# DRAFT HAZARDOUS WASTE STRATEGY

*for public consultation*

## October 2005

Draft

**Environment Protection Authority**
**South Australia**

Government of South Australia

EPA South Australia

# Public Consultation

The EPA seeks your views regarding the *Draft Hazardous Waste Strategy* and would appreciate your comments by **Friday 30th December 2005.**

All submissions received by the EPA will be acknowledged and treated as public documents unless provided in confidence, subject to the requirements of the *Freedom of Information Act 1991,* and may be quoted in EPA reports.

You may provide your comments on line at the EPA Consultation web site—*www.epacomments.sa.gov.au*—or you can forward them by mail, fax or e-mail to:

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# 1. Introduction

In 2004 the South Australian Environment Protection Authority (EPA) recognised that there was a need to develop a strategy to deal with all aspects of hazardous waste collection, handling, storage, treatment and disposal.

In South Australia there is no whole-of-government framework for managing hazardous waste and the threat it may pose to human health and the environment. Of late the community have realised that there is a need to look beyond traditional financial indicators to measure the wellbeing of society and to break down the traditional segregation of work, environment and community. This is in part due to:

- health concerns of staff who use chemicals in the workplace
- chemical emissions from industrial plants, and associated health complaints and problems of workers and nearby residents
- a community desire to use natural resources sustainably to ensure their availability to future generations.

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Internationally the trend has centred on sustainable development and, in particular, the adoption by industry of cleaner production principles. Thinking has changed from 'end-of-pipe solutions' to waste avoidance.

This Hazardous Waste Strategy should be seen as an instrument to stimulate industry to change the way that they view hazardous waste and, in particular, its generation. Industry should strive to be innovative and view the elimination of hazardous wastes as good business sense.

This strategy has been designed to work with the current waste management environment in South Australia. The strategy provides a state-wide direction for the management of hazardous waste that will take industry to 2010, after which a review of the strategy should be undertaken as new technologies and systems become available.

# 2. Objective

To provide a framework to achieve sustainable management of hazardous waste, by protecting and enhancing the environment while allowing economic and social development.

# 3. Scope

In deciding how widely to apply this strategy, existing hazardous waste listings, which are primarily based on their effects on human health and the environment, were considered. The assessment incorporated the physical & chemical characteristics of the substances.

The list incorporated in this strategy is broadly based on the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998* (NEPM), with some exclusions and additions to take into account local conditions.

For the purpose of this strategy, hazardous waste means:

**Any unwanted or discarded material (excluding radioactive material) which, because of its physical, chemical or infectious characteristics can cause significant hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. For the purpose of this strategy this means any waste stream that is specified in Appendix 1, provided that it possesses one or more of the characteristics specified in Appendix 2.**

Waste streams were excluded based upon current legislation, National Environment Protection Measures and national and state programs and guidelines that manage the waste stream.

This strategy does **NOT** apply to the following waste streams.

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## 3.1. Radioactive waste

This waste stream is controlled by the *Radiation Protection and Control Act 1982*.

## 3.2. Non-hazardous solid inert waste

By definition, this waste stream is non-hazardous. It is therefore dealt with through other disposal avenues and recycling facilities.

## 3.3. Discharge of trade waste to sewer

SA Water controls and manages waste that is discharged to the sewerage system as trade waste in compliance with the *Sewerage Act 1929*. Trade waste is managed by SA Water and therefore excluded from this strategy.

## 3.4. Containers

It is considered that empty containers contaminated with residues of substances referred to in Appendix 1, pose an insignificant impact due to the unlikely presence of the hazardous characteristics referred to in Appendix 2.

### Strategic direction

The EPA must define ‘acceptable residues’ so as not to allow heavily contaminated containers to be excluded from the management practices defined in this strategy.

## 3.5. Grease trap waste

There are numerous existing recycling outlets for grease trap waste in South Australia. This waste does not display any of the hazard characteristics listed in Appendix 2; however, this does not preclude it from being defined as a waste through other legislative instruments—for example, the *Environment Protection Act 1993*.

### 3.6. Non-toxic salts

These chemicals do not display any of the hazardous characteristics listed in Appendix 2 and may be dealt with through normal disposal avenues and recycling facilities.

### 3.7. Tyres

There are numerous existing recycling outlets for tyres in South Australia, but this does not preclude tyres from being defined as a waste through other legislative instruments, for example, the *Environment Protection Act 1993*.

### 3.8. Explosive waste

These wastes are addressed and controlled under the *Explosives Act 1936,* which is administered by the Department for Administrative and Information Services.

### 3.9. Sewage sludge and residue

This waste stream includes nightsoil and septic tank sludge and is currently managed under the *South Australian Biosolids Guidelines* (EPA 093/97) and through conditions within EPA issued licences.

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### 3.10. Soils contaminated with a substance listed in Appendix 1

Soils contaminated with hazardous waste not exhibiting hazardous characteristics listed in Appendix 2 will be dealt with through changes in EPA licence conditions applying to landfills. However, if the soil is heavily contaminated and exhibits hazardous characteristics listed in Appendix 2, the soil is included in the scope of this strategy.

### 3.11. Animal effluent and residue

This encompasses all animal effluent and residue, including abattoir effluent, and poultry and fish processing waste. As there are numerous recycling outlets for animal effluent and residue it is not included in this strategy. However, this does not preclude it from being defined as a waste under the *Environment Protection Act 1993* or other legislative instruments.

### 3.12. Wool scouring waste

Wool scouring waste will be dealt with as per animal effluent and residues. There are numerous recycling outlets for wool scouring waste. However, this does not preclude it from being defined as a waste through other legislative instruments.

### 3.13. Waste lubricating oil

There is a National strategic program for dealing with oil, and numerous recycling facilities are available throughout the state for recycling waste oil.

The *Product Stewardship (Oil) Act 2000,* administered by the Commonwealth Department of the Environment and Heritage, established a framework to increase waste oil recycling throughout Australia.

In 2001 the Commonwealth Government introduced the *Product Stewardship for Oil Program*. The program incorporates a levy on new oil that is used to provide incentives for the environmentally sustainable management and recycling of waste oil.

Since the commencement of the program, numerous local councils have received funds for the construction of waste oil recycling facilities. Currently, facilities are being constructed in additional local government areas. For this reason waste lubricating oils have been excluded from this strategy.

# 4. Background

In 1990 the South Australian Waste Management Commission carried out the last comprehensive review of the state's hazardous waste management capability. The review focused on treatment and disposal issues. While these issues are still important, current community expectations call for a broader strategic approach to be adopted that focuses on ecologically sustainable development, cleaner production, product stewardship and extended producer responsibility, supported by a viable waste management industry.

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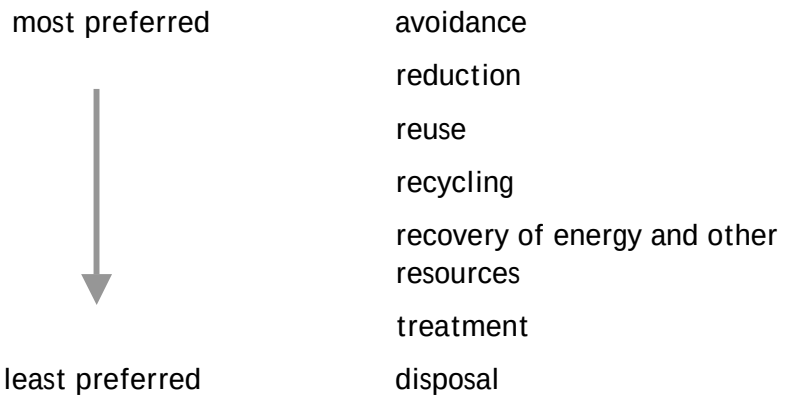
In 1996 the EPA published the *Integrated Waste Strategy for Metropolitan Adelaide 1996-2015*. That strategy covered non-hazardous waste and the need for improved infrastructure, strengthened regulation and resource recovery.

In 2000 the Department for Environment and Heritage (DEH) released two papers: *Waste Management in South Australia Background Paper* and *Waste Management in South Australia Discussion Paper*. These papers were released as part of the process leading to the development of a statutory Environment Protection (Waste) Policy (which is yet to be finalised). They built on the strategic directions in the 1996 Integrated Waste Strategy mentioned above. However, these papers also focused on non-hazardous waste issues.

An Environment Protection (Waste) Policy is being drafted to ensure that waste management is based on the waste management hierarchy. It will provide appropriate waste management in South Australia. The waste management hierarchy is given below:



# 5. Progress

Since the 1990 review, major advances have been made in the way that hazardous waste generated in South Australia is dealt with. South Australia now has a viable waste management industry that deals with off-site transport, storage, treatment and disposal of a range of hazardous wastes. The state's hazardous waste management systems are underpinned by a comprehensive set of regulatory controls and guidelines.

Zero Waste SA (ZWSA) is the state government department responsible for assisting South Australians to reduce waste and use resources in a sustainable manner. The department was formed by proclamation in July 2003 and the Zero Waste Act was proclaimed on 7 May, 2004. This, in part, fulfilled the government's commitment to a new legislative framework under which it can work with local government and industry to drive a new and integrated strategy for waste reduction, recycling and disposal.

ZWSA was established to promote waste management practices that as far as possible:

- eliminate waste or its consignment to landfill
- advance the development of resource recovery and recycling.

Currently ZWSA is developing an overall waste strategy for the management of waste generated and disposed of in South Australia. The EPA Hazardous Waste Strategy aims to be consistent and reflect the ZWSA strategy in the management of hazardous waste.

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# 6. Current situation

The generation of waste, including hazardous waste, from commercial, trade, industrial or business activities varies annually. Variations occur as a result of one-off events such as plant failure, plant closure, tank clean-ups, and emergency events or are due to fluctuations in industrial production driven by consumer demand and linked to economic activity.

## *6.1. Movement of hazardous waste*

The movement of controlled (including hazardous) waste between South Australia and other states and territories is managed via the tracking system described in the 'National Environment Protection (Movement of Controlled Waste between States and Territories) Measure' (NEPM). The movement of hazardous waste specifically defined as listed waste (Schedule 1, Part B - Environment Protection Act, 1993) within South Australia is managed by a tracking system adapted from the NEPM.

The EPA operates the certificate-based waste manifest system to enable listed waste to be tracked from the place of production to the place of treatment, storage and final disposal. This system provides the EPA with comprehensive information on the movement of listed wastes throughout South Australia. The information helps to minimise adverse effects on human health and the

environment by ensuring wastes are properly identified, transported, and reach appropriate depots for treatment, recycling, storage and/or disposal.

## 6.2. Hazardous waste treatment facilities

South Australia is relatively well serviced with EPA licensed hazardous waste treatment facilities and has adequate capacity to handle a broad range of hazardous waste.

### 6.2.1. Physical-Chemical Treatment Plants

Currently, a range of hazardous wastes can be treated within South Australia through a variety of physical-chemical treatment methods undertaken in a number of treatment plants, including:

- liquid waste treatment plant
- immobilisation and stabilisation plant
- solvent distillation and recovery plant.

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### 6.2.2. Incineration Units

Incineration units are used to treat various hazardous waste types such as:

- medical wastes
- pharmaceutical wastes
- solvents

For the existing incinerator units to continue to treat medical waste an upgrade will be required to comply with world's best practice gas emission standards.

### 6.2.3. Environmental Services Units

South Australian hazardous waste treatment facilities also provide a range of environmental services for the management of hazardous wastes including:

- manifesting
- collection and transport
- sorting
- repacking
- chemical analysis (NATA accredited laboratories)

## 6.3. Disposal of solid hazardous waste

Currently only one landfill is licensed by the EPA to accept waste treatment plant residues and other solid listed wastes (including hazardous wastes), which meet the criteria of the EPA issued licence. Cell construction at the landfill incorporates an engineered non-synthetic liner and leachate collection and management system. Through the site management plan and EPA licence conditions, the landfill has developed a management system that provides an assessment and monitoring process to evaluate incoming waste streams and ensure that only wastes that can be disposed of to the landfill are accepted. In addition, it is a requirement that leachate and groundwater monitoring are undertaken at the site during operation; monitoring will also be required post-closure.

At current filling rates this landfill has a capacity to accept waste for at least the next 20 years.

## 6.4. Hazardous waste storage facilities

EPA-licensed storage facilities are presently available for the medium to long-term storage of hazardous waste that cannot be readily treated. The facilities provide temporary storage for hazardous wastes that do not have suitable treatment options within South Australia but can be treated within other Australian States or Territories. Long-term storage is required for hazardous wastes where no treatment options exist within Australia; hence export to other countries is required to enable suitable treatment.

## 6.5. EPA and ZERO WASTE Hazardous Household Waste Depot

ZWSA in conjunction with the EPA provide a free collection depot at Dry Creek to ensure hazardous waste from farmers and householders are appropriately disposed. The depot receives around 50 tonnes of hazardous waste per year (mainly oil, paint, pesticides, used lead-acid batteries, solvents and fuels). The collected wastes are recycled, treated locally or sent to treatment facilities in Victoria and Queensland.

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ZWSA operates a mobile household hazardous waste collection service, which is also free to householders and farmers. Licensed professional waste-management contractors set up temporary collection points in metropolitan and country areas according to a predetermined timetable. Householders are then asked to deliver their unwanted chemicals to the collection points to enable segregation, management and disposal of the hazardous wastes.

Since 1993 the EPA has managed and operated the Dry Creek program whilst the Zero Waste program commenced on 27 March 2004 and is scheduled to operate for a minimum of three years.

## 6.6. Limitations of South Australian hazardous waste treatment and disposal facilities

There are presently no treatment facilities in South Australia for organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) or general pesticides.

EPA licensed facilities exist within other jurisdictions for the treatment of OCPs and PCBs. Unfortunately due to the physical limitations of the facilities OCP and PCB waste must be stored securely on a medium to long-term basis until it can be treated.

General pesticides can be transported interstate and blended for energy recovery as an alternative fuel within a cement kiln. Agreements between state EPA's and the mutual recognition of licensed transporters facilitates this service and makes disposal of general pesticides readily available.

There are some wastes, such as OCP and heavy-metal mixtures that cannot be treated in Australia. These wastes are referred to as intractable wastes and are stored on a long-term basis pending the development of suitable treatment facilities within Australia or the attainment of a permit to export the waste to a country with a treatment facility. The Hazardous Waste (Regulation of Exports and

Imports) Act 1989, administered by the Commonwealth Department of the Environment and Heritage, controls the export of hazardous waste.

# 7. Strategic directions of other jurisdictions

All Australian jurisdictions have acknowledged the need for adopting a strategic approach to waste management, and all developed jurisdictional strategies in the 1980s and early 1990s. These strategies had similar visions and focused on the provision of treatment and disposal facilities and legislation for waste management. More recent documents have concentrated on a 'towards zero waste' approach to waste management based on:

- increasing material use efficiency and reducing waste generation
- increasing the recovery of materials for recycling and reprocessing
- reducing the environmental impacts of waste.

However, most of these documents only consider non-hazardous waste rather than hazardous waste.

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## 7.1. Victoria

Victoria has an extensive regulatory and non-regulatory system for managing hazardous waste. In 1998, the Victorian EPA released an industrial waste strategy called *Zeroing in on Waste Pathways to Cleaner Production for Victorian Industries*. It deals with hazardous waste which is moved to specialist facilities and trade waste discharged to the sewerage system and looks at cleaner production initiatives.

In 2000 the Victorian EPA released a statutory policy entitled *Industrial Waste Management Policy (Prescribed Industrial Waste)*. The policy seeks to protect people and the environment from the risks posed by hazardous waste, and provides a framework and tools to implement the traditional waste management hierarchy for hazardous waste in a manner consistent with ecologically sustainable development. The policy also seeks to facilitate waste reduction and diversion of wastes from landfill for productive purposes, and to ensure safe containment of remaining wastes.

In 2003 the Victorian EPA published draft guidelines for hazard classification of solid prescribed (including hazardous) industrial wastes. The guideline established a framework to assist hazardous waste generators and treaters to classify their waste and to determine whether it needs to be further treated, sent to a long-term containment facility, or sent to an appropriately licensed Victorian EPA landfill.

In 2004 the Victorian EPA published performance requirements for long-term containment facilities for solid hazardous waste. Long-term containment of solid hazardous waste aims to eliminate the current practice of hazardous waste disposal to landfill. The publication does not specify what the facility will look like, but instead specifies performance requirements for containment facilities. Key performance requirements include:

- reduction of emissions to the maximum extent achievable
- safe containment of waste for hundreds of years
- a systems-based approach which incorporates a high level of waste treatment, engineering, management and community assurance.

Initially, the Victorian Government nominated three locations in rural Victoria as being suitable for the establishment of a long-term containment facility. Following strong local community opposition, the government decided against establishing a facility at any of these locations and nominated another site in rural Victoria as a possible alternative. Once again there has been strong community opposition to this proposal and it is uncertain whether or not a containment facility will be established at this fourth location.

## 7.2. New South Wales

In 1999 NSW released *Environmental Guidelines for Industrial Waste Landfilling and for the Assessment, Classification and Management of Non-Liquid Wastes*. In 2003 the NSW *Waste Avoidance and Resource Recovery Strategy*, focusing on non-hazardous waste, was released. NSW does not have a strategy to deal with hazardous waste, but has an extensive regulatory and non-regulatory system for managing hazardous waste.

In 2004 NSW released an *Extended Producer Responsibility (EPR) Priority Statement*, which outlines a number of products or wastes of concern suited to EPR schemes in NSW. Priority products or wastes of a hazardous nature included in the statement are nickel cadmium batteries, unwanted agricultural and veterinary chemicals and mobile telephone batteries.

## 7.3. Queensland

In 1996 Queensland released the *Waste Management Strategy for Queensland,* which deals with all types of waste. Queensland does not have a strategy that deals specifically with hazardous waste. The strategy is based on the following principles:

- waste management must be fully integrated—dealing with waste management from the point of generation to final disposal
- the principles of ‘polluter pays’ and ‘user pays’ should be applied to waste management
- waste generators and product designers are responsible for the fate of their wastes and products until correct management or disposal is assured
- waste management should be based on the traditional waste management hierarchy.

## 7.4. Western Australia

Currently Western Australia does not have a strategy to deal with hazardous waste. In 2001 Western Australia released a strategy called *Towards Zero Waste, which* presented a broad vision and dealt with all types of waste with the objective of zero waste by 2020. The strategy has five independent goals:

- **sustainability**—to achieve waste reduction, re-use and recycling outcomes which are environmentally, socially and economically sustainable
- **commitment**—to achieve the commitment and participation of all stakeholders in waste reduction, re-use and recycling practices and processes
- **prevention**—to prevent the generation of waste
- **resource recovery**—to maximise the recovery and recycling of resources
- **integration**—to establish effective frameworks and structures to coordinate and facilitate waste reduction, re-use and recycling, the recovery of resources and the safe management of remaining wastes.

### *7.5. Tasmania, Northern Territory and Australian Capital Territory*

These jurisdictions have relatively small populations and industrial bases. Their strategic documents focus on the management of non-hazardous waste and do not specifically delineate management of hazardous waste.

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## 8. Strategic outcomes

Based on the data presented and the description of available treatment facilities, the EPA has established a strategy to manage hazardous waste in South Australia.

The strategic principles to be adopted for hazardous waste management in South Australia are consistent with the *Environment Protection Act 1993* and the *Zero Waste SA Act 2004*. These strategic principles are to:

- aim for ecologically sustainable development (ESD), which integrates the economic, environmental and social aspects of development so that the needs of the present generation are met without compromising the needs of future generations
- be based on the waste management hierarchy shown on page 4
- apply the polluter-pays and user-pays principles to internalise the cost of hazardous-waste management as far as possible to the waste producers and thereby encourage waste prevention and recycling
- apply a risk-management-based approach to hazardous waste management
- apply best-practice methods and standards to all stages of the waste management cycle
- involve industry, the community and government in the development of future strategy documents
- recognise the responsibility of hazardous-waste producers for the proper management of their waste
- ensure that producers and consumers jointly share the responsibility for products that become hazardous waste
- ensure that producers and consumers understand their responsibilities and the actions that can be taken to eliminate or minimise such waste.

In general, effective hazardous waste management requires an integrated combination of appropriate legislative and non-legislative programs, facilities and support services.

## 8.1. Adequacy of existing legislation

The *Environment Protection Act 1993* enables statutory environment protection policies to be made to secure the objects of the Act. An Environment Protection (Waste) Policy incorporating hazardous waste is currently being drafted.

### Strategic direction

- Ensure that all legislative instruments provide a consistent approach to hazardous waste.
- Ensure the Environmental Protection (Waste) Policy (Waste EPP) incorporates the strategic outcomes of this strategy.
- Finalise the draft classification and acceptance criteria for landfills guideline.

## 8.2. Hazardous Waste Minimisation

To facilitate and implement ecologically sustainable development, hazardous waste production must be regarded as an inefficient use of resources. Creative ways need to be found to avoid generating hazardous waste. Where wastes cannot be avoided it is critical to pursue opportunities to convert hazardous wastes into a resource through re-use, recycling or energy recovery. In particular, it is necessary to instigate waste minimisation by implementing the waste hierarchy, cleaner production product stewardship and extended producer responsibility.

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### 8.2.1. Waste Hierarchy

The waste hierarchy's most preferred options are the avoidance and reduction of waste products. These principles promote the use of practices and processes that reduce, as much as practicable, the amount of waste generated. Reduction of waste does not include de-watering or compaction to reduce the total volume or weight of the waste. Avoidance and reduction are aimed at improving the efficiency of processes so as to reduce the percentage of the waste stream.

### 8.2.2. Cleaner Production

Cleaner production is similar to waste minimisation and includes the reduction of hazardous waste throughout the lifecycle of a manufactured article. It is based on practices and technologies that minimise waste generation and energy consumption. It includes product design, material substitution, cleaner technologies, and processes and practices that minimise the generation of hazardous waste and emissions.

### 8.2.3. Product Stewardship

Product stewardship refers to the manufacturers, retailers, users and disposers sharing the responsibility of reducing the environmental impacts of products. For example, the Product Stewardship for Oil Program was introduced by the Australian Federal Government to provide incentives and aims to encourage used oil recycling in the Australian community.

Product stewardship requires consideration of the potential environmental impacts of each stage in the life cycle of the product, from inception and design, to ultimate disposal or reuse or recycling.

### 8.2.4. Extended Producer Responsibility

Extended producer responsibility involves producers extending their responsibility for a product to the post-consumer stage of a product's life cycle. For example, ChemClear is an industry driven program that places a levy on agricultural chemicals. The levy is used for the collection and disposal of any unwanted rural chemicals.

#### Strategic direction

To achieve the above the following will need to be implemented:

- ZWSA should provide hazardous waste exchange information on its web site.
- The EPA should support the widespread adoption of cleaner production via workshops held in conjunction with industry associations, cleaner production joint ventures between large and small companies and financial support via a financial incentive scheme.
- Government (though agencies such as the EPA and Business SA) should promote cleaner production and encourage groups, including industry associations, tertiary institutions, consultants, the accounting profession, the insurance industry and financial institutions, to support this approach.
- The EPA should develop waste auditing guidelines and encourage widespread adoption of waste audits, environmental management plans, environmental improvement plans and improve material tracking systems and related accounting systems and, where appropriate, legally require some or all of these measures to be adopted.
- In conjunction with ZWSA, the EPA must use statutory processes to require larger companies to consider hazardous waste management, and identify opportunities for waste avoidance when planning new operations or changing existing operations.
- The EPA must upgrade its waste transport-tracking database to increase public availability of information on hazardous waste generation.
- In conjunction with ZWSA, the EPA must work with industry and the community to ensure that statutory controls over the storage, transport, treatment and disposal of hazardous waste do not unnecessarily impede legitimate bona fide diversion of hazardous waste to preferred waste hierarchy options.
- In conjunction with ZWSA, the EPA must work together with industry associations and the waste management industry to identify and facilitate the diversion of hazardous waste with residual economic value (for example, a source of energy) to a preferred waste hierarchy option. When such an option is identified, disposal of the waste to landfill should be prohibited by an appropriate statutory control system.
- The EPA must implement a process with local planning authorities that requires any new development, which generates hazardous waste to submit a waste management plan detailing how the environmental impact of these substances will be minimised.
- The EPA should use statutory processes, such as licensing, to make companies consider waste and identify opportunities for cleaner production when planning new ventures or when changing existing operations.

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- The EPA should review the current liquid waste levy system to ensure that it generates sufficient funds to support a broad range of cleaner production initiatives and programs.

## 8.3. Regional hazardous waste generation, storage and disposal facilities

The largest issue facing rural South Australia in relation to hazardous waste generation, storage and disposal is the limited quantities of waste generated in these areas, the distance to suitable treatment or disposal facilities, and the economic viability of establishing localised hazardous waste management facilities in regional areas. The sparseness of hazardous waste generators in rural areas raises a difficult, costly and resource intensive logistical exercise to enable the suitable management of hazardous waste.

### Strategic direction

- The EPA will need to initiate a strategy and plan for educating the rural sector on adopting the waste hierarchy in order to reduce the overall quantity of hazardous waste generated.
- In major rural centres it will be necessary to license key facilities for the temporary storage of hazardous waste. This will enable hazardous waste to be collected and economically transported as a bulk load to treatment facilities.
- The same strategy outcomes applied to metropolitan Adelaide should apply to regional South Australia.

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## 8.4. Hazardous waste landfill

The EPA is currently developing guidelines for the classification of landfills.

The government's role is to regulate landfills and to promote proper waste management practices.

### Strategic direction

- The State Government will not provide or operate specifically engineered landfill facilities for hazardous waste.
- The EPA should develop guidelines for hazard classification for the categorisation of various types of hazardous waste as listed in Appendix 1.
- Generators of hazardous waste are responsible for ensuring that their waste is treated to a standard that meets classification and licence conditions of available landfills.

## 8.5. Medical waste

Medical waste includes sharps, human tissue, body fluids, laboratory animal carcasses and biological specimens. Incineration is currently the only preferred method of destroying medical wastes in South Australia.

### Strategic direction

- Any medical waste incinerator should be designed and operated to world's best practice gas emission standards.

- Any existing medical waste incinerator must be upgraded as soon as possible so that it complies with world's best practice gas emission standards, or cease incineration of medical waste.

## 8.6. Future operation of Dry Creek Household Hazardous Waste Depot

The EPA Hazardous Waste Depot is well used by households and farmers and is considered a necessary service. Due to the types of waste and hence the liability risk, it is important that the EPA–ZWSA partnership maintains an active involvement in its management.

### Strategic direction

Review operation of the depot as required meeting community expectations.

## 8.7. Risk management

In simple terms, risk equals hazard multiplied by exposure. A waste may be hazardous but have a low environmental exposure and therefore present a low risk to the environment, whereas a less hazardous waste may have a high environmental exposure and present a higher risk to the environment.

A scientifically based management process has been developed to manage risks. The process is made up of a series of iterative steps, each of which has its own sub-processes. The steps include establishing the context, identifying the risks and their consequences, analysing the risks, evaluating current exposure, treatment, implementing the action plan, reviewing, monitoring and ongoing review, communication and consultation. They are undertaken in sequence and are used to optimise overall decision-making.

### Strategic direction

The EPA should adopt a risk management approach to all its hazardous waste management programs, including EPA-licensed sites.

## 8.8. Movement of hazardous waste between states and territories

South Australia has implemented the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998* (NEPM) under the policy provisions of the Environment Protection Act, 1993. The NEPM provides a basis for ensuring that a controlled waste, including hazardous waste, moved between Australian jurisdictions is managed in an environmentally sound manner.

The unnecessary movement of hazardous waste between Australian jurisdictions is environmentally unsound. It is important to ensure that hazardous waste is consigned from one Australian jurisdiction to another only for the purpose of environmentally sound management.

### Strategic direction

- Hazardous waste must be treated or disposed of in the Australian jurisdiction where it is produced, except when the jurisdiction of origin does not have the facilities available for the environmentally sound management of the waste.
- The EPA should not permit hazardous waste from another Australian jurisdiction to be consigned to South Australia for final disposal by landfill only.

- The EPA should not permit hazardous waste to be consigned to another Australian jurisdiction where the waste is to be treated or disposed of at a standard which does not meet South Australian environmental performance requirements.
- The EPA should not permit hazardous waste from another Australian jurisdiction to be consigned to South Australia if the waste is to be treated or disposed of at a standard that does not meet the environmental performance requirements of the jurisdiction of origin.
- The EPA is to implement any variations to the NEPM in a timely manner.

## 8.9. *Emergency storage and treatment facilities*

The South Australian off-site waste storage and treatment industry has spare capacity to store and treat hazardous waste from fires, spills and illegal dumping. However, there are no formal arrangements that would guarantee its availability if required.

### Strategic direction

The EPA should develop formal contingency procedures with the waste storage and treatment industry for the management of hazardous waste resulting from emergencies.

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## 8.10. *Australian legislation*

Except for exports and imports of hazardous waste from and to Australia, the regulation of such waste is the responsibility of the state or territory where the waste was generated. Ideally each jurisdiction should have nationally consistent regulatory requirements for the management of such waste. However, in practice, state and territory environmental performance standards differ from one another.

### Strategic direction

- The EPA should continually monitor the hazardous waste management legislation of other Australian jurisdictions and ensure that South Australian legislative controls are at least comparable to best Australian regulatory control standards.
- The EPA should continue to work with other Australian jurisdictions to discuss hazardous waste management issues and to facilitate a nationally consistent approach to addressing them.

## 8.11. *Household hazardous waste*

Traditionally the EPA has provided a depot at Dry Creek for the collection of household hazardous waste; recently ZWSA has taken over funding for this activity. ZWSA has just completed a mobile state-wide collection pilot program and has implemented a program for the 2004-2005 and 2005-2006 financial years.

Mobile state-wide collections provide a more accessible opportunity for householders in regional locations to dispose of their waste than that provided by a single fixed-point collection program.

### Strategic direction

- ZWSA should continue conducting a mobile household hazardous waste collection service.
- The service should be free to households and farmers only—hazardous waste from businesses is not to be accepted—and should continue to be funded from a landfill levy.
- The State Government should encourage local government to separate paint, oil and batteries from the normal waste.

## 8.12. Nickel cadmium batteries

There are currently no recycling or treatment facilities available in Australia for unwanted nickel cadmium batteries. The disposal of nickel cadmium batteries to landfill has the potential to cause serious environmental harm due to the toxicity of cadmium and the risks of leaching from the landfill.

Specialised facilities are required to recycle nickel cadmium batteries; such facilities are available only in a limited number of overseas countries. Large-scale operations are required for these facilities to be commercially viable thus due to the size of the domestic market, it is unlikely that a nickel cadmium battery recycling plant will be established in Australia.

SAFT NIFE Power Systems Australia Pty Ltd is the only company that collects and exports its own batteries for recycling. The Australian Mobile Telecommunications Association has a national collection program for mobile telephones and associated equipment.

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### Strategic direction

- The EPA should work together with Commonwealth, State and Territory Government agencies to establish a national collection and disposal program for unwanted nickel cadmium batteries to recycling facilities located in an OECD country.
- The EPA should recommend to other agencies that the program be developed using a product stewardship or extended producer responsibility approach underpinned, if necessary, by a legislative safety net.

## 8.13. National hazardous waste management activities

From time to time, certain hazardous waste management matters require a nationally agreed consistent approach. The outcomes of the National Strategy for the Management of Scheduled Wastes, endorsed in 1993 by the Australian and New Zealand Conservation Council (ANZECC), was the preparation of management plans for the safe management and disposal of scheduled wastes within Australia.

The Polychlorinated Biphenyls (PCB) Management Plan and the Organochlorine Pesticides (OCP) Waste Management Plan have implications for South Australia. To date neither plan has been formally recognised through state legislation.

### Strategic direction

National hazardous waste management plans and similar agreements that are relevant to South Australia should be recognised under state legislation in a timely manner.

## 8.14. Hazardous waste manifest system

The certificate-based hazardous waste manifest system operated by the South Australian EPA enables waste to be tracked from the place of production to the place of storage, treatment or final disposal. The system includes the ability to track wastes transported into and out of the state. Around 60,000–65,000 documents are manually entered onto the EPA database each year, a labour-intensive and time-consuming process.

### Strategic direction

- The EPA should continue to investigate alternatives to its current paper-based hazardous waste manifest system. This would include investigating electronic tracking.
- The EPA should upgrade its system to incorporate alternatives that are capable of delivering results superior to the current system.

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## 8.15. Preservative-treated timber

In 1999 a consultant review was undertaken for EPA of the risks associated with disposal to landfill of preservative (particularly copper chrome arsenate)-treated timber. The review concluded that there were minimal risks associated with this practice provided that it was carried out on a small scale. However, the review pointed out that, in 20-30 years time, large quantities of such timber would need to be disposed of each year and that there would be environmental risks associated with this practice unless appropriately managed and suitable treatment or disposal options are available.

The wine industry is a major contributor to the treated timber waste stream. The South Australian Wine Industry Association (SAWIA) has indicated that they will work with the EPA, ZWSA and the Timber Preservers Association of Australia to develop a waste management plan.

### Strategic direction

- The EPA should work together with other jurisdictions to develop a national approach to minimising the capacity and environmental risks associated with the disposal of unwanted treated timber.
- The EPA should recommend to other jurisdictions that the program be developed using a product stewardship or extended producer approach underpinned, if necessary, by a legislative safety net.

## 8.16. Dry cleaning plant residues

Currently, facilities are available for the recovery of solvent from dry cleaning residues for larger operators in the dry cleaning industry. Some dry cleaners have installed their own treatment system for recycling the dry cleaning solvent. There

are also a large number of smaller operators whose disposal practices are unknown to the EPA.

### Strategic direction

The EPA, in conjunction with the industry association, should develop guidelines for the industry.

## 8.17. Hazardous waste treatment facilities

South Australia is relatively well serviced with EPA-licensed hazardous waste treatment and incineration facilities and has adequate capacity to handle a broad range of hazardous waste.

### Strategic direction

- The EPA should promote the maintenance of an appropriate range of high quality private sector waste, recycling, treatment and disposal facilities.
- The EPA should promote continuous improvement in the hazardous waste management industry's environmental performance.
- The EPA should encourage a coordinated approach by the private sector to the provision of specialised waste treatment and disposal services.
- The EPA should work with industry and the community to identify opportunities to apply approaches to achieving improved environmental performance in the hazardous waste management industry.

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## 8.18. Education on hazardous waste

Education is probably one of the most difficult aspects of any strategy. The key is to educate all stakeholders, which include government, industry and the public, about the merits of the strategy and the outcomes that it will provide. At present there is no formal education system in place in any jurisdiction for this type of project.

Jurisdictions often rely on the administrators of state household chemical collection programs such as EcoRecycle Victoria and Resource NSW to educate via media, publications and local authorities.

Education of industry and the community about the appropriate routine management of hazardous waste is normally addressed through information, leaflets, web site data and industry associations or bodies.

### Strategic direction

- The EPA and ZWSA must focus on educating the community on proper household hazardous waste management practices.
- They must provide information to small to medium-sized industry on hazardous waste management issues in the form of guidelines, codes of practice, etc.
- There must be appropriate commitment by government to provide an education program on hazardous waste.
- The EPA will be required to coordinate training programs and information sessions through industry groups and bodies.

# 9. Action items identified in the strategy

The risk rating column provides a ranking of the action items contained within this strategy and identifies the importance of implementing elements of the strategy. The risk ratings are defined as per the following key: 1 critical, 2 urgent, 3 high, 4 medium, 5 low.

| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| *3.4 Containers* | • The EPA must define 'acceptable residues' so as not to allow heavily contaminated containers to be excluded from the management practices defined in this strategy. | | 3 |
| *8.1 Adequacy of existing legislation* | • Ensure that all legislative instruments provide a consistent approach to hazardous waste.<br>• Ensure the Environmental Protection (Waste) Policy (EPP) incorporates the strategic outcomes of this strategy.<br>• Finalise the draft classification and acceptance criteria for landfills guideline. | | 1<br>1<br>2 |
| *8.2 Hazardous Waste Minimisation* | • ZWSA should provide hazardous waste exchange information on its web site.<br>• The EPA should support the widespread adoption of cleaner production via workshops held in conjunction with industry associations, cleaner production joint ventures between large and small companies and financial support via a financial incentive scheme.<br>• Government (though agencies such as the EPA and Business SA) should promote cleaner production and encourage groups, including industry associations, tertiary institutions, consultants, the accounting profession, the insurance industry and financial institutions, to support this approach.<br>• The EPA should develop waste auditing guidelines and encourage widespread adoption of waste audits, environmental management plans, environmental improvement plans and improve material tracking systems and related accounting systems and, where appropriate, legally require some or all of these measures to be adopted. | | 5<br>4<br>4<br>3 |

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| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| | • In conjunction with ZWSA, the EPA must use statutory processes to require larger companies to consider hazardous waste management, and identify opportunities for waste avoidance when planning new operations or changing existing operations. | | 2 |
| | • The EPA must upgrade its waste transport-tracking database to increase public availability of information on hazardous waste generation. | | 4 |
| | • In conjunction with ZWSA, the EPA must work with industry and the community to ensure that statutory controls over the storage, transport, treatment and disposal of hazardous waste do not unnecessarily impede legitimate bona fide diversion of hazardous waste to preferred waste hierarchy options. | | 3 |
| | • In conjunction with ZWSA, the EPA must work together with industry associations and the waste management industry to identify and facilitate the diversion of hazardous waste with residual economic value (for example, a source of energy) to a preferred waste hierarchy option. When such an option is identified, disposal of the waste to landfill should be prohibited by an appropriate statutory control system. | | 3 |
| | • The EPA must implement a process with local planning authorities that requires any new development, which generates hazardous waste to submit a waste management plan detailing how the environmental impact of these substances will be minimised. | | 3 |
| | • The EPA should use statutory processes, such as licensing, to make companies consider waste and identify opportunities for cleaner production when planning new ventures or when changing existing operations. | | 5 |
| | • The EPA should review the current liquid waste levy system to ensure that it generates sufficient funds to support a broad range of cleaner production initiatives and programs. | | 3 |
| *8.3 Regional hazardous waste generation, storage and disposal facilities* | • The EPA will need to initiate a strategy and plan for educating the rural sector on adopting the waste hierarchy in order to reduce the overall quantity of hazardous waste generated. | | 4 |

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| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| | • In major rural centres it will be necessary to license key facilities for the temporary storage of hazardous waste. This will enable hazardous waste to be collected and economically transported as a bulk load to treatment facilities. | | 3 |
| | • The same strategy outcomes applied to metropolitan Adelaide should apply to regional South Australia. | | 3 |
| *8.4 Hazardous waste landfill* | • The State Government will not provide or operate specifically engineered landfill facilities for hazardous waste. | | 1 |
| | • The EPA should develop guidelines for hazard classification for the categorisation of various types of hazardous waste as listed in Appendix 1. | | 2 |
| | • Generators of hazardous waste are responsible for ensuring that their waste is treated to a standard that meets classification and licence conditions of available landfills. | | 2 |
| *8.5 Medical waste* | • Any medical waste incinerator should be designed and operated to world's best practice gas emission standards. | | 1 |
| | • Any existing medical waste incinerator must be upgraded as soon as possible so that it complies with world's best practice gas emission standards, or cease incineration of medical waste. | | 1 |
| *8.6 Future operation of Dry Creek Household Hazardous Waste Depot* | • Review operation of the depot as required meeting community expectations. | | 4 |
| *8.7 Risk management* | • The EPA should adopt a risk management approach to all its hazardous waste management programs, including EPA-licensed sites. | | 3 |
| *8.8 Movement of hazardous waste between states and territories* | • Hazardous waste must be treated or disposed of in the Australian jurisdiction where it is produced, except when the jurisdiction of origin does not have the facilities available for the environmentally sound management of the waste. | | 3 |
| | • The EPA should not permit hazardous waste from another Australian jurisdiction to be consigned to South Australia for final disposal by landfill only. | | 3 |

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| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| | • The EPA should not permit hazardous waste to be consigned to another Australian jurisdiction where the waste is to be treated or disposed of at a standard which does not meet South Australian environmental performance requirements. | | 3 |
| | • The EPA should not permit hazardous waste from another Australian jurisdiction to be consigned to South Australia if the waste is to be treated or disposed of at a standard that does not meet the environmental performance requirements of the jurisdiction of origin. | | 3 |
| | • The EPA is to implement any variations to the NEPM in a timely manner. | | 5 |
| *8.9 Emergency storage and treatment facilities* | • The EPA should develop formal contingency procedures with the waste storage and treatment industry for the management of hazardous waste resulting from emergencies. | | 4 |
| *8.10 Australian legislation* | • The EPA should continually monitor the hazardous waste management legislation of other Australian jurisdictions and ensure that South Australian legislative controls are at least comparable to best Australian regulatory control standards. | | 4 |
| | • The EPA should continue to work with other Australian jurisdictions to discuss hazardous waste management issues and to facilitate a nationally consistent approach to addressing them. | | 4 |
| *8.11 Household hazardous waste* | • ZWSA should continue conducting a mobile household hazardous waste collection service. | | 4 |
| | • The service should be free to households and farmers only—hazardous waste from businesses is not to be accepted—and should continue to be funded from a landfill levy. | | 4 |
| | • The State Government should encourage local government to separate paint, oil and batteries from the normal waste. | | 4 |
| *8.12 Nickel cadmium batteries* | • The EPA should work together with Commonwealth, State and Territory Government agencies to establish a national collection and disposal program for unwanted nickel cadmium batteries to recycling facilities located in an OECD country. | | 4 |

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| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| | • The EPA should recommend to other agencies that the program be developed using a product stewardship or extended producer responsibility approach underpinned, if necessary, by a legislative safety net. | | 4 |
| *8.13 National hazardous waste management activities* | • National hazardous waste management plans and similar agreements that are relevant to South Australia should be recognised under state legislation in a timely manner. | | 3 |
| *8.14 Hazardous waste manifest system* | • The EPA should continue to investigate alternatives to its current paper-based hazardous waste manifest system. This would include investigating electronic tracking.<br>• The EPA should upgrade its system to incorporate alternatives that are capable of delivering results superior to the current system. | | 3<br>3 |
| *8.15 Preservative-treated timber* | • The EPA should work together with other jurisdictions to develop a national approach to minimising the capacity and environmental risks associated with the disposal of unwanted treated timber.<br>• The EPA should recommend to other jurisdictions that the program be developed using a product stewardship or extended producer approach underpinned, if necessary, by a legislative safety net. | | 4<br>4 |
| *8.16 Dry cleaning plant residues* | • The EPA, in conjunction with the industry association, should develop guidelines for the industry. | | 4 |
| *8.17 Hazardous waste treatment facilities* | • The EPA should promote the maintenance of an appropriate range of high quality private sector waste, recycling, treatment and disposal facilities.<br>• The EPA should promote continuous improvement in the hazardous waste management industry's environmental performance.<br>• The EPA should encourage a coordinated approach by the private sector to the provision of specialised waste treatment and disposal services. | | 3<br>3<br>3 |

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| Section Title | Action Item | Time Frame | Risk Rating |
|---|---|---|---|
| | • The EPA should work with industry and the community to identify opportunities to apply approaches to achieving improved environmental performance in the hazardous waste management industry. | | 4 |
| *8.18 Education on hazardous waste* | • The EPA and ZWSA must focus on educating the community on proper household hazardous waste management practices.<br>• They must provide information to small to medium-sized industry on hazardous waste management issues in the form of guidelines, codes of practice, etc.<br>• There must be appropriate commitment by government to provide an education program on hazardous waste.<br>• The EPA will be required to coordinate training programs and information sessions through industry groups and bodies. | | 4<br>3<br>4<br>4 |

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# 10. Appendix 1—Hazardous waste categories

## Waste stream or waste having as constituents:

acidic solutions or acids in solid form

antimony; antimony compounds

arsenic; arsenic compounds

asbestos

barium compounds (excluding barium sulphate)

basic solutions or bases in solid form

beryllium; beryllium compounds

boron compounds

cadmium; cadmium ds

ceramic-based fibres with physi chemical characteristics similar to those of asbestos

chlorates

chromium compounds (hexavalent and trivalent)

medical wastes

cobalt compounds

copper compounds

cyanides (inorganic)

cyanides (organic)

ethers

encapsulated, chemically fixed, solidified or polymerised wastes

filter cake

fire debris and fire wash waters

fly ash

halogenated organic solvents

highly odorous organic chemicals (including mercaptans and acrylates)

inorganic fluorine compounds excluding calcium fluoride

inorganic sulfides

isocyanate compounds

lead; lead compounds

mercury; mercury compounds

metal carbonyls

nickel compounds

organic phosphorus compounds

organic solvents excluding halogenated solvents

organohalogen compounds—other than substances referred to in this list

oxidising agents

perchlorates

phenols, phenol compounds including chlorophenols

phosphorus compounds excluding mineral phosphates

polychlorinated dibenzo-furan (any congener)

polychlorinated dibenzo-p-dioxin (any congener)

residues from industrial waste treatment/disposal operations

selenium; selenium compounds

surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials

tannery wastes (including leather dust, ash, sludges and flours)

tellurium, tellurium compounds

thallium; thallium compounds

triethylamine catalysts for setting foundry sands

vanadium compounds

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waste chemical substances arising from research and development or teaching activities including those which are not identified and/or are new and whose effects on human health and/or the environment are not known

waste containing peroxides other than hydrogen peroxide

waste from heat treatment and tempering operations containing cyanides

waste from the manufacture, formulation and use of wood-preserving chemicals

waste from the production, formulation and use of biocides and phytopharmaceuticals

waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish

waste from the production, formulation and use of organic solvents

waste from the production, formulation and use of photographic chemicals and processing materials

waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives

waste from the production and preparation of pharmaceutical products

waste mineral oils unfit for their original intended use

waste oil/water, hydrocarbons/water mixtures or emulsions

waste pharmaceuticals, drugs and medicines

waste resulting from surface treatment of metals and plastics

waste tarry residues arising from refining, distillation, and any pyrolytic treatment

waste, substances and articles containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated naphthalenes (PCNs), polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)

zinc compounds

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# 11. Appendix 2—Characteristics of hazardous wastes

| Dangerous Goods Class (UN Class*) | UN Code | Description |
|---|---|---|
| 1 | H1 | **Explosive**<br>An explosive substance or waste is a solid or liquid substance or waste (or mixture of substances or wastes) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. |
| 3 | H3 | **Flammable Liquids**<br>The work 'flammable' has the same meaning as 'inflammable'. Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc., but not including substances or wastes otherwise classified on account of their dangerous characteristics) which give off flammable vapour at temperatures of not more than 60.5 degrees Celsius, closed-cup test, or not more than 65.6 degrees Celsius, open-cup test. (Since the results of open-cup tests and of closed cup tests are not strictly comparable and even individual results by the same test are often variable, regulations varying from the above figures to make allowances for such differences would be within the spirit of the definition). |
| 4.1 | H4.1 | **Flammable solids**<br>Solids or waste solids, other than those classified as explosives, which under conditions encountered in transport are readily combustible, or may cause or contribute to fire through friction. |
| 4.2 | H4.2 | **Substances or wastes liable to spontaneous combustion**<br>Substances or wastes which are liable to spontaneous heating under normal conditions encountered in transport, or to heating up in contact with air, and being then liable to catch fire. |
| 4.3 | H4.3 | **Substances or wastes which, in contact with water, emit flammable gases**<br>Substances or wastes which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities. |
| 5.1 | H5.1 | **Oxidising**<br>Substances or wastes which, while in themselves not necessarily combustible, may, generally by yielding oxygen, cause or contribute to, the combustion of other materials. |
| 5.2 | H5.2 | **Organic peroxides**<br>Organic substances or wastes which contain the bivalent-O-O-structure are thermally unstable substances which may undergo exothermic self-accelerating decomposition. |

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| Dangerous Goods Class (UN Class*) | UN Code | Description |
|---|---|---|
| 6.1 | H6.1 | **Poisonous (acute)**<br>Substances or wastes liable either to cause death or serious injury or to harm human health if swallowed or inhaled or by skin contact. |
| 6.2 | H6.2 | **Infectious substances**<br>Substances or wastes containing viable micro-organisms or their toxins which are known or suspected to cause disease in animals or humans. |
| 8 | H8 | **Corrosives**<br>Substances or wastes which, by chemical action, will cause severe damage when in contact with living tissue, or in the case of leakage, will materially damage, or even destroy, other goods or the means of transport; they may also cause other hazards. |
| 9 | H10 | **Liberation of toxic gases in contact with air or water**<br>Substances or wastes which, by liberation with air or water, are liable to give off toxic gases in dangerous quantities. |
| 9 | H11 | **Toxic (delayed or chronic)**<br>Substances or wastes which, if they are inhaled or ingested or if they penetrate the skin, may involve delayed or chronic effects, including carcinogenicity. |
| 9 | H12 | **Ecotoxic**<br>Substances or wastes which if released present or may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects upon biotic systems. |
| 9 | H13 | **Capable of yielding another material which possesses H1-H12**<br>Capable by any means, after disposal, of yielding another material, e.g., leachate, which possesses any of the characteristics listed above. |
| | | **Other reasons**<br>Potential to have a significant adverse impact on ambient air quality. |
| | | Potential to have a significant adverse impact on ambient marine, estuarine or fresh water quality. |
| *UN Class and Code relates to the hazard classification system included in the United Nations *Recommendations on the Transport of Dangerous Goods*, as used in Australia. | | |

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# 12. Appendix 3—Glossary of Terms & Acronyms

| | |
|---|---|
| ANZECC | Australian and New Zealand Conservation Council |
| BCD | BCD Technologies Pty Ltd |
| CCA | Copper Chrome Arsenate |
| Controlled Waste | Waste in List 1 provided that the waste possesses one or more of the characteristics in List 2 as outlined in the 'National Environment Protection (Movement of Controlled Waste between States and Territories) Measure' |
| DEH | Department for Environment and Heritage |
| EPA | Environment Protection Authority |
| EPR | Extended Producer Responsibility |
| General Pesticide | Pesticides (including herbicides and fungicides) excluding Organochlorine, organometallic and arsenic based compounds |
| Hazardous Waste | Any unwanted or discarded material (excluding radioactive material) which, because of its physical, chemical or infectious characteristics can cause significant hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. For the purpose of this strategy this means any waste stream that is specified in Appendix 1, provided that it possesses one or more of the characteristics specified in Appendix 2. |
| Listed Waste | Waste listed in Part B of Schedule 1 of the Environment Protection Act 1993 |
| Medical Waste | As defined in Part B of Schedule 1 of the Environment Protection Act 1993 |
| NATA | National Association of Testing Authorities |
| NEPM | National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998 |
| NSW | New South Wales |
| NT | Northern Territory |
| OCP | Organochlorine Pesticides |
| PCB | Polychlorinated Biphenyls |
| QLD | Queensland |
| SA | South Australia |

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| | |
|---|---|
| Trade Waste | The liquid waste from any industry, business, trade or manufacturing premises, other than domestic sewage, which is disposed of to the sewer. |
| Vic | Victoria |
| WA | Western Australia |
| ZWSA | Zero Waste SA |

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