance to be contained or likely to be contained in the stationary container system; and
  - (b) the review and monitoring systems in place for the management of the stationary container system and any hazardous substances to be contained in it; and
  - (c) the compliance history of any person or persons in charge of the stationary container system and, if the stationary container system is owned or managed by an organisation, the compliance history of the organisation.

#### **94 Certification of designs or fabricators**

- (1) A test certifier may certify—
- (a) a design for a stationary tank or process container if that design complies with the requirements of this Schedule that relate to the stationary tank or process container (as the case may be); or
  - (b) in relation to a certified design or designs, a fabricator for the purposes of constructing a stationary container system in accordance with the design.
- (2) The test certifier must advise the Authority of—
- (a) for a certified design, the requirements for which the design is certified; or
  - (b) for a certified fabricator, the name and contact details of the fabricator and the design in respect of which the fabricator is certified.

- [(3) Every design and fabricator that was approved by the Authority or the Chief Inspector of Dangerous Goods under regulation 60 of the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 before the commencement of this notice is deemed to be approved in accordance with this Schedule subject to such conditions as applied to the approval given under that regulation.

**95 Duration of certification for fabricators**

Certification of a fabricator under clause 94 remains in force for 3 years or such shorter period as is specified in the certificate.

**96 Register of certified design and fabricator**

- (1) The Authority must keep a register of every design and every fabricator that is certified [or deemed to be approved under clause 94.
- (2) On receiving the information required under clause 94(2), the Authority must—
- (a) allocate a register number to the certified design or fabricator (as the case may be); and
  - (b) enter the details of the certified design or fabricator (as the case may be) on the register kept under subclause (1).
- [(3) The Authority may add such conditions as it thinks fit on a certified design or fabricator prior to allocating a register number.

**97 Investigation and removal of design or fabricator**

- (1) This clause applies to a stationary container system that is constructed —
- (a) in accordance with a design that is certified [or deemed to be approved under clause 94; and
  - (b) by a fabricator that is certified [or deemed to be approved under clause 94.
- (2) If the Authority receives a report that a stationary container system to which this clause applies does not comply with this Schedule, the Authority may—
- (a) investigate the report; and
  - (b) remove from the register—
    - (i) the design; or
    - (ii) the fabricator; or
    - (iii) both.

**98 Information to be shown on test certificate**

- (1) Every test certificate issued in accordance with this Schedule must contain the following information:
- (a) an identifier that links the stationary tank or process container to the test certificate;
  - (b) the address or other clear identification of the place where the stationary tank or process container is located:

- (c) the capacity for which the stationary tank or process container is certified:
  - (d) identification of the hazardous substance or hazardous substances that may be contained in the stationary tank or process container:
  - (e) the code or standard applied in the design of the stationary tank or process container:
  - (f) the year in which the stationary tank or process container was manufactured:
  - (g) the date on which the test certificate is issued:
  - (h) the date on which the test certificate expires:
  - (i) the name of the issuing test certifier:
  - (j) the register number for the test certifier.
- (2) Every test certifier must provide the Authority with a copy of each test certificate issued by him or her as soon as practicable after the certificate is issued.

#### **99 Requirement for more than one test certificate**

If more than one test certificate must be obtained under this Schedule in respect of one place—

- (a) the test certifier may, at the request of the person or persons required to obtain the test certificates, examine at the same time any or all of those matters that require test certification for which the test certifier is competent to certify; and
- (b) if more than one matter has been examined, the report provided by the test certifier must indicate whether or not the requirements relating to each matter have been met and must include the reasons for any failure to meet those requirements; and
- (c) a single test certificate may be issued for any or all of those matters if the requirements for each matter have been met.

## **Part 20**

### **Transitional Provisions**

#### **100 Existing stationary container systems**

- (1) In this Part, **existing stationary container system** means a stationary container system to which this Schedule applies that, immediately before the commencement of this notice,—
- (a) was being used to contain a substance described in [Schedules 1 or 2 ; or
  - (b) was designed to be used to contain a substance described in [Schedules 1 or 2 and construction of the stationary container system to that design had commenced.
- (2) An existing stationary container system is not required to comply with this Schedule (except this Part) if—
- (a) it is used—

- (i) in the case of a stationary container system to which subclause (1)(a) applies, for the purpose for which it was used immediately before the commencement of this notice; or
  - (ii) in the case of a stationary container system to which subclause (1)(b) applies, for the purpose for which it was designed; and
- (b) the person in charge of it complies with clauses 101 to 103 [if required ]; or
- [(c) it complies with a code of practice approved by the Authority under section 79 of the Act that specifies requirements equivalent to the requirements set out in either Parts 2, 6, 13, 15, 16, 17 or 18 or Parts 2, 3, 4, 5, 9, 13, 15, 16, 17 and 18 of this Schedule.
- (3) Despite subclause (2), Part 18 and Part 19 apply to any repair, alteration, or maintenance performed on an existing stationary container system.

### **101 Compliance plans**

The person in charge of an existing stationary container system [to which clause 91 applies must—

- (a) no later than 2 years after the commencement of this notice, engage a test certifier to undertake an assessment and prepare a report as to the extent to which the existing stationary container system complies with this Schedule; and
- (b) if the test certifier determines that the existing stationary container system does not comply with this Schedule, no later than 3 years after the commencement of this notice, give the Authority a compliance plan setting out—
  - (i) the test certifier’s view, based on whatever information is available to the test certifier, as to the extent to which the existing stationary container system has been maintained and repaired to conform to the standard to which it was constructed and installed; and
  - (ii) how, and the time within which, the existing stationary container system, or the operational procedures applying to it, or both, will be altered so that it complies with—
    - (A) that standard; or
    - (B) this Schedule[; or
    - [(C) variations to the requirements of Parts 3 to 18 of this Schedule, compliance with which may be deemed to be in compliance with those parts of this Schedule.

### **102 Compliance plan to be approved by Authority**

- (1) The Authority must, as soon as practicable after receiving a compliance plan under clause 101,—
- (a) approve it; or
  - (b) decline to approve it.
- (2) If the Authority declines to approve a compliance plan,—

- (a) the Authority must advise the person who gave the compliance plan to the Authority of the Authority's reasons for declining to approve it; and
  - (b) the Authority and that person must attempt to agree on amendments to the compliance plan that the Authority considers will allow it to approve the compliance plan.
- (3) If the Authority and the person who gave the compliance plan to the Authority agree on amendments to the compliance plan, the Authority must approve the compliance plan with those amendments.
- (4) The Authority and the person who gave the compliance plan to the Authority may, after the compliance plan is approved, from time to time agree amendments to the compliance plan.
- (5) If, at the expiry of 20 working days after the date on which the Authority advised its reasons for declining to approve a compliance plan under subclause (2)(a), or such further period as the Authority may allow, the Authority and the person who gave the compliance plan to the Authority have not agreed on amendments to the compliance plan, clause 100(2) does not apply to the stationary container system to which the compliance plan applies.

### **103 Compliance plan must be complied with**

The person in charge of an existing stationary container system in respect of which a compliance plan has been approved must comply with the compliance plan.

### **104 Test certificate for stationary container system with compliance plan**

A test certifier may issue a test certificate in accordance with clause 92(1) in relation to a stationary container system for which a compliance plan is in effect.

## Schedule 9

### Controls relating to secondary containment

#### Part 1

#### Secondary containment

##### 1 Secondary containment system for storage of class 3.1 hazardous substances

- (1) This clause applies to every secondary containment system to which regulation 39 of the Hazardous Substances (Emergency Management) Regulations 2001 applies if any stationary container located within the secondary containment system is used to contain a class 3.1 hazardous substance described in Schedule 1.
- (2) The quantity of class 3.1 hazardous substance that [may be held in a secondary containment system to which this clause applies must not exceed 75,000,000 litres.
- (3) If the quantity of class 3.1 hazardous substances [which may be held within a secondary containment system is greater than 25,000,000 litres, and the substances are stored in more than 1 stationary container, the stationary containers must be divided into groups.
- (4) [If a group consists of more than one stationary container, the aggregate capacity of the stationary containers in [the group must not exceed 25,000,000 litres.
- (5) Each group must be separated from all other stationary containers in the secondary containment system by a further secondary containment system (called an **intermediate secondary containment system**).
- (6) An intermediate secondary containment system must comply with all requirements applying to a secondary containment system except—
  - (a) it must have a capacity of at least 50% of the capacity of the largest stationary container located within it; and
  - (b) none of [the walls that form a subdivision of the secondary containment system may be higher than 0.25 metres lower than the height of the lowest wall of the secondary containment system in which it is located.

##### 2 Authority may modify aggregate capacity limit for groups of stationary containers

- (1) The Authority may, on application from a person, increase the aggregate capacity of stationary containers that may be in a group within a secondary containment system for the purposes of clause 1(4).
- (2) The Authority may not approve an aggregate capacity under subclause (1) that exceeds 40,000,000 litres.
- (3) In considering an application under subclause (1) the Authority must have regard to the following matters:

- (a) the degree of hazard associated with the substance or substances [which may be held within each intermediate secondary containment system in the secondary containment system to which the application relates:
- (b) the capacity of the largest stationary container within each intermediate secondary containment system to which the application relates, and the relationship of that capacity to the capacity of the relevant intermediate secondary containment system proposed in the application:
- (c) in relation to each intermediate secondary containment system to which the application relates, the capacity of intermediate secondary containment systems adjacent to it:
- (d) the availability of means to prevent unintended ignition, and of means to control the effects of unintended ignition, of hazardous substances stored within each intermediate secondary containment system to which the application relates:
- (e) any other matter the Authority considers relevant to its consideration of the application.

**[2A Authority may modify maximum capacity for secondary containment systems**

- (1) The Authority may, on application from a person, increase the aggregate capacity of stationary containers within a secondary containment system for the purposes of clause 1(2).
- (2) The Authority may not approve a capacity under subclause (1) that exceeds 120,000,000 litres.
- (3) In considering an application under subclause (1) the Authority must have regard to the following matters:
  - (a) the degree of hazard associated with the substance or substances which may be held within the secondary containment system to which the application relates and, if applicable, any existing secondary containment system:
  - (b) the capacity of the largest stationary container within each secondary containment system and the relationship of that capacity to the capacity of any existing secondary containment system:
  - (c) the type of design and construction of the stationary container:
  - (d) the availability of means to prevent unintended ignition, and of means to control the effects of unintended ignition, of hazardous substances which may be held within the secondary containment system to which the application relates:
  - (e) any other matter the Authority considers relevant to its consideration of the application.

**3 Variation to requirements of regulation 39 of the Hazardous Substances (Emergency Management) Regulations 2001**

- [(1) The capacity that a secondary containment system is required to have to comply with regulation 39 of the Hazardous Substances (Emergency Management) Regulations 2001 may be reduced either-
  - (a) by the Authority upon application by any person and subject to such conditions as the Authority thinks fit; or
  - (b) in accordance with a code of practice approved by the Authority under section 79 of the Act for the purposes of this clause.

- (2) The Authority may not approve a capacity under subclause (1) that is less than 100% of the capacity of the [largest stationary container located in the secondary containment system to which the application relates.
- (3) In considering an application under subclause (1) the Authority must take into account any means provided to prevent the capacity of the secondary containment system to which the application relates being taken up by rainwater.

## **Part 2**

### **Transitional Provisions**

#### **4 Existing secondary containment systems**

- [(1) In this Part, existing stationary tank or process container means a stationary tank or process container that was in use immediately before the commencement of this notice.
- (2) During the period commencing with the commencement of this notice and ending 3 years after the date of that commencement, an existing [stationary tank or process container to which regulation 39 of the Hazardous Substances (Emergency Management) Regulations 2001 applies, complies with that regulation if it complies with the requirements [for a secondary containment system that applied to it immediately before the commencement of this notice.
- (3) During the period commencing with the commencement of this notice and ending 3 years after the date of that commencement, an existing [stationary tank or process container to which regulation 40 of the Hazardous Substances (Emergency Management) Regulations 2001 applies, complies with that regulation if it complies with the requirements [for a secondary containment system that applied to it immediately before the commencement of this notice.
- [(4) On and from the end of the period specified in subclauses (2) and (3), an existing stationary tank or process container must comply with –
  - (a) regulation 39 of the Hazardous Substances (Emergency Management) Regulations 2001, if that regulation applies; or
  - (b) regulation 40 of the Hazardous Substances (Emergency Management) Regulations 2001, if that regulation applies; or
  - (c) a compliance plan; or
  - (d) a code of practice approved by the Authority under section 79 of the Act for the purposes of this clause.

#### **5 Compliance plans**

- (1) A person may apply to the Authority for approval of a compliance plan in relation to [an existing [stationary tank or process container setting out—
  - (a) a programme for bringing the secondary containment system into compliance with regulations 39 or 40 of Hazardous Substances (Emergency Management) Regulations 2001 [including the provisions of clause 1 of this Schedule ; or



- (b) variations to the requirements of regulations 39 or 40 of those regulations, compliance with which is deemed to be compliance with those regulations; or
  - (c) both.
- (2) On receiving an application under subclause (1) the Authority must—
- (a) approve the compliance plan to which the application relates; or
  - (b) decline to approve it.

**6 Test certification requirements**

- (1) Compliance with this Part is deemed to be compliance with regulations 39 and 40 of [the Hazardous Substances (Emergency Management) Regulations 2001 for the purposes of—
- (a) clause 92(2)(c) and 92(2)(d) of Schedule 8; and
  - (b) regulations 81(f), 82(h), 99(j), and 121(j) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.

## Schedule 10

### Controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances

#### Part 1

#### Preliminary provisions

##### 1 Application of controls

This Schedule applies to every class 2 and every class 3.1 hazardous substance described in Schedule 1 [provided that for the purposes of this Schedule, low flashpoint diesel (low flash domestic heating oil and alpine diesel) shall be deemed to have a flammable classification of 3.1D.

##### 2 Interpretation

In this Schedule, unless the context otherwise requires,—

###### **area of high intensity land use—**

- (a) includes—
  - (i) an area of regular habitation; and
  - (ii) a structure made of or containing combustible materials that would sustain a significant fire; and
  - (iii) a high density traffic route; but
- (b) does not include a small office constructed of non-combustible materials associated with a hazardous substance location that is used by persons authorised to be at the location by the person in charge of that location

###### **area of low intensity land use—**

- (a) includes—
  - (i) an area where any person may be legally present occasionally; and
  - (ii) a public park or reserve; and
  - (iii) a traffic route of low or medium traffic density; but
- (b) does not include an area of regular habitation

**area of regular habitation** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**AS** refers to the Australian Standard

**AS 1940** means the standard on *The Storage and Handling of Flammable and Combustible Liquids*

**controlled zone** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**hazardous substance location** has the meaning given to it by regulation 3 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**NZS** refers to the New Zealand Standard published by the Standards Association of New Zealand

**[NZS 4232.2:1988** means the standard on *Fire Resisting Glazing Systems*

**package** has the meaning given to it by regulation 3 of the Hazardous Substances (Packaging) Regulations 2001

**[quantity-ratio** has the same meaning given to it by regulation 6 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

**secondary containment system** has the meaning given to it by regulation 35 of the Hazardous Substances (Emergency Management) Regulations 2001

**SWRI** means the Southwest Research Institute

**SWRI 95-03** means *Test Procedures 95-03: Method for Evaluating the Fire Performance of Testing Requirements for Protected Aboveground Flammable Liquids/Fuel Storage Tanks*

**[tank wagon and transportable containers** have the meanings given to them by regulation 3 of the Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004

**type 1 building** means a building or room—

- (a) that is constructed in accordance with the following:
  - (i) the floor, walls, ceiling and doors have a minimum fire-resistance rating of 60/60/60 minutes; and
  - (ii) every door—
    - (A) opens towards the outside of the building or room; and
    - (B) is self-closing; and
  - (iii) every window in the building or room complies with [NZS 4232.2:1988 ; and
- (b) no part of which is occupied as a dwelling[; and
- [(c) that has a secondary containment system with a capacity of at least 100% of the total pooling potential.

**type 2 building** means a building or room—

- (a) that is constructed in accordance with the following:
  - (i) the floor, walls, ceiling and doors have a minimum fire-resistance rating of 120/120/120 minutes; and
  - (ii) every door—
    - (A) opens towards the outside of the building or room; and

- (B) is self-closing; and
- (iii) every window in the building or room complies with [NZS 4232.2:1988 ; and
- (b) no part of which is occupied as a dwelling[; and
- [(c) that has a secondary containment system with a capacity of at least 100% of the total pooling potential.

**type 3 building** means a building or room—

- (a) that is constructed in accordance with the following:
  - (i) the floor, walls, ceiling and doors have a minimum fire-resistance rating of 240/240/240 minutes; and
  - (ii) every door—
    - (A) opens towards the outside of the building or room; and
    - (B) is self-closing; and
  - (iii) every window in the building or room complies with [NZS 4232.2:1988 ; and
- (b) no part of which is occupied as a dwelling[; and
- [(c) that has a secondary containment system with a capacity of at least 100% of the total pooling potential.

**type A building** means a building—

- (a) that is—
  - (i) constructed to provide a platform on which 1 or more containers are located; and
  - (ii) secured to prevent unauthorised access; and
  - (iii) part of a secondary containment system; and
- (b) the following parts of which are made of non-combustible materials:
  - (i) the platform; and
  - (ii) the shelter roof (if any)

**type B building** means a framed building that—

- (a) has non-combustible cladding; and
- (b) is part of a secondary containment system

**type C building** means a building that—

- (a) has a fire rating of 120/120/120 minutes [and which is made of structurally strong materials such as brick, block concrete and reinforced concrete ; and

- (b) has a roof made of wood and iron or equivalent products; and
- (c) is part of a secondary containment system

**type D building** means a building that—

- (a) has a fire-resistance rating of 240/240/240 minutes [and which is made of structurally strong materials such as brick, block concrete and reinforced concrete ; and
- (b) has a reinforced concrete roof with a fire rating of 240/240/240 minutes; and
- (c) is part of a secondary containment system

[UN Model Regulations means the [14<sup>th</sup> revised edition of the *Recommendations on the Transport of Dangerous Goods Model Regulations*, published in July 2003 by the United Nations (New York and Geneva)].

### 3 References to class, hazard classifications etc

Where this Schedule refers to a substance or group of substances by reference to any 1 or more numerals and letters, then, unless the context otherwise requires, the combination of numbers and letters constitutes the hazard classification of the substance as follows:

- (a) the first (or only) numeral refers to the class of the substance, indicating the intrinsic hazardous properties of the substance as described in regulation 4(1)(a) of the Hazardous Substances (Classification) Regulations 2001; and
- (b) the second and any subsequent numerals (if any) refer to the subclass of the substance within that class, indicating the type of hazard of the substance as described in regulation 4(1)(b) of those regulations; and
- (c) the letter (if any) refers to the category of the substance indicating the degree of hazard of the substance as described in regulation 4(1)(c) of those regulations.

### 4 Person in charge of hazardous substance must comply with controls

- (1) The person in charge of a hazardous substance to which this Schedule applies must ensure that the adverse effects of unintended ignition of the substance are controlled in accordance with this Schedule.
- (2) Subclause (1) does not apply if a provision of this Schedule states that a different person is responsible.

## Part 2

### Separation of substances not located at a hazardous substance location

#### 5 Application of this part

This Part applies to a class 2.1.1, or class 2.1.2, or class 3.1 hazardous substance that is present at a location that is not a hazardous substance location.

**6 Separation of class 2.1.1 permanent gases from areas of high and low intensity land use**

- (1) This clause applies to—
- (a) 1 or more cylinders that—
    - (i) is, or are, as the case may be, located together at a place; and
    - (ii) contains, or each contain, as the case may be, a class 2.1.1 permanent gas to which this Part applies ; or
  - (b) an above ground stationary tank [or transportable container or tank wagon that contains a class 2.1.1 permanent gas to which this Part applies.
- [(1A) A vehicle filling point, for class 2.1.1 permanent gas, must be separated by a distance of 2.5 metres from the place of storage of class 2.1.1 permanent gas.
- (2) A cylinder to which this clause applies must be separated from—
- (a) an area of high intensity land use by not less than the distance specified in column 2 of the table set out in clause 30(1) opposite the aggregate volume of the permanent gas contained in all of the cylinders to which this clause applies located at the same place specified in column 1 of that table; or
  - (b) an area of low intensity land use by not less than the distance specified in column 3 of the table set out in clause 30(1) opposite the aggregate volume of the permanent gas contained in all of the cylinders to which this clause applies located at the same place specified in column 1 of that table.
- [(2A) Subclause (2) does not apply to the storage of class 2.1.1 permanent gas in quantities not exceeding 100 m<sup>3</sup> and which is intended to be used on the premises.
- (3) An above ground stationary tank [or transportable container or tank wagon to which this clause applies must be separated from—
- (a) an area of high intensity land use by not less than the distance specified in column 2 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table; or
  - (b) an area of low intensity land use by not less than the distance specified in column 3 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table.
- (4) A [tank fill transfer point that is connected to an above ground stationary tank to which this clause applies must be separated from—
- (a) an area of high intensity land use by not less than the distance specified in column 2 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank that is connected to the [tank fill transfer point specified in column 1 of that table; or

- (b) an area of low intensity land use by not less than the distance specified in column 3 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank that is connected to the [tank fill transfer point specified in column 1 of that table.

## **7 Separation of cylinders containing class 2.1.1 liquefiable gases from areas of high and low intensity land use**

- (1) 1 or more cylinders containing a class 2.1.1 liquefiable gas to which this Part applies located together at a place must each be separated from—
  - (a) an area of high intensity land use by not less than the distance specified in column 2 of the table set out in clause 30(2) opposite the aggregate quantity of liquefiable gas contained in all of the cylinders located at the place specified in column 1 of that table; or
  - (b) an area of low intensity land use by not less than the distance specified in column 3 of the table set out in clause 30(2) opposite the aggregate quantity of liquefiable gas contained in all of the cylinders located at the place specified in column 1 of that table.

[1A [For cylinders which are located within 1 metre of a building and which, individually or in aggregate, as the case may be, contain up to 100 kg of a class 2.1.1 liquefiable gas [the building must not have any opening located-

- (a) below the top of the cylinder; and
  - (b) within 1 metre of any cylinder.
- (2) Subclause (1)(a) does not apply to 1 or more cylinders located together at a place that contains, or each contain in aggregate, as the case may be, [greater than 100 kg and up to 300 kg of class 2.1.1 liquefiable gas if—
    - (a) there are no buildings within 2 metres of the cylinder or cylinders; or
    - (b) there are 1 or more buildings within 2 metres of the cylinder or cylinders [and —
      - [(i) the walls of the buildings behind and 2 metres either side of the cylinders are constructed of fire resisting materials; and
      - [(ii) [the building does not have any opening located—
        - (A) below the top of any cylinder; [and
        - (B) within 2 metres of any cylinder.

## **8 Separation of above ground stationary tank[, transportable container or tank wagon and transfer point for class 2.1.1 liquefiable gas from areas of high and low intensity land use**

- (1) An above ground stationary tank [or transportable container or tank wagon that contains a class 2.1.1 liquefiable gas to which this Part applies, and each transfer point connected to [them , must be separated from—

- (a) an area of high intensity land use by not less than the distance specified in column 2 of the table set out in clause 30(3) opposite the capacity of the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table; or
- (b) an area of low intensity land use by not less than the distance specified in column 3 of the table set out in clause 30(3) opposite the capacity of the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table.

[(2) Notwithstanding the above, a tank fill zone need not be separated from the boundary of the controlled zone by any more than 15 metres.

**9 Separation of building holding class 2.1.2 flammable aerosols [and threaded or self-sealing gas cartridges of LPG from area of high intensity land use**

- (1) This clause applies to a building that holds class 2.1.2 flammable aerosols [and threaded or self-sealing gas cartridges of LPG of up to 1,000 ml water capacity manufactured to EN 417 or other approved standards, the aggregate capacity of which exceed 3,000 litres.
- (2) A building to which this clause applies must be separated from an area of high intensity land use by not less than 3 metres.

**10 Separation of above ground stationary tank [transportable container or tank wagon containing class 3.1 hazardous substance from areas of high and low intensity land use**

[(1) This clause does not apply to—

- (a) a domestic oil-burning installation that-
  - (i) includes a stationary tank that has a capacity that does not exceed 1,200 litres; and
  - (ii) complies with clause 64 of Schedule 8 of this notice; or
- (b) a stationary tank that complies with clause 62(3)(b) of Schedule 8 of this notice.

(2) An above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon, that contains a class 3.1 hazardous substance to which this Part applies must be separated from—

- (a) an area of high intensity land use by not less than the distance specified in whichever of column 2 or column 3 of the table set out in clause 30(4) relates to the substance opposite the capacity of the above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon, in column 1 of that table; or
- (b) an area of low intensity land use by not less than the distance specified in column 4 of the table set out in clause 30(4) opposite the capacity of the above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon, in column 1 of that table.

[(3) Where an above ground stationary tank, a transportable container or a tank wagon, having multiple compartments is installed, the separation distance to areas of high intensity land use and low intensity land use will be based on the aggregate volume of the compartments and the lowest flash point substance stored in any of the compartments.



**11 Requirement to hold certain packages [or transportable containers] of class 3.1 hazardous substance in building of a certain type**

- (1) A class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies that is contained in 1 or more packages [or transportable containers that comply with Chapter 6.5 of the UN Model Regulations, other than a package [or container] to which clause 15 applies, must be held in a building of a type specified in subclause (2).
- (2) The types are—
  - (a) a type A building; or
  - (b) a type B building; or
  - (c) a type C building; or
  - (d) a type D building.
- (3) Despite subclause (1), a class 3.1A, or class 3.1B, or class 3.1C hazardous substance that is contained in 1 or more packages may be held in a storage cabinet—
  - (a) that is constructed and installed in accordance with section [4.9] of AS 1940; and
  - (b) if—
    - (i) each package does not contain more than 20 litres of the hazardous substance; and
    - (ii) the aggregate quantity of all packages of class 3.1A, or class 3.1B, or class 3.1C hazardous substance does not exceed 250 litres.

**12 Separation of building holding packages up to 60 litres of class 3.1A or class 3.1B hazardous substances or packages of any amount of class 3.1C hazardous substance from area of high intensity land use**

- (1) This clause applies to every type A, or type B, or type C, or type D building that holds 1 or more packages that contains, or each contain, as the case may be,—
  - (a) up to 60 litres of a class 3.1A or class 3.1B hazardous substance to which this Part applies; or
  - (b) a class 3.1C hazardous substance to which this Part applies.
- (2) A building to which this [clause] applies must be separated from an area of high intensity land [use] by not less than the distance specified in column 4 of the table set out in clause 30(5) opposite the aggregate quantity of all packages of class 3.1A, or class 3.1B, or class 3.1C hazardous substances specified in whichever of column 1, or column 2, or column 3 of that table relates to the building.

**[12A] Storage of packages holding class 3.1 hazardous substances in a store in a building**

- (1) Substances of hazard classification 3.1 may be situated in a store inside a building provided that they are stored—
  - (a) in a room with the walls and ceiling constructed with a 60/60/60 fire resistance rating and—
    - (i) not more than 450 litres is situated in the store; and

- (ii) the substances are stored in containers, each not exceeding 20 litres capacity; or
  - (b) in a room with the walls and ceiling constructed of reinforced concrete or equivalent with a 120/120/120 fire resistance rating and—
    - (i) not more than 2000 litres is situated in the store; and
    - (ii) the substances are stored in containers, each not exceeding 60 litres capacity, provided that one container of a maximum capacity of 250 litres may be located in the store; or
  - (c) in a type D building which shall have no openings to the interior of the building except for a door that is self-closing in the event of a fire and which opens into a type 1, type 2 or type 3 building.
- (2) For subclause (1), where the quantity of class 3.1 hazardous substances in the store does not exceed 2000 litres, the door may open into the building if—
- (a) the door of the room has a fire resistance rating of -/60/60 in the case of storage in accordance with subclause (1)(a) and -/120/120 in the case of storage in accordance with subclause (1)(b); and
  - (b) the door is fitted to be self-closing in the event of a fire near the doorway; and
  - (c) there are no combustible materials within 3 metres of the doorway; and
  - (d) no portion of the structure within 3 metres of the doorway is constructed of combustible materials; and
  - (e) the door is kept closed except when goods are placed in, or removed from, the store.
- (3) A building constructed in accordance with subclause (1)(c) or a building which has more than two walls in common with another building that is an area of regular habitation shall have walls constructed of reinforced concrete or equivalent with a fire resistance rating of 240/240/240 and shall not contain more than—
- (1) 5000 litres of class 3.1A and 3.1B substances in aggregate, in containers exceeding 60 litres capacity; or
  - (2) 10,000 litres in aggregate in the case of all other storage of class 3.1A and 3.1B substances in containers not exceeding 60 litres capacity and/or class 3.1C substances in containers not exceeding 250 litres capacity.

**13 Separation of building holding [transportable containers or packages of more than 60 litres of class 3.1A or class 3.1B [or class 3.1C hazardous substances from area of high intensity land use**

- (1) This clause applies to every type A, type B, type C, or type D building that holds 1 or more packages [or transportable containers that comply with Chapter 6.5 of the UN Model Regulations that contains, or each contain, as the case may be, more than 60 litres of a class 3.1A or class 3.1B [or class 3.1C hazardous substance to which this Part applies.
- (2) A building to which this clause applies must be separated from an area of high intensity land use by not less than the distance specified in column 4 of the table set out in clause 30(6) opposite the

aggregate quantity of all [transportable containers that comply with Chapter 6.5 of the UN Model Regulations or packages of class 3.1A and class 3.1B [or class 3.1C hazardous substances specified in whichever of column 1, or column 2, or column 3 of that table relates to the building.

**14 Separation of transfer point for class 3.1 hazardous substance from area of high intensity land use**

A transfer point used [to fill a tank wagon with a class 3.1 hazardous substance to which this Part applies must be separated from an area of high intensity land use by the distance specified in whichever of column 1 or column 2 of the table set out in clause 30(7) relates to the classification of the substance.

**15 Class 3.1 hazardous substance being used or in open package or container to be held in building of a certain type**

- (1) This clause applies to a class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies that is—
- (a) being used; or
  - (b) contained in 1 or more packages or containers, 1 or more of which is open.
- (2) A class 3.1A or class 3.1B [or class 3.1C hazardous substance to which this clause applies [and which are located in a building must be held in—
- (a) a type 1 building; or
  - (b) a type 2 building; or
  - (c) a type 3 building[; or
  - [(d) a paint mixing room that complies with AS/NZS 4114.

**16 Separation of building holding package containing class 3.1 hazardous substance from area of high intensity land use**

- (1) This clause applies to every [type of building specified in subclauses 15(2)(a) to (d) in which a class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies is—
- (a) being used; or
  - (b) contained in 1 or more packages or containers, 1 or more of which is open.
- (2) A building to which this clause applies—
- (a) if the building is a type 1 building [or paint mixing room that complies with AS/NZS 4114 , must not hold—
    - (i) a class 3 hazardous substance in a container that is more than 20 litres in capacity; and
    - (ii) an aggregate quantity of class 3 hazardous substances of more than 450 litres; and
  - (b) if the building is a type 2 or type 3 building, must not hold more than—

- (i) in the case of a class 3.1A or class 3.1B hazardous substance, an aggregate quantity of 7,500 litres; or
  - (ii) in the case of a class 3.1C hazardous substance, 10,000 litres; and
  - (c) must be constructed so as to hold any class 3.1A or class 3.1B hazardous substance that exceeds 60 litres, or a class 3.1C hazardous substance that exceeds 100 litres, as close as practicable to ground level.
- [(2A) For the purposes of subclause (2)(b), where the building holds both class 3.1A and/or 3.1B substances, and also class 3.1C substances, the relevant quantity has been exceeded if the quantity-ratio is greater than 1.
- (3) Every building to which this clause applies must be separated from an area of high intensity land use by not less than—
    - (a) in the case of a class 3.1A or class 3.1B hazardous substance, the distance specified in whichever of column 2 or column 3 of the table set out in clause 30(8) relates to that type of building opposite the aggregate quantity of the hazardous substance specified in column 1 of that table; or
    - (b) in the case of a class 3.1C hazardous substance, the distance specified in whichever of column 2 or column 3 of the table set out in clause 30(8) relates to that type of building opposite the aggregate quantity of the hazardous substance specified in column 1 of that table.

#### **[16A Repairs and servicing of tank wagons**

Notwithstanding the requirements of clauses 6, 8 and 10 of this Schedule, a tank wagon may be taken into a building for repairs, vehicle inspection or servicing provided that the tank wagon load tank cannot vent inside the building, that the tank wagon is not located where it can be subject to heating, that no ignition source is permitted within 8 metres of the load tank and, in the case of emergency repairs, that the driver or other responsible representative of the owner remains with the vehicle until the repair is completed.

### **Part 3**

#### **Separation of substances present at hazardous substance location**

##### **17 Application of this Part**

This Part applies to a class 2.1.1, or class 2.1.2, or class 3.1 hazardous substance that is present at a hazardous substance location.

##### **18 Requirement to establish controlled zone**

- (1) The person in charge of a hazardous substance location at which a class 2.1.1, or class 2.1.2, or class 3.1 hazardous substance is present must—
  - (a) establish a controlled zone around the [hazardous substance location that complies with this Part; and
  - (b) exclude all non-authorised personnel from that controlled zone.

- (2) Subclause (1)(b) does not apply if the controlled zone—
- (a) includes 1 or more areas for the retail sale of a hazardous substance referred to in subclause (1) to which the public have access; and
  - (b) warning signs are provided that are visible to persons in the controlled zone that specify that no ignition source may be brought within that controlled zone.

**19 Separation of class 2.1.1 permanent gas from boundary of controlled zone**

- (1) This clause applies to—
- (a) 1 or more cylinders that contains, or each contain, as the case may be, a class 2.1.1 permanent gas to which this Part applies; or
  - (b) an above ground stationary tank [or transportable container or tank wagon that contains a class 2.1.1 permanent gas to which this Part applies.
- [(1A) A vehicle filling point, for a class 2.1.1 permanent gas, must be separated by a distance of 2.5 metres from the place of storage of class 2.1.1 permanent gas.
- (2) A cylinder to which this clause applies must be separated from the boundary of the controlled zone by not less than—
- (a) if the controlled zone abuts an area of high intensity land use, the distance specified in column 2 of the table set out in clause 30(1) opposite the aggregate volume of the permanent gas contained in all of the cylinders to which this clause applies specified in column 1 of that table; or
  - (b) [if the controlled zone abuts an area of low intensity land use, the distance specified in column 3 of the table set out in clause 30(1) opposite the aggregate volume of the permanent gas contained in all of the cylinders to which this clause applies specified in column 1 of that table.
- [(2A) Subclause (2) does not apply to the storage of a class 2.1.1 permanent gas in quantities not exceeding 100m<sup>3</sup> and which is intended to be used on the premises.
- (3) An above ground stationary tank [or transportable container or tank wagon to which this clause applies must be separated from the boundary of the controlled zone by not less than—
- (a) if the controlled zone abuts an area of high intensity land use, the distance specified in column 2 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table; or
  - (b) if the controlled zone abuts an area of low intensity land use, the distance specified in column 3 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table.
- (4) A [tank fill transfer point that is connected to an above ground stationary tank to which this clause applies must be separated from the boundary of the controlled zone by not less than—

- (a) if the controlled zone abuts an area of high intensity land use, the distance specified in column 2 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank that is connected to the [tank fill transfer point specified in column 1 of that table; or
- (b) if the controlled zone abuts an area of low intensity land use, the distance specified in column 3 of the table set out in clause 30(1) opposite the volume of the permanent gas contained in the above ground stationary tank that is connected to the [tank fill transfer point specified in column 1 of that table.

## **20 Separation of cylinders containing class 2.1.1 liquefiable gas from boundary of controlled zone**

- (1) 1 or more cylinders containing a class 2.1.1 liquefiable gas to which this Part applies must be separated from the boundary of the controlled zone by not less than—
  - (a) if the controlled zone abuts an area of high intensity land use, the distance specified in column 2 of the table set out in clause 30(2) opposite the aggregate quantity of liquefiable gas contained in all of the cylinders at the hazardous substance location specified in column 1 of that table; or
  - (b) if the controlled zone abuts an area of low intensity land use, the distance specified in column 3 of the table set out in clause 30(2) opposite the aggregate quantity of liquefiable gas contained in all of the cylinders at the hazardous substance location specified in column 1 of that table.
- [(1A) [For cylinders which are located within 1 metre of a building and which individually or in aggregate, as the case may be, contain up to 100 kg of a class 2.1.1 liquefiable gas must not have any opening located-
  - (a) below the top of the cylinder; and
  - (b) within 1 metre of any cylinder.
- (2) Subclause (1)(a) does not apply to 1 or more cylinders present at a hazardous substance location that contains, or each contain in aggregate, as the case may be, [greater than 100 kg and up to 300 kg of class 2.1.1 liquefiable gas if—
  - (a) there are no buildings within 2 metres of the cylinder or cylinders; or
  - (b) there are 1 or more buildings within 2 metres of the cylinder or cylinders [and —
    - [(i) the walls of the buildings behind and 2 metres either side of the cylinders are constructed of fire resisting materials; and
    - (ii) [the building does not have any opening located—
      - (A) below the top of any cylinder; [and
      - (B) within 2 metres of any cylinder.
- [(2A) Subclause 1(a) does not apply to cylinders present at a hazardous substance location that contain greater than 300 kg and up to 1,000 kg of class 2.1.1 liquefiable gas if-

- (a) there are no buildings within 2 metres of the cylinder or cylinders; or
- (b) there are 1 or more buildings within 2 metres of the cylinder or cylinders and-
  - (i) the wall of the building (or a wall between the cylinders and the building) is:
    - (A) vapour tight; and
    - (B) has a minimum fire resistance rating of 60/60/60 minutes for the length of the wall directly behind the cylinders and extending at each end to a distance of at least 2 metres from the end of the bank of cylinders; and
  - (ii) any building within 2 metres of the cylinder or cylinders does not have any opening located:
    - (A) below the top of the cylinder; and
    - (B) within 2 metres either side of the cylinder.

[3] In the case of direct-fired vaporisers the requirements set out in clause 55(2) of Schedule 8 of this notice must be complied with.

**21 Separation of above ground stationary tank[, transportable container or tank wagon and [tank fill transfer point for class 2.1.1 liquefiable gas from boundary of controlled zone**

An above ground stationary tank [or transportable container or tank wagon that contains a class 2.1.1 liquefiable gas to which this Part applies, and each [tank fill transfer point connected to [them , must be separated from the boundary of the controlled zone by not less than—

- (a) if the controlled zone abuts an area of high intensity land use, the distance specified in column 2 of the table set out in clause 30(3) opposite the capacity of the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table; or
- (b) if the controlled zone abuts an area of low intensity land use, the distance specified in column 3 of the table set out in clause 30(3) opposite the capacity of the above ground stationary tank [or transportable container or tank wagon specified in column 1 of that table.

[Notwithstanding the above, a tank fill zone need not be separated from the boundary of the controlled zone by any more than 15 metres.

**[21A Separation of cylinder filling stations for class 2.1.1 liquefiable gas from boundary of controlled zone**

Cylinder filling stations are to be installed so as to ensure a separation distance of at least-

- (a) 15 metres from an area of high intensity or low intensity land use, where the quantity of class 2.1.1A liquefiable gas stored in cylinders at the filling station is 1,000 kg or greater; or
- (b) 8 metres from an area of high intensity or low intensity land use, where the quantity of class 2.1.1A liquefiable gas stored in cylinders at the filling station is more than 100 kg but less than 1,000 kg; or

- (c) 6 metres from an area of high intensity land use and 3 metres from an area of low intensity land use where the quantity of class 2.1.1A liquefiable gas stored in cylinders at the filling station, is less than 100 kg.

**22 Separation of building holding class 2.1.2 flammable aerosols [and threaded or self-sealing gas cartridges of LPG from boundary of controlled zone**

- (1) This clause applies to a building that holds class 2.1.2 flammable aerosols [and threaded or self-sealing gas cartridges of LPG of up to 1,000 ml water capacity manufactured to EN 417 or other approved standards, the aggregate capacity of which exceeds 3,000 litres.
- (2) If the controlled zone containing a building to which this clause applies abuts an area of high intensity land use, the building must be separated from the boundary of the controlled zone by not less than 3 metres.

**23 Separation of above ground stationary tank [transportable container or tank wagon containing class 3.1 hazardous substance from boundary of controlled zone**

- (1) [This clause does not apply to—
  - (a) a domestic oil-burning installation that-
    - (i) includes a stationary tank that has a capacity that does not exceed 1,200 litres; and
    - (ii) complies with clause 64 of Schedule 8 of this notice; or
  - (b) a stationary tank that complies with clause 62(3)(b) of Schedule 8 of this notice.
- (2) An above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon that contains a class 3.1 hazardous substance to which this Part applies must be separated from the boundary of the controlled zone—
  - (a) if the controlled zone abuts an area of high intensity land use, by not less than the distance specified in whichever of column 2 or column 3 of the table in clause 30(4) relates to the substance opposite the capacity of the above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon in column 1 of that table; or
  - (b) if the controlled zone abuts an area of low intensity land use, by not less than the distance specified in column 4 of the table in clause 30(4) opposite the capacity of the above ground stationary tank [or transportable container that complies with Chapter 6.7 of the UN Model Regulations or tank wagon in column 1 of that table.
- [(3) Where an above ground stationary tank, transportable container or tank wagon, having multiple compartments is installed, the separation distance to areas of high intensity land use and low intensity land use will be based on the aggregate volume of the compartments and the lowest flash point substance stored in any of the compartments.

**24 Requirement to hold certain packages [or transportable containers of class 3.1 hazardous substance in building of a certain type**



- (1) A class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies that is contained in 1 or more packages [or transportable containers that comply with Chapter 6.5 of the UN Model Regulations, other than a package [or container to which clause 28 applies, must be held in a building of a type specified in subclause (2).
- (2) The types are—
  - (a) a type A building; or
  - (b) a type B building; or
  - (c) a type C building; or
  - (d) a type D building.
- (3) Despite subclause (1), a class 3.1A, or class 3.1B, or class 3.1C hazardous substance that is contained in 1 or more packages may be held in a storage cabinet—
  - (a) that is constructed and installed in accordance with section 4.9 of AS 1940; and
  - (b) if—
    - (i) each package does not contain more than 20 litres of the hazardous substance; and
    - (ii) the aggregate quantity of all packages of class 3.1A, or class 3.1B, or class 3.1C hazardous substance does not exceed 250 litres.

**25 Separation of building holding packages up to 60 litres of class 3.1A or class 3.1B hazardous substances or packages of any amount of class 3.1C hazardous substance from boundary of controlled zone**

- (1) This clause applies to every type A, or type B, or type C, or type D building that holds 1 or more packages that contains, or each contain, as the case may be,—
  - (a) up to 60 litres of a class 3.1A or class 3.1B hazardous substance to which this Part applies; or
  - (b) a class 3.1C hazardous substance to which this Part applies.
- (2) If the controlled zone in which a building to which this clause applies abuts an area of high intensity land use, the building must be separated from the boundary of the controlled zone by not less than the distance specified in column 4 of the table set out in clause 30(5) opposite the aggregate quantity of all packages of class 3.1A, or class 3.1B, or class 3.1C hazardous substances specified in whichever of column 1, or column 2, or column 3 of that table relates to the building.

**[25A Storage of packages holding class 3.1 hazardous substances in a store in a building]**

- (1) Substances of hazard classification 3.1 may be situated in a store inside a building provided that they are stored—
  - (a) in a room with the walls and ceiling constructed with a 60/60/60 fire resistance rating and—
    - (i) not more than 450 litres is situated in the store; and
    - (ii) the substances are stored in containers, each not exceeding 20 litres capacity; or

- (b) in a room with the walls and ceiling constructed of reinforced concrete or equivalent with a 120/120/120 fire resistance rating and—
    - (i) not more than 2000 litres is situated in the store; and
    - (ii) the substances are stored in containers, each not exceeding 60 litres capacity, provided that one container of a maximum capacity of 250 litres may be located in the store; or
  - (c) in a type D building which shall have no openings to the interior of the building except for a door that is self-closing in the event of a fire and which opens into a type 1, type 2 or type 3 building.
- (2) For subclause (1), where the quantity of class 3.1 hazardous substances in the store does not exceed 2000 litres, the door may open into the building if—
- (a) the door of the room has a fire resistance rating of -/60/60 in the case of (1)(a) and -/120/120 in the case of (1)(b) or (1)(c); and
  - (b) the door is fitted to be self-closing in the event of a fire near the doorway; and
  - (c) there are no combustible materials within 3 metres of the doorway; and
  - (d) no portion of the structure within 3 metres of the doorway is constructed of combustible materials; and
  - (e) the door is kept closed except when goods are placed into or removed from the store.
- (3) A building constructed in accordance with subclause (1)(c) or a building which has more than two walls with a fire resistance rating of 240/240/240 in common with another building that is an area of regular habitation shall have walls constructed of reinforced concrete or equivalent and shall not contain more than—
- (a) 5000 litres of class 3.1A and 3.1B substances in aggregate, in containers exceeding 60 litres capacity; or
  - (b) 10,000 litres in aggregate in the case of all other storage of class 3.1A and 3.1B substances in containers not exceeding 60 litres capacity and/or class 3.1C substances in containers not exceeding 250 litres capacity.

### **25B Deemed compliance with Parts 2 and 3 of this Schedule**

Where a building to which the public have access holds a class 3.1 substance that is—

- (a) available for retail sale; and
- (b) contained in closed containers of capacity not exceeding 10 litres; and
- (c) the quantities are not greater than the quantities specified in Table 4 of Schedule 3 to the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001,

the separation distance specified in Parts 2 and 3 of this Schedule from the building may be zero.

**26 Separation of building holding [transportable containers or packages of more than 60 litres of class 3.1A or class 3.1B [or class 3.1C hazardous substances in controlled zone from boundary of controlled zone**

- (1) This clause applies to every type A, or type B, or type C, or type D building that holds 1 or more packages [or transportable containers that comply with Chapter 6.5 of the UN Model Regulations that contains, or each contain, as the case may be, more than 60 litres of a class 3.1A or class 3.1B [or class 3.1C hazardous substance to which this Part applies.
- (2) If the controlled zone in which a building to which this clause applies abuts an area of high intensity land use, the building must be separated from the boundary of the controlled zone by not less than the distance specified in column 4 of the table set out in clause 30(6) opposite the aggregate quantity of all packages of class 3.1A and class 3.1B hazardous substances specified in whichever of column 1, or column 2, or column 3 of that table relates to the building.

**27 Separation of transfer point for class 3.1 hazardous substance from boundary of controlled zone**

A transfer point used [to fill a tank wagon with a class 3.1 hazardous substance to which this Part applies must be separated from the boundary of the controlled zone if the controlled zone abuts an area of high intensity land use by not less than the distance specified in whichever of column 1 or column 2 of the table set out in clause 30(7) relates to the classification of the substance.

**28 Class 3.1 hazardous substance being used or in open package or container to be held in building of a certain type**

- (1) This clause applies to a class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies that is—
  - (a) being used; or
  - (b) contained in 1 or more packages or containers, 1 or more of which is open.
- (2) A class 3.1A or class 3.1B [or class 3.1C hazardous substance to which this clause applies[, and which are located in a building, must be held in—
  - (a) a type 1 building; or
  - (b) a type 2 building; or
  - (c) a type 3 building[; or
  - [(d) a paint mixing room that is in compliance with AS/NZS 4114 .

**29 Separation of building holding package containing class 3.1 hazardous substance from boundary of controlled zone**

- (1) This clause applies to every [type of building specified in clauses 28(2)(a) to (d) in which a class 3.1A, or class 3.1B, or class 3.1C hazardous substance to which this Part applies is—
  - (a) being used; or
  - (b) contained in 1 or more packages or containers, 1 or more of which is open.

- (2) A building to which this clause applies—
- (a) if the building is a type 1 building [or paint mixing room that is in compliance with AS/NZS 4114 , must not hold—
    - (i) a class 3 hazardous substance in a container that is more than 20 litres in capacity; and
    - (ii) an aggregate quantity of class 3 hazardous substances of more than 450 litres; and
  - (b) if the building is a type 2 or type 3 building, must not hold more than—
    - (i) in the case of a class 3.1A or class 3.1B hazardous substance, an aggregate quantity 7,500 litres; or
    - (ii) in the case of a class 3.1C hazardous substance, 10,000 litres; and
  - (c) must be constructed so as to hold any class 3.1A or class 3.1B hazardous substance that exceeds 60 litres, or a class 3.1C hazardous substance that exceeds 100 litres, as close as practicable to ground level.
- [(2A) For the purposes of subclause (2)(b), where the building holds both class 3.1A and/or 3.1B substances, and also class 3.1C substances, the relevant quantity has been exceeded if the quantity-ratio is greater than 1.
- (3) Every building to which this clause applies must be separated from an area of high intensity land use by not less than—
- (a) in the case of a class 3.1A or class 3.1B hazardous substance, the distance specified in whichever of column 2, or column 3 of the table set out in clause 30(8) relates to that type of building opposite the aggregate in quantity of the hazardous substance specified in column 1 of that table; or
  - (b) in the case of a class 3.1C hazardous substance, the distance specified in whichever of column 2 or column 3 in the table set out in clause 30(8) relates to that type of building opposite the aggregate quantity of the hazardous substance specified in column 1 of that table.
- [(4) Despite the provisions of subclauses (1) to (3), when the maximum quantity of class 3.1 hazardous substances used in any building at any one time does not exceed 60 litres of class 3.1A and class 3.1B substances in aggregate, or [250 litres of class 3.1C substances, the use of those hazardous substances other than in a type 1, type 2, or type 3 building is permitted under the following conditions:
- (a) the building must be occupied by the same organisation that is storing the hazardous substances; and
  - (b) that part of the building in which the activity involving exposure of the hazardous substances to the atmosphere is being carried out must be [constructed of fire resisting materials to at least 6 metres in all directions from any container in which hazardous substances are used; and
  - (c) no source of ignition shall be permitted within 15 metres of the area where work involving the exposure to the atmosphere of class 3.1A and 3.1B hazardous substances in excess of 30 litres in total is being carried out unless the working area is protected by an intervening wall.

## Part 4

### Calculation of Distances

#### 30 Tables

(1) The table referred to in clauses 6 and 19 is:

<b>Volume of permanent gas (m3)</b>	<b>Area of high intensity land use (metres)</b>	<b>Area of low intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
Less than 100	5	5
100 to less than 500	10	5
Equal to or greater than 500	15	5

(2) The table referred to in clauses 7 and 20 is:

<b>Aggregate quantity of liquefiable gas in cylinders only (kg)</b>	<b>Area of high intensity land use (metres)</b>	<b>Area of low intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
Up to 100	0	0
[300	2	0
500	2	2
2,000	3	2
5,000	5	3
10,000	7	4
50,000	8	5
More than 50,000	15	8

(3) The table referred to in clauses 8 and 21 is:

<b>Water capacity of tank [or container (litres)]</b>	<b>Area of high intensity land use (metres)</b>	<b>Area of low intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
Up to 500	2	2
1,000	3	3
5,000	8	5
10,000	11	7
20,000	15	9
50,000	17	10
100,000	21	12
200,000 or more	28	14

(4) The table referred to in clauses 10 and 23 is:

<b>Capacity (litres)</b>	<b>Area of high intensity land use (metres)</b>		<b>Area of low intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
	<b>3.1 A-C</b>	<b>3.1 D</b>	<b>3.1 A-C</b>
Up to 600	2	0	0
1000	2	1.5	0
2500	3	2	0
5000	4	3	2
25000	5	4	3
50000	6	5	4
100,000	7	6	4
250,000	8	7	4.5
500,000	10	8	5
1,000,000	11	9	7

2,000,000	13	10	8
4,000,000	15	12	9
10,000,000	20	16	10
40,000,000 and over	30	25	15

(5) The table referred to in clauses 12 and 25 is:

<b>Aggregate quantity of class 3.1A or class 3.1B or class 3.1C hazardous substance (litres)</b>			<b>Area of high intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
<b>Type A or B building</b>	<b>Type C building</b>	<b>Type D building</b>	
250	1,000	20,000	0
500			1
750	2,000		2
2,000		50,000	3
		100,000	4
	10,000	200,000	5
		400,000 or more	6
10,000	100,000		10
25,000	400,000 or more		15
40,000			17
60,000 or more			20

(6) The table referred to in clauses 13 and 26 is:

<b>Aggregate quantity of class 3.1 A or class 3.1B [or class 3.1C hazardous substance (litres)</b>			<b>Area of high intensity land use (metres)</b>
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
<b>Type A or B building</b>	<b>Type C building</b>	<b>Type D building</b>	
		10,000	0
	500		2
250	2,000		3
		20,000	4
1,000		100,000	6
		200,000	8
	10,000	400,000 or more	10
10,000	25,000		15
	40,000		17
20,000	60,000		20
	200,000 or more		25
40,000			27
60,000 or more			30

(7) The table specified in clauses 14 and 27 is:

<b>Area of high intensity land use (metres)</b>	
<b>Column 1</b>	<b>Column 2</b>
<b>3.1 A, B and C</b>	<b>3.1 D</b>
10	5



- (8) The table specified in clauses 16 and 29 is:

	Area of high intensity land use (metres)	
Column 1	Column 2	Column 3
Quantity of class 3.1A and class 3.1B hazardous substance (litres)	Type 2 building	Type 3 building
Up to 1,750	0	0
3,000	5	0
7,500	8	5
Quantity of class 3.1C hazardous substance (litres)		
Up to 2,500	0	0
4,000	5	0
10,000	8	5

### 31 Calculation of distances for intermediate capacities

- (1) In Part 2 and Part 3, if the—
- (a) capacity of an above ground stationary tank; or
  - (b) aggregate quantity of a hazardous substance to which this Part applies contained in—
    - (i) 1 or more cylinders; or
    - (ii) 1 or more packages; or
    - (iii) 1 or more packages or containers, 1 or more of which is open,—

(as the case may be) is between any 2 successive capacities (an **intermediate capacity**) specified in relation to that capacity or quantity, the separation distance must be calculated in accordance with subclause (2).

- (2) The separation distance that applies to an intermediate capacity is the distance that is proportional to the difference in capacity or quantity, as the case may be.

### 32 Distance not to extend beyond boundary unless agreed

A separation distance calculated under Part 2 or Part 3 must not be calculated beyond the boundary of the property at which the relevant hazardous substance is present unless the person in charge of any property beyond that boundary agrees that the separation distance may be calculated to include the property of which the person is in charge.

**33 Reduction of separation distance [and variation of other matters in certain circumstances]**

- (1) In respect of a hazardous substance under Part 2 or Part 3 of this Schedule, the Authority may reduce the separation distance required or vary other matters—
- (a) upon application by the person in charge of a place at which a hazardous substance is located; or
  - (b) by approving a code of practice under section 79 of the Act that specifies requirements equivalent to the requirements specified in this Schedule.
- (2) The Authority may reduce the separation distance by up to 50% if—
- (a) in the case of a hazardous substance contained in an above ground stationary tank, the tank is designed and constructed in accordance with SWRI 95-03; or
  - (b) there is an intervening wall, and—
    - (i) the distance is measured in the horizontal plane around the end of any intervening wall by the most direct line to—
      - (A) the area of high intensity land use; or
      - (B) the area of low intensity land use; or
      - (C) boundary of the controlled zone; and
    - (ii) the wall—
      - (A) has a fire resistance rating of 240/240/240 minutes [or, where the site on the other side of the boundary adjacent to the premises is a low intensity land use, the wall is constructed of fire-resisting materials ; and
      - (B) is vapour-tight; and
      - (C) is of sufficient size to protect the area of high intensity land use or area of low intensity land use (whichever is applicable) from a hazardous substance fire.
- (3) When considering an application under subclause (1), the Authority must take into account—
- (i) the quantity and location of the relevant hazardous substance, and any other hazardous substance located at that place; and
  - (ii) the capacity of any fire fighting facilities at that place; and
  - (iii) the fire-resistance rating of any structure (for example, walls, floors, ceilings, and doors) that contain the hazardous substance; and
  - (iv) in the case of a hazardous substance in an above ground stationary tank, whether the design and construction of the tank will protect the tank from fire.
- [(4) When approving an application under this clause, the Authority may set the time within which the relevant requirements must be met [or other such matters as it thinks fit .

## Part 5

### Transitional Provisions

#### 34 Type E buildings – compliance plans

- (1) In this Part **type E building** means a building or storage place approved in accordance with the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 that was in use immediately before the commencement of this notice.
- (2) A type E building is not required to comply with this Schedule (except this Part) if –
  - (a) it is used for the purpose for which it was used immediately before the commencement of this notice; and
  - (b) the person in charge of it complies with subclauses (3) to (6).
- (3) The person in charge of a type E building must –
  - (a) no later than 2 years after the commencement of this notice, engage a test certifier to undertake an assessment and prepare a report as to the extent to which the type E building complies with this Schedule; and
  - (b) no later than 3 years after the commencement of this notice, give the Authority a compliance plan setting out a programme for bringing the type E building into compliance with this Schedule (which may include meeting the criteria set out in clause 33).
- (4) Upon receiving a compliance plan in accordance with subclause (3)(b) the Authority must either approve it or decline to approve it.
- (5) The Authority and the person who gave the compliance plan to the Authority may, after the compliance plan is approved, from time to time agree amendments to the compliance plan.
- (6) The person in charge of the type E building in respect of which a compliance plan has been approved must comply with the compliance plan (as amended from time to time).

#### 35 Previously approved installations of class 2.1.1 liquefiable gas cylinders and above ground tanks

- (1) Where the requirements of clauses 7 or 8 or 20 or 21 of Schedule 10 of this notice are not met, but the location of the cylinders or above ground tanks containing class 2.1.1 liquefiable gas –
  - (a) has been approved and a licence issued in accordance with section 9 of the Dangerous Goods Act 1974; and
  - (b) the cylinders or above ground tanks were in use in accordance with that licence immediately before the date of commencement of this notice

they are deemed to comply with this Schedule if the separation distance is greater than 50% of the separation distance required under Part 2 or Part 3 of this Schedule and:

- (i) there is an intervening wall; and

(ii) the distance measured in the horizontal plane around the end of the intervening wall by the most direct line to the area of high intensity land use or area of low intensity land use (whichever is the case) at least meets the requirements of the tables set out in clauses 30(2) or 30(3) (whichever is applicable); and

[(iii) the reduced separation distance may be applied only to one side or two adjacent sides.

(2) For the purposes of subclause (1): -

(a) in the case of separation from an area of high intensity land use, the intervening wall must -

(i) have a minimum fire resistance rating of 240/240/240 minutes for at least that length of the wall that separates the container, any connections, associated pipework and operable fittings in a line of sight from the area being protected; and

(ii) for the length of the wall that is not included in sub-paragraph (i), be constructed of fire-resisting materials as a minimum standard; and

(iii) be vapour tight; and

(iv) be greater than 1.8 metres high or 0.6 metres above the top surface of the tank; [and

(b) in the case of separation from an area of low intensity land use, the intervening wall must-

(i) be constructed of fire-resisting materials; and

(ii) be vapour tight; and

(iii) be greater than 1.8 metres high or 0.6 metres above the top surface of the tank; and

[(c) in the case of cylinders, above ground tanks or cylinder filling stations which are located in proximity to a high density traffic route, the high density traffic route shall be considered as being an area of low intensity land use until such time as an upgrade takes place and the site is reconfigured.

## Schedule 11

### Transitional controls and variations to controls

#### *Preliminary provisions*

#### **1 Purpose of Schedule**

- (1) The purpose of this Schedule is to provide for a transitional period to allow persons dealing with hazardous substances to which this notice applies to comply with the Act, and controls under the Act, in relation to those hazardous substances.
- (2) This Schedule achieves the purpose described in subclause (1) by—
  - (a) providing that, for a period of 6 months from the commencement of this notice, a person may comply with the obligations and restrictions that applied to those hazardous substances immediately before the commencement of this notice, as if this notice (other than this Schedule) had not been given; and
  - (b) providing for obligations and restrictions that apply after the expiry of that six month period to progressively impose the requirements of the Act, and controls under the Act, in relation to those hazardous substances.

#### **2 Interpretation**

In this Schedule, unless the context otherwise requires,—

**[compressed gases** means the hazardous substances listed in Tables 1 to 4 (inclusive) of Schedule 1 to this notice which are also compressed gases for the purposes of the Hazardous Substances (Compressed Gases) Regulations 2004.]

**cylinder** has the meaning given to it by regulation 3 of the Hazardous Substances (Compressed Gases) Regulations 2004.

**[tank wagon** has the meaning given to it by regulation 3 of the Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004.]

**tracked substance** means a substance in respect of which compliance with the Hazardous Substances (Tracking) Regulations 2001 is required.

#### **3 Persons may comply with Act and controls at any time**

Except as specifically provided in this Schedule, this Schedule does not prevent a person from complying with the Act, and controls under the Act, as if this Schedule did not exist.

#### **4 Schedule does not apply to new locations or new substances at existing locations**

Nothing in this Schedule applies to any of the following:

- (a) a hazardous substance location that was not in use immediately before 1 April 2004:

- (b) a hazardous substance at a hazardous substance location if the hazardous substance was not permitted to be stored at the location immediately before that date:
- (c) a stationary container system to which Schedule 8 applies:

## **5 Compliance with obligations and restrictions as at 31 March 2004 for transitional period**

- (1) A person complies with the Act in relation to a hazardous substance to which this notice applies, if the person complies with all obligations and restrictions that were in force in relation to the hazardous substance as at the close of 31 March 2004.
- (2) This subclause is subject to any other provision of this Schedule.
- (3) This clause expires with the close of 30 September 2004.

### *Hazardous substance locations*

## **6 Transitional provision for hazardous substance locations**

- (1) This clause applies to every licence granted or deemed to be granted by the Authority under section 217 of the Act and every provisional licence granted under section 218 of the Act, that is in force immediately before the close of 31 March 2004.
- (2) Every licence to which this clause applies continues in force for the purposes of this Schedule.
- (3) On and from 1 October 2004 every licence to which this clause applies is deemed to be a test certificate issued under—
  - (a) in the case of a class 2.1.1, 2.1.2, or 3.1 substance, regulation 81 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001; or
  - (b) in the case of a class 3.2 or 4 substance, regulation 82 of those regulations; or
  - (c) in the case of a class 5 substance, regulation 98 or regulation 120 of those regulations.
- (4) A test certificate referred to in subclause (3) expires—
  - (a) in the case of every tracked substance, at the close of 31 December 2004:
  - (b) in the case of the substances specified in subclause (5)—
    - (i) if the Authority approves an implementation plan under clause 7, a date specified by the Authority when it approves the implementation plan; or
    - (ii) in every other case, at the close of 31 December 2004:
  - (c) in the case of any other substance,—

- (i) if an application is made in accordance with clause 7, on the date that the application is granted or declined; or
  - (ii) if an application is not made in accordance with clause 7, at the close of the month in which the application is required by that clause to be made; or
  - (iii) if the Authority approves an implementation plan under clause 7, a date specified by the Authority when it approves the implementation plan.
- (5) The substances referred to in subclause (4)(b) are—
- (a) every class 2.1.1A substance held in one or more stationary containers (not being 1 or more cylinders) at a hazardous substance location that have a water capacity, or combined water capacity, as the case may be, of 1,800 litres or greater; or
  - (b) petrol, aviation gasoline, racing gasoline, and substances of class 3.1B and 3.1C held at a hazardous substance location where the combined quantity of those substances is 50,000 litres or greater.
- (6) A date specified by the Authority under subclause (4)(b)(i) or subclause (4)(c)(iii) must not be later than 30 June 2006.
- (7) While a test certificate referred to in subclause (3) is in force, regulations 77(2), 94(3), and 116(3) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001 do not apply to the hazardous substance location to which the test certificate relates.

## **7 Application for test certificate for hazardous substance location**

- (1) The holder of a test certificate referred to in clause 6(3) must apply to a test certifier for a test certificate of a type referred to in clause 6(3).
- (2) An application under subclause (1) (other than an application in relation to a tracked substance) must be made before the close of the month specified in column 1 of the following table opposite the first letter (or first 2 letters, as the case may be) of the surname, in the case of a natural person, or the name, in the case of any other person, specified on the licence referred to in clause 6(1) as the holder of the licence, in column 2 of the table:

<b>Column 1</b>	<b>Column 2</b>
<b>Month</b>	<b>First letter(s) of name</b>
October 2004	A
December 2004	B
February 2005	Ca to Ck

March 2005	Cl to Cz
June 2005	D, E, F
August 2005	G, H
October 2005	I, J, K, L
November 2005	M
January 2006	N, O, P
March 2006	Q, R, S
May 2006	T, U, V
June 2006	W, X, Y, Z, Other

- (3) Subclauses (1) and (2) do not apply if, on the application of the holder of a test certificate, the Authority approves a plan setting out the times by which applications for test certificates for 1 or more hazardous substances locations referred to in the plan must be made.

*Approved handlers*

**8 Approved handler requirements: locations requiring test certificates**

- (1) This clause applies to each hazardous substance location in respect of which a licence referred to in clause 6(1) applies.
- (2) The holder of the licence is not required to comply with the regulations specified in subclause (3) in relation to the hazardous substances to which the licence applies at that location until—
- (a) in the case of every tracked substance, 1 January 2005:
  - (b) in the case of the substances specified in clause 6(5)—
    - (i) if the Authority approves a plan under clause 10, a date specified by the Authority when it approves the plan; or
    - (ii) in every other case, 1 January 2005:
  - (c) in the case of any other substance,—
    - (i) if the Authority approves a plan under clause 10, a date specified by the Authority when it approves the plan; or
    - (ii) in every other case, the day after the date on which the test certificate for the location referred to in clause 6(3) expires under clause 6(4).
- (3) The regulations are—



- (a) regulations 56, 60(2), 83(1)(b), 89, 94(4), 99(b), 101(1)(c), 107, 116(4), 121(b), and 124(1)(c) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001; and
- (b) regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001; and
- (c) regulation 6 of the Hazardous Substances (Tracking) Regulations 2001.

## **9 Approved handler requirements: locations for which test certificate not required**

- (1) This clause applies to any person in charge of a place where a hazardous substance is present that is not a hazardous substance location to which clause 8 applies.
- (2) The person in charge of a place to which this clause applies is not required to comply with the regulations specified in clause 8(3) until—
  - (a) in the case of a tracked substance, 1 January 2005; or
  - (b) in the case of any other substance,—
    - (i) if the Authority approves a plan under clause 10, a date specified by the Authority when it approves the plan; or
    - (ii) in every other case, the close of the month specified in column 1 of the table in clause 7(2) opposite the first letter (or first 2 letters, as the case may be) of the surname, in the case of a natural person, or the name, in the case of any other person, of the person in charge of the location, in column 2 of that table.

## **10 Implementation plan for approved handler requirements**

- (1) The Authority may, on the application of any person, approve a plan setting out 1 or more dates by which the requirements of the regulations specified in clause 8(3) must be complied with for the hazardous substance locations or hazardous substances, as the case may be, to which the plan relates.
- (2) The Authority may not approve a plan under subclause (1) that provides for those requirement to be complied with by a date that is later than 30 June 2006.

### **[10A Test certificates for approved handlers**

- (1) Where any regulation specified in clause 8(3) requires that something be done by an approved handler, that regulation is complied with if that thing is done by a person who has been issued a test certificate of one of the types specified in subclause (2).
- (2) The types of test certificate are—
  - (a) a test certificate issued under regulation 4 of the Hazardous Substance and New Organisms (Personnel Qualifications) Regulations 2001:
  - (b) a test certificate issued by a test certifier to a person who establishes, to the satisfaction of the test certifier, that he or she, during the whole of a qualifying period referred to in subclause (3), has

been handling the hazardous substance concerned or any other substance with similar hazardous properties in the relevant phase of its lifecycle under one or more of the following enactments:

- (i) Animal Remedies Act 1967:
  - (ii) Dangerous Goods Act 1974:
  - (iii) Explosives Act 1957:
  - (iv) Gas Act 1992:
  - (v) Health Act 1956:
  - (vi) Health and Safety in Employment Act 1992:
  - (vii) Land Transport Act 1998:
  - (viii) Pesticides Act 1979:
  - (ix) Toxic Substances Act 1979:
  - (x) Parts XII to XV of the Act.
- (3) For the purposes of subclause (2) a **qualifying period** is any consecutive 2 year period commencing on or after 2 July 1999 and ending on or before the close of 1 July 2006.
- (4) This clause expires with the close of 31 December 2006.]

## **11 Packaging**

- (1) Packaging of a hazardous substance to which this notice applies is not required to comply with the Hazardous Substances (Packaging) Regulations 2001 if it complies with the requirements for packaging that applied to the hazardous substance at the close of 31 March 2004.
- (2) This clause expires with the close of 31 March 2006.

## **12 Identification, documentation, and signage**

- (1) A person is not required to comply with the regulations specified in subclause (2) in relation to a hazardous substance to which this notice applies if the person complies with the requirement for identification, documentation, and signage in relation to that substance that applied to the hazardous substance at the close of 31 March 2004.
- (2) The regulations are—
- (a) the Hazardous Substances (Identification) Regulations 2001; and
  - (b) regulations 11 to 14 of the Hazardous Substances (Disposal) Regulations 2001; and
  - (c) regulations 6-20, 42 of the Hazardous Substances (Emergency Management) Regulations 2001.

- (3) This clause expires with the close of 31 March 2006.

### **13 Fire extinguishers and emergency management response plans**

- (1) A person in charge of a place where a hazardous substance to which this notice applies is present is not required to comply with regulation 21 to 34 of the Hazardous Substances (Emergency Management) Regulations 2001 [or Part 9 of the Hazardous Substances (Compressed Gases) Regulations 2004] if that person complies with the requirements for fire extinguishers and emergency management response plans that applied in relation to the substance at the close of 31 March 2004.
- (2) This clause expires with the close of 31 March 2005.

*[Periodic Testers – Cylinders]*

### **[14. Transitional provisions for cylinders**

- (1) A person is not required to comply with regulations 51 – 55 of the Hazardous Substances (Compressed Gases) Regulations 2004 in relation to cylinders used for storing and transporting compressed gases and which comply and continue to comply with the requirements for the testing of cylinders that applied to them under regulation 15 of the Dangerous Goods (Class 2 – Gases) Regulations 1980.
- (2) This clause expires with the close of 30 September 2005.]

*[Approved Fillers]*

### **[15. Transitional provision for compressed gases**

- (1) A person is not required to comply with regulations 59 and 60 of the Hazardous Substances (Compressed Gases) Regulations 2004 in relation to compressed gases if the person can establish as at 30 September 2004 that he or she has had the appropriate instruction in the hazards and procedures relating to those gases in accordance with regulation 132 of the Dangerous Goods (Class 2 – Gases) Regulations 1980.
- (2) This clause expires with the close of 30 September 2005.]

### **[16. Validity of approved filler certificates]**

[An approved filler certificate issued under regulation 60 of the Hazardous Substances (Compressed Gases) Regulations 2004 in respect of a compressed gas remains valid for a period of 5 years from the date of issue.]

### **[17. Renewal of approved filler certificates]**

[Before renewing an existing approved filler certificate in relation to compressed gases the test certifier must be satisfied that the filler meets the requirements of regulation 60(2) of the Hazardous Substances (Compressed Gases) Regulations 2004 in respect of any changes to working practices, regulations, or codes of practice which have occurred since the previous certificate was issued.]

*[Tank Wagons]*

### **[18. Transitional provision for Tank Wagons**

- (1) In this clause **the regulations** means the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004.
- (2) The person in charge of a tank wagon to which regulation 4(2) of the regulations applies but which does not meet the applicable requirements of regulations 4(3)(a) or (b) or 4(4) of the regulations must—
  - (a) no later than 2 years after the commencement of this notice, engage a test certifier qualified to issue a pre-commissioning test certificate under regulation 35 of the regulations to undertake an assessment and prepare a report as to the extent to which the tank wagon complies with the regulations; and
  - (b) if the test certifier determines that the tank wagon does not comply with the regulations, no later than 3 years after the commencement of this notice, give the Authority a compliance plan setting out—
    - (i) the test certifier's view, based on whatever information is available to the test certifier, as to the extent to which the tank wagon has been maintained and repaired to conform to the standard to which it was constructed; and
    - (ii) how, and the time within which, the tank wagon, or the operational procedures applying to it, or both, will be altered so that it complies with—
      - (A) that standard; or
      - (B) the regulations.
- (3) The Authority must, as soon as practicable after receiving a compliance plan under subclause (2)(b) —
  - (a) approve it; or
  - (b) decline to approve it.
- (4) If the Authority declines to approve a compliance plan,—
  - (a) the Authority must advise the person who gave the compliance plan to the Authority of the Authority's reasons for declining to approve it; and
  - (b) the Authority and that person must attempt to agree on amendments to the compliance plan that the Authority considers will allow it to approve the compliance plan.
- (5) If the Authority and the person who gave the compliance plan to the Authority agree on amendments to the compliance plan, the Authority must approve the compliance plan with those amendments
- (6) If, at the expiry of 20 working days after the date on which the Authority advised its reasons for declining to approve a compliance plan under subclause (4)(a), or such further period as the Authority may allow, the Authority and the person who gave the compliance plan to the Authority have not agreed on amendments to the compliance plan, the person must comply with the regulations in respect of the tank wagon to which the compliance plan applies.
- (7) The person in charge of a tank wagon in respect of which a compliance plan has been approved must comply with the compliance plan and thereafter obtain an appropriate test certificate in accordance with regulations 36 and 37 (to the extent applicable) within 2 years of the date of the compliance plan.

- (8) The person in charge of a tank wagon to which regulation 4(2) applies but which does not meet the requirements of regulations 4(3) or (4) must obtain an appropriate test certificate in accordance with regulations 36 and 37 (to the extent applicable) by 30 September 2006.
- (9) (a) A person is not required to comply with Parts 3, 4, 5 and 7 of the Regulations in relation to a tank wagon to which regulation 4(1) applies if that person complies with the relevant provisions of the Dangerous Goods (Class 2 – Gases) Regulations 1980, the Toxic Substances Regulations 1983 and the Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985.
- (b) This clause expires with the close of 30 September 2005.]

## Schedule 12

### Changes to controls relating to transportation of packaged dangerous goods

**Control – Hazardous  
Substances (Classes 1  
to 5 Controls)  
Regulations 2001**

**Changes to Controls**

[Regulation 56

This regulation applies as if the following regulation were inserted immediately after regulation 56:

**56A Exception to approved handler requirements for transportation of packaged dangerous goods**

- (1) Regulation 56 is deemed to be complied with if—
- (a) in the case of a hazardous substance being transported on land—
    - (i) in the case of a hazardous substance being transported by rail, the person who drives the rail vehicle that is transporting the substance is fully trained in accordance with an approved safety system under section 6D of the Transport Services Licensing Act 1989 or a safety system which is referred to in an approved safety case under the Railways Act 2005; and
    - (ii) in every other case, the person who drives, loads, and unloads the vehicle that is transporting the substance:
      - (A) for hire or reward, or in quantities which exceed those set out in Schedule 1 of the Land Transport Rule 45001/1: Dangerous Goods 2005, has a current dangerous goods endorsement on his or her driver licence; or
      - (B) in every other case, the Land Transport Rule 45001/1: Dangerous Goods 2005 is complied with; or
  - (b) in the case of a hazardous substance being transported by sea, one of the following is complied with:
    - (i) Maritime Rules: Part 24A – Carriage of Cargoes – Dangerous Goods (MR024A):

- (ii) International Maritime Dangerous Goods Code; or
  - (c) in the case of a hazardous substance being transported by air, Part 92 of the Civil Aviation Rules is complied with.
- (2) Subclause (1)(a)—
- (a) does not apply to a tank wagon or a transportable container to which the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004 applies; but
  - (b) despite paragraph (a), does apply to an intermediate bulk container that complies with chapter 6.5 of the UN Model Regulations.
- [(3) Subclause (1)(c)—
- (a) applies to pilots, aircrew, and airline ground personnel loading and handling a hazardous substance within an aerodrome; but
  - (b) does not apply to the storage and handling of a hazardous substance in any place that is not within an aerodrome, or within an aerodrome by non-airline ground personnel.
- (4) In this regulation, **UN Model Regulations** means the 14<sup>th</sup> revised edition of the Recommendation on the Transport of Dangerous Goods Model Regulations, published in 2005 by the United Nations.

[Regulation 83

The regulation applies to hazardous substances at a transit depot which are being transported under clause 2.3 of the Land Transport Rule Dangerous Goods 2005 Rule 45001/1 as if regulation 83(d) were omitted for separation distances between the substances being transported.

[Regulation 89

This regulation applies as if the following regulation were inserted immediately after regulation 89:

89A Exception to approved handler requirements for transportation of packaged dangerous goods

- (1) Regulation 89 is deemed to be complied with if—
- (a) in the case of a hazardous substance being transported on land—
    - (i) in the case of a hazardous substance being transported by rail, the person who drives the rail vehicle that is transporting the substance is fully trained in accordance with an approved safety

system under section 6D of the Transport Services Licensing Act 1989 or a safety system which is referred to in an approved safety case under the Railways Act 2005; and

- (ii) in every other case, the person who drives, loads, and unloads the vehicle that is transporting the substance:
  - (A) for hire or reward, or in quantities which exceed those set out in Schedule 1 of the Land Transport Rule 45001/1: Dangerous Goods 2005, has a current dangerous goods endorsement on his or her driver licence; or
  - (B) in every other case, the Land Transport Rule 45001/1: Dangerous Goods 2005 is complied with; or

- (b) in the case of a hazardous substance being transported by sea, one of the following is complied with:
  - (i) Maritime Rules: Part 24A – Carriage of Cargoes – Dangerous Goods (MR024A):
  - (ii) International Maritime Dangerous Goods Code; or
- (c) in the case of a hazardous substance being transported by air, Part 92 of the Civil Aviation Rules is complied with.

(2) Subclause (1)(a)—

- (a) does not apply to a tank wagon or a transportable container to which the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004 applies; but
- (b) despite paragraph (a), does apply to an intermediate bulk container that complies with chapter 6.5 of the UN Model Regulations.

[(3) Subclause (1)(c)—

- (a) applies to pilots, aircrew, and airline ground personnel loading and handling a hazardous substance within an aerodrome; but
- (b) does not apply to the storage and handling of a hazardous substance in any place that is not within an aerodrome, or within an aerodrome by non-airline ground personnel.

(4) In this regulation, **UN Model Regulations** means the 14<sup>th</sup>



revised edition of the Recommendation on the Transport of Dangerous Goods Model Regulations, published in 2005 by the United Nations.

[Regulation 107

This regulation applies as if the following regulation were inserted immediately after regulation 107:

**107A Exception to approved handler requirements for transportation of packaged dangerous goods**

- (1) Regulation 107 is deemed to be complied with if—
- (a) in the case of a hazardous substance being transported on land—
    - (i) in the case of a hazardous substance being transported by rail, the person who drives the rail vehicle that is transporting the substance is fully trained in accordance with an approved safety system under section 6D of the Transport Services Licensing Act 1989 or a safety system which is referred to in an approved safety case under the Railways Act 2005; and
    - (ii) in every other case, the person who drives, loads, and unloads the vehicle that is transporting the substance:
      - (A) for hire or reward, or in quantities which exceed those set out in Schedule 1 of the Land Transport Rule 45001/1: Dangerous Goods 2005, has a current dangerous goods endorsement on his or her driver licence; or
      - (B) in every other case, the Land Transport Rule 45001/1: Dangerous Goods 2005 is complied with; or
  - (b) in the case of a hazardous substance being transported by sea, one of the following is complied with:
    - (i) Maritime Rules: Part 24A – Carriage of Cargoes – Dangerous Goods (MR024A);
    - (ii) International Maritime Dangerous Goods Code; or
  - (c) in the case of a hazardous substance being transported by air, Part 92 of the Civil Aviation Rules is complied with.
- (2) Subclause (1)(a)—
- (a) does not apply to a tank wagon or a transportable

container to which the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004 applies; but

- (b) despite paragraph (a), does apply to an intermediate bulk container that complies with chapter 6.5 of the UN Model Regulations.

[(3) Subclause (1)(c)—

- (a) applies to pilots, aircrew, and airline ground personnel loading and handling a hazardous substance within an aerodrome; but
- (b) does not apply to the storage and handling of a hazardous substance in any place that is not within an aerodrome, or within an aerodrome by non-airline ground personnel.

- (4) In this regulation, **UN Model Regulations** means the 14<sup>th</sup> revised edition of the Recommendation on the Transport of Dangerous Goods Model Regulations, published in 2005 by the United Nations.

**Control – Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001**

**Changes to Controls**

[Regulation 9

This regulation applies as if the following regulation were inserted immediately after regulation 9:

**9A Exception to approved handler requirements for transportation of packaged dangerous goods**

- (1) Regulation 9 is deemed to be complied with if—
  - (a) in the case of a hazardous substance being transported on land—
    - (i) in the case of a hazardous substance being transported by rail, the person who drives the rail vehicle that is transporting the substance is fully trained in accordance with an approved safety system under section 6D of the Transport Services Licensing Act 1989 or a safety system which is referred to in an approved safety case under the Railways Act 2005; and
    - (ii) in every other case, the person who drives, loads, and unloads the vehicle that is transporting the

substance:

- (A) for hire or reward, or in quantities which exceed those set out in Schedule 1 of the Land Transport Rule 45001/1: Dangerous Goods 2005, has a current dangerous goods endorsement on his or her driver licence; or
  - (B) in every other case, the Land Transport Rule 45001/1: Dangerous Goods 2005 is complied with; or
- (b) in the case of a hazardous substance being transported by sea, one of the following is complied with:
    - (i) Maritime Rules: Part 24A – Carriage of Cargoes – Dangerous Goods (MR024A):
    - (ii) International Maritime Dangerous Goods Code; or
  - (c) in the case of a hazardous substance being transported by air, Part 92 of the Civil Aviation Rules is complied with.
- (2) Subclause (1)(a)—
- (a) does not apply to a tank wagon or a transportable container to which the Hazardous Substances (Tank Wagons and Transportable Containers) Regulations 2004 applies; but
  - (b) despite paragraph (a), does apply to an intermediate bulk container that complies with chapter 6.5 of the UN Model Regulations.
- [(3) Subclause (1)(c)—
- (a) applies to pilots, aircrew, and airline ground personnel loading and handling a hazardous substance within an aerodrome; but
  - (b) does not apply to the storage and handling of a hazardous substance in any place that is not within an aerodrome, or within an aerodrome by non-airline ground personnel.
- (4) In this regulation, **UN Model Regulations** means the 14<sup>th</sup> revised edition of the Recommendation on the Transport of Dangerous Goods Model Regulations, published in 2005 by the United Nations.

## Schedule 13

### Tolerable exposure limits and environmental exposure limits

#### 1. Tolerable Exposure Limits

(1) The following tolerable exposure limits are set for petrol, aviation gasoline and racing gasoline. These limits are for each of the following three substances when they are components of petrol, aviation gasoline and racing gasoline:

(a) Benzene

TEL<sub>air</sub> 10 µg/m<sup>3</sup>

TEL<sub>water</sub> 10 µg/L

(b) Toluene

TEL<sub>air</sub> 400 µg/m<sup>3</sup>

TEL<sub>water</sub> 800 µg/L

(c) Xylene

TEL<sub>air</sub> 870 µg/m<sup>3</sup>

TEL<sub>water</sub> 600 µg/L

#### 2. Environmental Exposure Limits

(1) The following environmental exposure limits are set for petrol, aviation gasoline and racing gasoline. These limits are for each of the following four substances when they are components of petrol, aviation gasoline and racing gasoline:

(a) Benzene

EEL<sub>water</sub> 2,000 µg/L

(b) Toluene

EEL<sub>water</sub> 330 µg/L

(c) o-Xylene

EEL<sub>water</sub> 640 µg/L

(d) m/p-Xylene

EEL<sub>water</sub> 340 µg/L