

9. Hazardous Substances

9.1 Introduction

Hazardous substances are generally substances which have the potential to impair human, plant or animal health or may adversely affect the life supporting capacity of air, water, soil and ecosystems. Well known substances that are hazardous to people or the environment include petrol, pesticides, explosives, acids and radioactive substances. No facilities for the storage or disposal of hazardous substances are provided within the District by the Council.

9.2 Issue 1 - General

The use, storage, manufacture, disposal and transportation of hazardous substances have the ability to adversely affect the environment.

9.2.1 Objective 1

To prevent adverse effects on the environment or public health and safety arising from the use, manufacture, storage, transportation, and disposal of hazardous substances in the District.

9.2.2 Policies

1. To avoid, remedy or mitigate the adverse environmental effects of accidental spillages or poor management practices associated with the use, storage, transportation, manufacture and disposal of hazardous substances.
2. To efficiently manage the use, storage, transportation, manufacture, and disposal of hazardous substances by co-ordinating with other agencies responsible for the management of hazardous substances.
3. To increase public awareness of the potential adverse environmental effects that may arise through the use, storage, transportation, manufacture, and disposal of hazardous substances.
4. To encourage the disposal of unwanted hazardous substances in a manner that will not result in any adverse effects on the environment.
5. To encourage the collection and storage of unwanted hazardous substances where safe disposal is not available.
6. To ensure that land previously affected by hazardous substances is not used for activities where the health and safety of the community could be compromised.

9.2.3 Implementation Methods

1. Provision of rules and performance standards to control the use, manufacture and storage of hazardous substances in the District.
2. To use enforcement provisions under the Act where hazardous substances are manufactured, used, stored, transported or disposed of in such a way that is or is likely to be either noxious, dangerous, offensive or objectionable to such an extent as to cause adverse effects on the environment.
3. Through the Council's annual planning process to:

- a. Establish and regularly update a hazardous substances inventory for the Kaikoura District recording hazardous substances manufactured, used, stored, transported and disposed of in the District where the quantities exceed those listed as Permitted Activities in Section 9.4.1 of this Plan, in consultation with the Canterbury Regional Council.
- b. Develop methods and facilities for the safe collection and disposal of unwanted hazardous substances and hazardous wastes, including:
 - promoting the disposal of hazardous substances at these facilities in a manner that minimises any adverse effects on the environment; and
 - ensuring that any hazardous substances which can not be disposed of safely are totally contained in an appropriate storage facility.
- c. Encourage users of hazardous substances and the Canterbury Regional Council to prepare an emergency response plan, to deal with any spillages of hazardous substances.
- d. Encourage the use of agricultural chemicals in accordance with appropriate Codes of Practice, any regional/national standards or guidelines, and relevant regulations.
- e. Consult with the Canterbury Regional Council in providing information to manufacturers, importers and contractors that use hazardous substances and the public regarding the risks associated with the use, manufacture, storage, use, disposal or transportation of hazardous substances.
- f. Liaise with the Canterbury Regional Council, Government Departments and other agencies involved in the management of hazardous substances.
- g. Ensure operation plans prevent the disposal of hazardous substances at landfills within the District.
- h. To monitor landfill sites within the District to ensure that these areas are not being used for the disposal of hazardous substances.
- i. Encourage central government to research and develop methods and facilities to dispose of hazardous substances that presently cannot be disposed of.

Explanation and Reasons

The Council recognises that the community regularly uses, stores, transports and disposes of small quantities of hazardous substances, such as pesticides for spraying home gardens. Accordingly, the Council will permit the use and storage of limited quantities of hazardous substances as of right subject to site standards to ensure the necessary environmental protection. The quantity permitted as of right is dependent on the nature of the particular substance and the "risk" it poses to the environment, and the sensitivity of the particular environment. For example, residential areas are considered to be more sensitive than industrial areas. Where quantities of specific hazardous substances exceed the limit set by the Council for any zone a resource consent will be required.

The Council also considers that any new industrial processes that are involved in the production of hazardous substances should only be established in appropriate locations with operational safeguards put in place to ensure protection of the public and the environment.

The Council recognises that the safe disposal of many types of hazardous substances and hazardous wastes is difficult, and in some cases impossible. Accordingly, the Council will promote safer disposal practises through public education and advice. This will include assistance in determining whether hazardous substances can be recycled or reused, such as the reuse of those agrochemicals which are clearly labelled. Where this is not possible, the Council can advise whether the hazardous substances may be co-disposed of at an appropriate landfill. If the hazardous substance can not be

disposed of in this way, the Council will advise as to how such substances can be stored and disposed of.

Through conditions on resource consents, major users of hazardous substances will be required to maintain emergency contingency measures in cases of accidental spills, and the Council's proposed emergency response plan should assist in the avoidance or mitigation of adverse effects on people and the environment.

The Council considers that the transportation of hazardous substances in the District is adequately covered by the Dangerous Goods Act 1989 and Explosives Act 1980 and that no further controls are necessary. In addition, all transportation of hazardous substances is required to comply with the Code of Practice for the Transportation of Hazardous Substances on Land New Zealand Standard 5433:1999., which is administered by the Ministry of Transport.

The control of hazardous substances will only be made possible with a good information base, research, and with the co-operation of the people of the District. Accordingly, the establishment of a hazardous substances inventory, liaison with other agencies and educative or advisory methods will be undertaken as required through the annual planning process. The hazardous substances inventory will record the amounts of and patterns of hazardous substance manufacture, use, storage, transport and disposal, thereby enabling the monitoring of hazardous substances.

9.3 Anticipated Environmental Results

1. Establishment and maintenance of a hazardous substances inventory in the District.
2. Avoidance of adverse environmental effects arising from the use, storage, transportation, manufacture, and disposal of hazardous substances.
3. Greater public awareness of the potential adverse effects which may arise from inappropriate use, storage, transportation, manufacture, and disposal of hazardous substances.
4. Identifiable and known sites for the collection of hazardous substances.
5. Recycling of hazardous substances where possible.
6. Consultation with the Regional Council and Government Departments regarding the use, storage, transportation, manufacture, and disposal of hazardous substances.
7. Appropriate activities occurring on sites where hazardous substances have been previously used, stored, manufactured or disposed of within the District.
8. The establishment of provisions to cope with accidents involving hazardous substances.
9. No hazardous substances are disposed of within the Council landfill.

Hazardous Substances Rules

9.4 Activities

9.4.1 Permitted Activities

The following activities shall be Permitted Activities, provided that they comply with all of the Performance Standards specified below in 9.5.

1. The use and/or storage of hazardous substances which are not identified in Schedule 1 of this part of the Plan.

2. The use and/or storage of hazardous substances identified in Schedule 1 in quantities not exceeding those specified in Schedule 1, except where exemption 9.6.2 applies.

9.4.2 Discretionary Activities

1. Any activity specified as a permitted activity and which does not comply with any one or more of the Performance Standards specified below shall be a Restricted Discretionary Activity with the exercise of the Council's discretion being restricted to the matters specified in the standard which is not complied with
2. The following activities shall be Unrestricted Discretionary Activities.
 - a. The use and/or storage of hazardous substances identified in Schedule 1, which exceed the specified quantities in Schedule 1, except where exempt under rule 9.6.2.
 - b. The manufacturing of hazardous substances.

9.5 Performance Standards

9.5.1

1. Primary and secondary containment systems shall be employed whenever hazardous substances including hazardous waste, are used or stored on all or part of a site, except that secondary containment systems are not required for the use or storage of any Class 2 Hazardous Substances gases, as referred to in Schedule 1 to these rules, or for the storage of petrol or diesel in underground tanks.

For the purposes of this Plan:

- a. Containment means the retention of a hazardous substance in a way that prevents the hazardous substance from uncontrolled entry into the surrounding environment.
 - b. Primary containment means the primary container; for example, the primary containment for a can of petrol would be the can.
 - c. Secondary containment means a structure or installation that contains the hazardous substance should the primary container fail; for example, secondary containment for a can of petrol could be the building it is stored in.
2. The volume of any secondary containment system shall be 100% of the maximum volume of the hazardous substance to be stored, used, loaded or unloaded when the site is roofed or;
 3. The volume of any secondary containment system shall be 120% of the maximum volume of the hazardous substance to be stored, used, loaded or unloaded when the site is unroofed;
 4. The secondary containment system shall be designed in such a way as to ensure containment of any hazardous substance that spills due to the collapse of any container eg. tank., and the containment from the direct leakage from any primary container;
 5. The primary and secondary containment systems shall be sealed with impervious materials that are resistant to breakdown from the particular hazardous substances which they are designed to contain;
 6. The structural integrity of the primary and secondary containment systems shall be maintained at all times.

9.5.2

Collection of hazardous substances for disposal purposes, or for subsequent use, shall be in containers that seal and contain the hazardous substances collected.

9.5.3

All hazardous substance sites shall be adequately signposted according to the Code of Practice for "Warning Signs for Premises Storing Hazardous Substances" of the New Zealand Chemical Industry Council.

9.5.4

Any use, storage of radioactive material, including radiation machines, comply with conditions set by the National Radiation laboratory.

9.5.5

Scheduled Dairy Factory Activities in the Rural Zone S1. shall comply with the Schedule 1 storage limits for Business Zones and the storage limits for Rural Zones shall not apply to Scheduled Dairy Factory Activities.

9.6 Exemptions

9.6.1

The storage of petrol or diesel for the purposes of farming activities or intensive farming activities in above ground tanks in Rural Zones shall be exempt from Rule 9.5.1 providing that the tank is:

- a. at least 20m away from any natural water course or water race and;
- b. at least 20m away from any site boundary and;
- c. at least 6m away from any other hazardous substance and;
- d. a model or type which has been certified by the Department of Labour, or any other New Zealand authority certified to approve such storage facilities.

9.6.2

The use of explosives, munitions and pyrotechnics by the New Zealand Defence Force is permitted in all zones subject to compliance with all other relevant regulations and subject to compliance with all New Zealand Defence Force operational procedures.

9.6.3

Service Stations: Unless stated otherwise below, the storage limits specified in Schedule 1 do not apply to service stations provided that all of the following conditions are satisfied:

- a. service stations are a permitted activity in the zone in which they are to be located and;
- b. storage limits do not exceed the following quantities:
 - underground tanks: petrol - 100 000 litres maximum
 - diesel - 50 000 litres maximum
 - above ground tanks: LPG - 6 tonnes, single vessel storage

except that all other hazardous substances shall be limited to the quantities specified in Schedule 1

- c. tanks are designed, installed and operated in accordance with the following standards, and any subsequent amendment or replacement to these standards:
- “Code of Practice for the Design, Installation and Operation of Underground Petroleum Systems” Dept of Labour & OSH.
 - “LP Gas Storage and Handling - siting of LP Gas automotive retail outlets” supplement to AS1596 - 1989.

Note: These Rules are in addition to, and do not substitute, the Performance Standards of the relevant zone, and other legislation that deals with hazardous substances, including the Hazardous Substances and New Organisms Act, Dangerous Goods Act, Explosives Act, Toxic Substances Act, Medicines Act, Pesticides Act, Health and Safety in Employment Act or any subsequent legislation.

9.7 Non-Notified Resource Consents

A resource consent application required under Performance Standards 9.5.1-9.5.4 shall be considered without notification and without the need to obtain the written approval of affected persons.

Schedule 1: Classification of Hazardous Substances

1. Explosives

- a. An explosive substance or waste is a solid or liquid that is, in itself, capable by chemical reaction of producing gas at such a temperature and pressure and at such speed as to cause damage to the surroundings other than those specified in 1b below..
- b. As in 1a but with restricted use in the manufacture or reloading of small arms cartridges; or for the storage of flares.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
Zero	25kg	25kg	Zero	a. Nitrate mixtures, nitro compounds, chlorate mixtures, ammunition/ detonators excluding those for small arms use..
15kg	50kg	15kg	15kg	b. Gunpowder, or nitro compound adapted and exclusively used for cartridges for small arms; or for flares.

2. Gases

- a. Flammable Gases
 - i. LPG
 - ii. Any other Gases which at 20oC and a standard pressure of 101.3 kPa:
 - are ignitable when in a mixture of 13% or less by volume with air, or
 - have a flammability range with air of at least 12% regardless of the lower flammability limit.

This class includes aerosols containing flammable propellants if the contents include more than 45% by mass or more than 250g of flammable components.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
250 ltr	12000 ltr	12000 ltr	12000 ltr	i. LPG
250 ltr	12000 ltr	250 ltr	250 ltr	ii. Acetylene, hydrogen, methane

b. Toxic Gases

Gases which are known or are presumed to be toxic or corrosive to humans because they have an LC50 value equal to or less than 5,000 ml/m³ ppm. when tested in accordance with procedures defined in Para 6.5c. of the United Nations Recommendations on the Transport of Dangerous Goods, 7th revised edition, or its subsequent revisions

c. Non-flammable, Non-toxic Gases

Gases which are stored or transported under a pressure not less than 280kPa at 20oC, or as refrigerated liquids, and which:

- are asphyxiant-gases which dilute or replace the oxygen normally in the atmosphere, or
 - are oxidising-gases which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does, or
- have neither asphyxiant nor oxidising characteristics

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
250 ltr	12000 ltr	250 ltr	250 ltr	a. Chlorine, sulphur dioxide, ammonia, methyl bromide.
250 ltr	12000 ltr	250 ltr	250 ltr	b. Argon, helium, oxygen, nitrogen, carbon dioxide, freons, nitrous oxide

3. Flammable Liquids

Liquids, or mixtures of liquids, or liquids containing solids in solution or suspension, having the following flammability limits:

- a. Flash point <23oC
- b. Flash point >23oC - <61oC
- c. Flash point >61oC
- u. Storage of 3a, b and/or c in underground tanks.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
50 ltr ²	3000 ltr	2000 ltr	2000 ltr	a Petrol, adhesives, ethyl and methyl alcohols, acetone, benzene, butylamine, MIBK.
3000 ltr	3000 ltr	3000 ltr	3000 ltr	b Kerosene, styrene monomer, cyclohexanone, turpentine, butyl methacrylate, chlorobenzene, ethoxyethanol.
3000 ltr	3000 ltr	3000 ltr	3000 ltr	c Diesel, petroleum oils.

Note 2: The 50 litre restriction does not apply to petrol or other 3a flammable liquids contained in a fuel tank of an internal combustion engine.

4. Flammable Solids

a. Flammable Solids

Solids or wastes other than those classified as explosives, which under suitable conditions, ie impact, friction, heat, ignition, will burn or self react with extreme intensity.

b. Substances or wastes liable to spontaneous combustion

Substances or wastes that are liable to spontaneous heating during transport, or heating up on contact with air, and then being liable to catch fire.

c. Substances which in contact with water, emit flammable gases

Substances or wastes which by interaction with water are liable to become spontaneously flammable or give off flammable gases in dangerous quantities.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
10 kg	50 kg	10 kg	10 kg	4.1 Red phosphorus, ammonium picrate, picric acid, monomethylamine nitrate, nitrocellulose, trinitrobenzene, magnesium alloys.
100 kg	1000 kg	1000 kg	100 kg	4.2 Yellow or white phosphorus, magnesium alkyls, dithionites.
100 kg	1000 kg	1000 kg	100 kg	4.3 Alkali metals e.g. sodium, potassium, lithium; calcium, magnesium, metal hydrides, metal carbides

5. Oxidising Substances

a. Oxidising Substances

Substances or wastes which, in themselves, are not necessarily combustible, but may, generally by yielding oxygen, cause or contribute to the combustion of other materials.

b. Organic Peroxides

Organic substances or wastes which contain the bivalent O=O structure and are thermally unstable substances which may undergo exothermic self-accelerating decomposition

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
100 kg	1000 kg	1000 kg	100 kg	a. Chromates, bromates, chlorates, chlorites, nitrates, permanganates.
5 kg	25 kg	10 kg	5 kg	b. Any organic peroxide includes peroxy and per compounds. Perdicarbonates, butyl peroxyphthalate, cumene hydroperoxide, benzoyl peroxide

6. Corrosives

Substances or wastes which by chemical action, will cause severe damage when in contact with living tissue or, in the case of leakage will damage or destroy other material and goods or cause other hazards.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
20 ltr	1000 ltr	500 ltr	100 ltr	Acids such as; nitric, sulphuric, hydrochloric, hydrofluoric acids; trichloro acetic acid. Alkalis such as; sodium, potassium and lithium hydroxides. Zinc chloride, zirconium tetrachloride, sulphur chlorides, silicon tetrachloride, phosphorus pentoxide, ferric chloride. Phenolsulphonic acid, hydroxylamine sulphate, hexyl-trichlorosilane, ethanolamine.

7. Agri-chemicals

Substances formulated specifically for forestry, agricultural and horticultural activities including aquaculture. and including but not limited to herbicides and fungicides. For the purpose of this Plan an agrichemical is considered a hazardous substance when it is at a concentration such that it requires mixing with water, oil, any other liquid prior to an application.

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
10 ltr	500 ltr	1000 ltr	1000 ltr	Bipyridyls, di-nitrophenols, phenoxy compounds, organophosphates, carbamates, organochlorines.

8. Other

a. Timber Preservatives

Preservatives used in the treatment of timber.

b. Chlorinated Solvents

Max Storage Limits Per Site by Zone				Examples, including but not limited to:
Res / ORCL	Bus / MF	Rur	Set	
20 ltr	20 ltr	20 ltr	20 ltr	a. Copper, chromium, arsenic, boron, and other water-borne preservatives. Light organic solvent preservatives, anti sapstain chemicals.
20 ltr	Bus A-200 ltr	20 ltr	20 ltr	b. Bromodichloromethane, Trichloroethane, Chlorodibromomethane 1,1,1 - Trichloroethene, Tetrachloroethene, Trichloromethane, Tetrachloromethane, Tribromomethane
	Bus B-1000 ltr			

