

**Collection and Storage  
Facilities for Household  
Chemical Waste  
at Landfills and  
Solid Waste Depots**

*Draft Design Guidelines*

# *Statement of Intent*

## **Our Vision**

*Towards Zero Waste in Western Australia*

## **Our Principles**

***Principle 1: Prevention** - to avoid the creation of waste*

***Principle 2: Recovery** - to efficiently re-cover, re-treat and re-use all wastes*

***Principle 3: Disposal** - to responsibly manage waste into the environment*

# COLLECTION AND STORAGE FACILITIES FOR HOUSEHOLD CHEMICAL WASTE AT LANDFILLS AND SOLID WASTE DEPOTS

## *Draft Design Guidelines*

Western Australian  
Waste Management Board

SEPTEMBER 2006



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## 1.0 INTRODUCTION

There is a wide range of chemical products available for domestic household use, including cleaners, paints, adhesives, solvents and pesticides. If improperly used, many of these can be harmful to people and to the environment. The safe disposal of leftover chemicals, however, is a problem to householders who may either accumulate unwanted bottles and tins in cupboards and garages or dispose of them inappropriately. This has been recognised by state and local government authorities which have long offered a valuable chemical collection service to the community either through arranging periodic collections or by providing permanent drop-off facilities.

### 1.1 Purpose

This document aims to provide guidance to organisations or consultants who intend designing a new facility for collecting and storing household chemical waste (HCW) for eventual safe disposal. It also provides useful information for organisations wishing to upgrade their existing HCW collection and storage facilities.

The guidelines are intended to apply only to facilities that collect household volumes (up to 20 L or 20 kg per package / item) of HCW for temporary storage. They are not applicable to permanent or large-scale storage facilities for hazardous or dangerous goods. The guidelines do not replace or supersede any existing government code of practice or regulation. Rather, they are intended to provide simple, practical advice to promote better practice in the design and construction of HCW collection facilities.

### 1.2 Principles

The principles on which these guidelines are based are:

- Protection of staff and employees – the facilities must meet the appropriate standards for occupational health and safety
- Protection of public health – the facilities must meet the appropriate standards for the handling and storage of hazardous substances and dangerous goods and measures must be put in place to protect the public
- Protection of the environment – the facilities should be constructed in such a way as to minimise any potential impact on the surrounding environment
- Inherent safety through good design and planning – the buildings and associated structures must promote safety through good design in location, construction and layout to minimise the possibility of any adverse incident occurring in the storage area and to reduce the impact of any incident that might occur.

### 1.3 Definitions

For the purposes of administration and regulation, there are a number of definitions for groups of items that can be thought of as household hazardous waste (HHW). Generally, HHW will be household quantities (less than 20 L or 20 kg per package / item) of unwanted hazardous substances or dangerous goods.

#### ***The difference between hazardous substances and dangerous goods***

Hazardous substances and dangerous goods are classified according to different criteria:

- Hazardous substances are classified on the basis of their health effects, which can be immediate or long term (e.g. corrosives, poisons).
- Dangerous goods are classified on the basis of their immediate physical or chemical effects, such as fire, explosion, corrosion and poisoning affecting property, the environment or people.

Hazardous substances and dangerous goods are covered by separate legislative enactments, each focusing on controlling the different risks described above. In cases where hazardous substances are also classified as dangerous goods, the requirements of both pieces of legislation will apply, effectively ensuring the comprehensive treatment of hazards. See Section 8.0 for information on where to find the relevant legislation and advice.

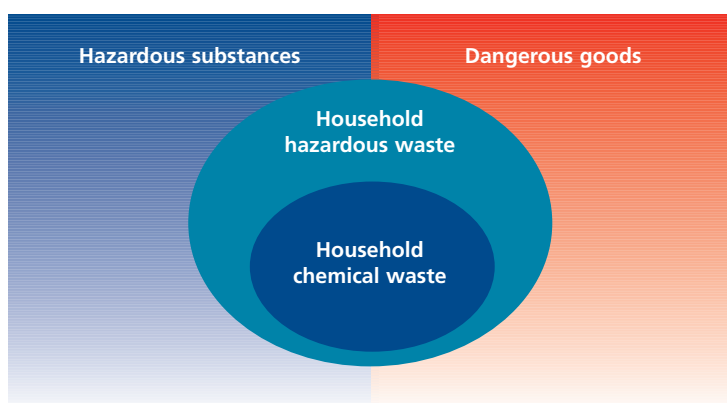
#### ***The difference between household hazardous waste and household chemical waste***

Household hazardous waste covers all unwanted hazardous substances and dangerous goods generated by households. This would include, for example, gas cylinders and batteries. For the purposes of this document, HCW is taken to be a subset of household hazardous waste.

Examples of household chemical waste include:

- paints and solvents
- maintenance products – motor oils, coolants, brake fluid
- garden chemicals – pesticides, fungicides and herbicides
- swimming-pool chemicals – oxidisers, chlorine, hydrogen peroxide, acids, alkalis
- household cleaning products – varnishes, polishes, caustics
- hobby and recreational products – photographic chemicals, glues.

Generally, most of the materials collected by HCW facilities will be “hazardous substances” rather than “dangerous goods”. However, facility operators may choose to incorporate storage areas for certain categories of dangerous goods, such as gas cylinders, into the design of their facilities. In this case, the design should conform with the Department of Consumer and Employment Protection Storage and Handling of Dangerous Goods Code of Practice and Regulations.



***Figure 1: Representation of HCW in relation to HHW, hazardous substances and dangerous goods***

## 2.0 THE SITE

Locating a HCW store in an appropriate place can substantially reduce the risk of any impact on human health or the environment in the event of an accident or spill. This section lists a number of issues to be considered when selecting the site for a HCW store. The selection of the site for the storage of chemicals should be consistent with the appropriate land use designation as specified in local government by laws.

These guidelines apply to facilities located at landfills or waste transfer stations and it is likely that many of the issues discussed below will have been considered in the siting of the main waste facility. However, the designers of new HCW facilities should ensure that the site selection specifications listed below are adhered to as closely as possible.

### 2.1 Location and orientation

Site selection and orientation that take advantage of the natural attributes of a site can reduce the requirement for expensive engineering works. As most HCW stores will be constructed adjacent to an existing waste facility, there are likely to be space and location constraints. However, the following factors should be taken into consideration as far as possible.

#### ***Run-off and flooding***

The location and orientation of the store should take into consideration the topography of the site. The storage facility should preferably be located on higher ground than the surrounding area, and run-off from rain should flow around the facility, not directly to it or into it. It might be necessary either to build up the site of the HCW facility or to install stormwater/rainwater run-off diversion channels around the area.

#### ***Wind direction***

The prevailing wind at a particular site can have both a negative and a positive aspect. In the event of a fire or chemical reaction that produces gas, the prevailing wind will disperse the smoke and fumes generally in one direction. It is therefore important that residential areas or sensitive land use zones are not directly downwind of the facility.

On the positive side, however, the facility can be oriented to take advantage of passive ventilation from the prevailing wind. But care must be taken in the design to ensure that neither the drop off area nor the stored materials are exposed to rain or winds. If possible a "windsock" should be installed on or near the facility to show wind direction in the event of an accident.

### 2.2 Buffers

Buffers are important both to protect neighbouring sites from risks associated with the HCW facility and to protect the HCW facility from risks associated with neighbouring sites. The separation distances suggested below are merely a guide; the actual distance will depend on site specific factors.

### ***Proximity to office and other facilities***

As a rule of thumb, a buffer zone of at least 8 m should be provided between the chemical store and the nearest office, staff amenities or work area.

For most dangerous goods, recommended minimum separation distances are specified in the relevant Australian Standard. Some of these will apply only to storage areas and not to areas where the dangerous goods are handled. These standards recommend a range of distances, depending on material class, packing group, quantity, and other factors.

### ***Proximity to surface water***

As a general rule, a minimum 200 m separation distance from the HCW facility to waterbodies or wetlands with recognised social or conservation values should be adhered to. If the storage facility is located less than this distance from such a waterbody, the biophysical characteristics of the surrounding area will have to be carefully considered.

### ***Proximity to groundwater***

There should be a minimum 2 m vertical separation distance from the bottom of the compound foundation to the top of the wet season water table. This distance may be less if the facility is to be situated on a lined landfill.

### ***Proximity to residential housing***

It is recommended that the facility be at least 300 m from the nearest residential dwellings.

### ***Proximity to neighbouring non-residential properties***

The proximity of a HCW facility to neighbouring non-residential properties will depend on the nature of such properties, such as whether they are being employed for sensitive forms of land use or whether activities on the neighbouring property pose a potential hazard.

External hazards would include:

- any dangerous goods or incompatible substances stored at other adjacent premises or public places
- activities, facilities or installations on neighbouring premises that could create a hazard, e.g. an ignition source
- the effects of infrastructure such as a road, railway line, airport, pipeline, power line, radio transmitter or telephone tower
- fire hazards, including concentrations of combustible material or unmanaged vegetation on neighbouring premises or public areas.

Consideration needs to be given to what might be the potential risks and impacts in each specific situation.

## **2.3 Accessibility**

The HCW facility should be easily accessible to the general public during opening hours, but inaccessible after hours. Members of the public should be able to drive as close to the store as possible to drop off their chemicals. A table where unwanted chemicals can be placed should be located for easy access by the public, and within a lockable compound.

The HCW facility should also be accessible to waste collection vehicles that will remove material from the storage facility for disposal and to emergency services personnel in the event of an accident. It should be located where there are access roads of adequate load-bearing capacity to support emergency vehicle access and waste collection trucks.

## 3.0 THE BUILDING

As noted in the previous section on site selection, building construction and design should aim to avoid or minimise any impacts in the event of a potentially dangerous incident, such as a spill, fire or reaction between chemicals. This section provides some suggestions for achieving this.

### 3.1 Building materials

The building should be constructed of materials that are impervious to chemicals, such as brick or metal sheeting (such as Colorbond®), and must be approved under the local building code. Floors should be made out of impervious reinforced concrete, and not liable to degradation, chemical attack or sparking.

### 3.2 Doorways

Access and exit doorways must be incorporated in the design of the store to allow emergency exit should a spill occur. There should be easy access to the storage room for FESA (the Fire & Emergency Services Authority of Western Australia) or other emergency workers in the event of a fire or chemical spill. It would be desirable to incorporate a doorway which is large enough for a forklift or pallet lifter to enter the shed to remove pallets of chemicals. It is suggested that doorways be installed at the front and rear of the facility when the total area exceeds 36 m<sup>2</sup>. All doors should be outward opening and have easy egress handles which will operate under emergency conditions. No key locks should be installed on the inside of the doors.

### 3.3 Ventilation

The facility should have sufficient ventilation to remove vapours and dust from any enclosed areas. Chemical vapours present a health risk for staff and the accumulation of flammable and combustible gases or fumes could present a threat of fire or explosion. Vents should be positioned near floor level and near ceiling level and should be installed on two sides of the shed. It is suggested that there be at least 1 m<sup>2</sup> of vent area for each 50 m<sup>2</sup> of floor area. AS 1940 states "There shall be one low-level vent in each 3 m of length of wall, or in each 1.4 m of length of external wall where there is only one external wall."

Vents should not be obstructed, either inside or outside the store, by packages or other material. Guards should be provided if necessary. A free-flowing rotary extraction unit (of the "whirlybird" type) should be installed on the roof, with optional ventilation incorporated as part of the ridge cap.

### 3.4 Water supply

Water should be installed at adequate volume and pressure to supply safety showers, eye wash stations, water hoses, automatic sprinklers or water spray systems.

### 3.5 Containment

It is imperative that any chemical spills can be contained in as small an area as possible and can be cleaned up thoroughly. Spilt chemicals can react with “old” spills, or even water, to produce noxious gases or heat. Containment of potential spills is the most important aspect of HCW facility design, and needs to be given careful consideration.

Bunding should be installed around the facility storage area as well as around the perimeter of the compound. The capacity of the spillage containment should be at least 100% of the volume of the largest package with an extra 25% of the storage capacity up to 10,000 L (*AS 1940, The storage and handling of flammable and combustible liquids*).

The floor should be graded so that any spills are contained in a sump which does not discharge to a stormwater drain or sanitary sewer. The storage areas for each chemical category should have a separate sump to prevent the mixing of incompatible chemicals. These systems should be prevented from collecting rainwater. Since such systems are usually out of sight, controls are needed to ensure they are fully available for use when required.

Similar chemicals should be stored in a tub/container that is made of an impervious material to contain any leaks, spills, and accumulated precipitation. Tubs should have a prominent label on the front stating the type of chemicals stored.

### 3.6 Electrical wiring and fixtures

Interior lighting must be of sufficient strength to ensure the easy reading of the labels identifying the chemical compounds on containers as well as being able to identify the location of any leaks and spills. The store should be constructed with explosion-proof electrical wiring, fixtures, lights, motors, switches and other electrical components as required by local fire codes.

### 3.7 Heat sources

Heat sources may increase vapour pressure within stored chemicals or cause packaging to deteriorate. Chemicals and dangerous goods must be stored at least 5 m from any naked flame, but it is strongly recommended that no naked flames be permitted in the facility.

## 4.0 FACILITY LAYOUT

The layout should minimise the possibility of an adverse incident occurring and should aim to minimise the impact of such an incident if one should occur. Factors to be considered include the potential for chemicals to react with each other if mixed and the design must therefore provide sufficient space to allow for the separate storage of incompatible chemicals. It must provide space for staff to work comfortably in the area; it must provide suitable access for staff and the public; and it must ensure that all necessary access for emergency services personnel is a priority.

### 4.1 Compatibility of wastes

Some classes of chemicals react strongly when mixed together, producing heat and/or toxic gases. It is extremely important to design the layout of the HCW facility to ensure that incompatible classes of chemicals are kept apart.

The main categories of chemical waste materials to be expected are:

- acid wastes - wastes containing inorganic acids with a pH of 4.0 and below
- caustic wastes - wastes containing inorganic bases with a pH of 9.0 and above
- organic wastes - wastes containing non-reactive organic materials
- oxidiser wastes - wastes containing oxidising inorganic compounds
- reactive wastes - wastes that react violently with water
- flammable liquids - liquids that have flashpoints below 60.5 °C and boiling points below 37.8 °C
- combustible liquids – liquids that have flashpoints greater than 60.5 °C
- “unknowns” – chemicals whose identities are not known. They have to be treated with caution and stored individually in containers so that any spills do not mix with other products. The Chemistry Centre (WA) provides a free identification of “unknowns” through telephonic or on-site inspections.
- “miscellaneous” – relatively benign liquids.

Information on chemical categories and compatibility is available from material safety data sheets (see Section 6.2) and from the Chemistry Centre (WA).

#### **Items NOT to be stored in sheds**

Due to the potential volatility of the contents of some items, such as compressed gas cylinders, liquefied petroleum gas (LPG) cylinders, and motor vehicle lead–acid batteries, these items should not be kept within the storage building. They should be securely locked in a separate compound.

For further information on items not to be kept in a HCW store contact the Chemistry Centre (WA).

## 4.2 Areas accessible to the public for drop-off

The public drop off area should incorporate a covered hardstand and a table with large plastic tubs into which members of the public can deposit their unwanted chemicals. The area should be located within an area that is locked each day.

The public drop off area should be bunded to capture any accidental spills or leaks. An emergency spill kit and fire extinguisher should be located close by. Trained staff should be available to remove chemicals from vehicles or trailers, check all containers for leaks and question the public on the possible identity of unknown chemicals.

## 4.3 Storage areas for chemicals

### ***Separation of chemicals***

The storage area needs to be designed to ensure complete separation of incompatible chemicals. This is best achieved through distinctly separate and well-signed storage areas for each chemical category. Each storage area should be bunded, graded and supplied with a drain to its own sump to prevent incompatible chemicals mixing in a common underground tank.

It should be noted that the highest volume category presenting at HCW facilities tends to be flammable liquids such as petrol and kerosene. A larger area should therefore be assigned to this category - roughly double the area assigned to other categories. The area assigned to each category should be sufficient to easily store the expected volume of material between store clearances.

### ***Shelving***

Shelving racks for storing chemicals should be made of galvanised steel or acid-resistant shelving, with surfaces resistant to attack by spilt chemicals. Shelving and racks should be able to handle a minimum load of 100 kg and must not fold or collapse under a continuous load. Hazardous chemicals should not be stored in racks higher than 1.5 m for ease of handling by staff. It is recommended that no chemical containers be stored higher than the average "eye height" of individuals working in the store.

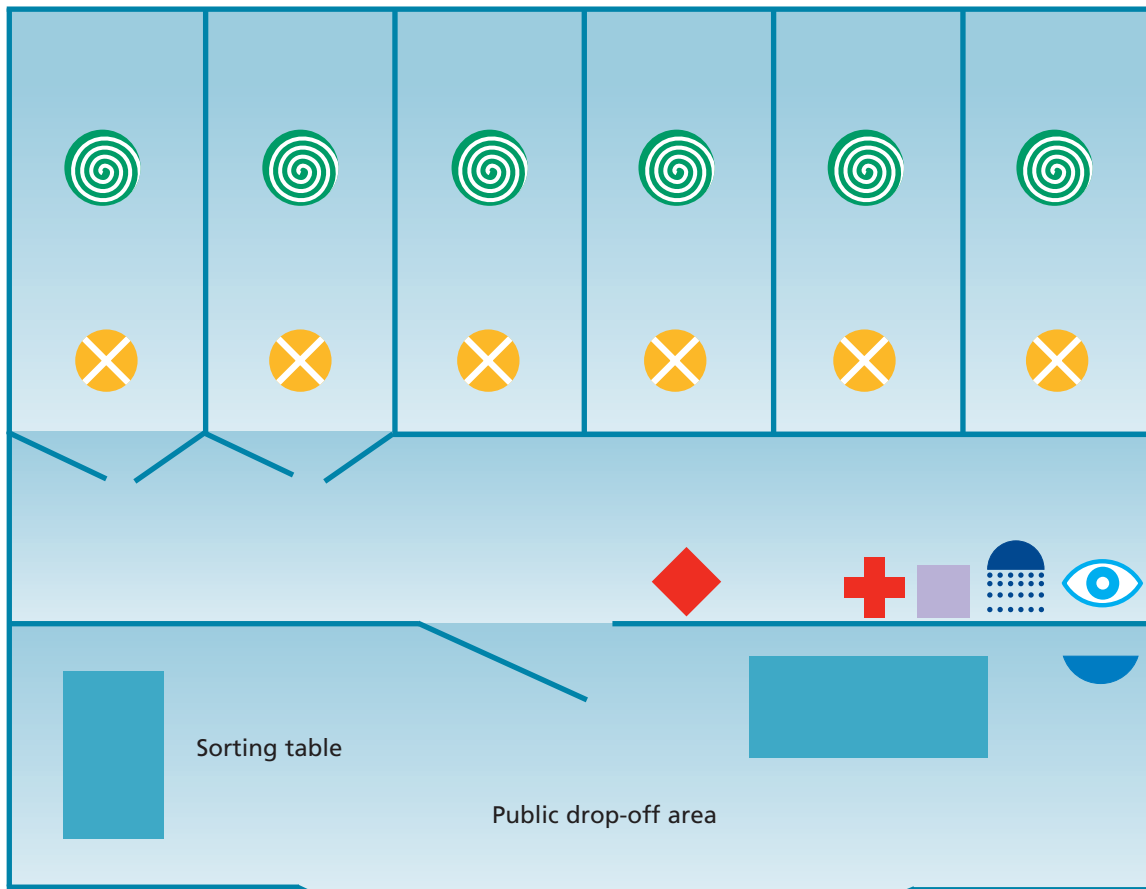
## 4.4 Internal administration areas










The internal layout of the storage facility may include an area set aside for a desk and a computer for recording chemicals received and dispatched, a whiteboard for leaving messages, a pinboard for displaying hazardous waste information from regulatory authorities, and a box for material safety data sheets (MSDSs). The desk and display boards should be located close to a doorway. It is recommended that depot staff do not use the chemical store for office functions, but have separate offices situated away from the store, preferably in a different building.

## 4.5 Example of layout

It is recommended that the storage facility should have separate bricked/bunded rooms for each classified chemical, or a shed with sturdy shelving for the segregated storage of chemicals. Figure 2 is an example of an appropriate layout for a safe HCW storage facility.

Figure 2: Example of a HCW storage facility layout



- |   |                                     |   |               |
|---|-------------------------------------|---|---------------|
|  | Run-off pit grate                   |  | Eyewash unit  |
|  | Fire extinguisher                   |  | First-aid kit |
|  | Air extraction units (whirly birds) |  | PPE cupboard  |
|  | Laundry sink/hand basin             |  | Windsock      |
|  | Safety shower                       |   |               |

## 5.0 SECURITY AND SAFETY

### 5.1 Fire protection

The fire protection system includes fire detection, fire suppression and firefighting equipment, which may be fixed or portable. Under the Western Australian dangerous goods regulations, operators must ensure that appropriate fire protection and firefighting equipment are provided, installed, and maintained. This is in addition to any fire protection required by the Building Code of Australia (BCA). Portable fire extinguishers should be provided, appropriate to the type and quantity of materials stored, near the place where those materials are being stored or handled. The number of and size of extinguishers is determined by the size of the risk and use as determined by *AS 2444, Portable fire extinguishers and fire blankets: selection and location*. These extinguishers must be boldly labelled so that workers faced with an emergency, and under pressure, will confidently select the appropriate type.

A supply of water should be readily available for emergency use to fight fires. The advice of the fire brigade should be requested to determine whether the location and type of fire protection system meets with their operational requirements. FESA should be consulted when designing or altering the system.

### 5.2 Communication and alarm system

A communication and alarm system which is able to contact FESA or other emergency service organisations should be installed within 10 m of the facility or another manned office within the facility complex.

Fire-alarm systems should be designed and installed to achieve the following:

- Automatic systems should be capable of being manually activated at clearly identified manual alarm activation points at convenient and safe locations near work areas.
- Alarm signals should be distinguishable from other signals to allow ready recognition, and should be clearly audible throughout the storage location and site.
- Effective alternative alarm systems, such as visual systems, should be installed where high noise levels or the use of personal protective equipment (PPE) may prevent a worker from hearing or recognising an alarm signal.
- The system should remain operable when the main power supply fails.

Further advice is provided in Australian standards *AS 1603, Automatic fire detection and alarm systems* and *AS 1670, Fire detection, warning, control and intercom systems*.

### 5.3 Security

Because of the hazards associated with chemicals and dangerous goods, access to HCW site and work areas must be controlled and restricted to those persons having a legitimate reason to be there. Operators of sites have a duty, so far as is reasonably practicable, to prevent access to the operator's site by unauthorised persons and unauthorised activities occurring on those sites.

A security fence with security locks on all gates and doors should be installed around the facility holding the waste chemicals. The security fenced area should have a lockable gate which is kept locked during normal operating hours. Only trained facility staff should be able to enter the store. Signs should be posted in sufficient numbers to be seen from any of the approaches to the facility with a legend such as "Danger! Keep Out! Authorised Personnel Only".

### 5.4 Spill kits

It is imperative that all depots are able to handle any small chemical spill and that all chemical spills should receive immediate attention. Spill kits should be located in high-risk areas. They should be easily identifiable and accessible. Contents should include stocks of absorbent material, such as pillows, soil or sawdust ("kitty litter"); protective clothing; and secure skips for these materials once they have been used and contaminated.

### 5.5 Safety and first-aid equipment

#### ***Showers and eyewash station***

Emergency eyewash and shower equipment will be located within 10 m and the time taken for workers to reach the washing units from any given point in the facility should not exceed 10 seconds. Eyewash and shower equipment will be maintained and tested on a regular basis.

The washing facilities should not be within 2 m of the store or work area to avoid possible contamination of the facility itself.

#### ***Safety equipment***

The operator must ensure that appropriate PPE for chemical and hazardous material (Hazmat) protection such as hard hats, safety glasses and/or other eye protection, overalls, gloves, chemical splash suits, masks, boots, etc., is kept at the site and is accessible. Lockers for equipment such as protective clothing, gloves and self contained breathing apparatus should be provided for personnel operating within the facility.

PPE must be provided by the employer and replaced when necessary. Australian / New Zealand Standard AS/NZS 1336:1997, *Recommended practices for occupational eye protection* gives the requirements for the selection of the correct type.

#### ***First aid kit***

A suitable fully stocked and easily accessible first aid kit should be located within the facility or within 10 m of the store.

## 5.6 Signs and labels



Signs and labels provide key information to facility staff and the public. The location of signs is important, and should be considered during the design phase.

All storage areas must be clearly and individually labelled to indicate which materials are stored in each area. Labels should be in large print and plain English. For some materials, a diagram or a list of products fitting into the material category may also be appropriate.

Signs for some materials are available from the web site of Sustainability Victoria (formerly known as Eco Recycle Victoria) at [www.ecorecycle.sustainability.vic.gov.au/www/html/398-signs-for-transfer-stations--landfills.asp?intSiteID=1](http://www.ecorecycle.sustainability.vic.gov.au/www/html/398-signs-for-transfer-stations--landfills.asp?intSiteID=1).

Placards are required by law under the Dangerous Goods Storage and Handling Regulations, and are explained in the Dangerous Goods Storage and Handling Code of Practice. Safety signage and placarding should comply with Australian standards AS 1216:1995, *Class labels for dangerous goods* and AS 1319:1994, *Safety signs for the occupational environment*. As a minimum, Hazchem signs (“diamonds”) for classes 6 (toxic materials), 8 (corrosive materials), and 3 (flammable liquids) must be placed on the surrounds of the store, together with a “no smoking” sign.

Signage indicating opening times, access and restricted access should be placed on the exterior of the facility; a Hazchem outer warning placard should be placed at the outer entrance to the facility.

A list of emergency phone numbers should be clearly displayed at a location within the store that can be seen by both staff and members of the public.

## 6.0 RECORD-KEEPING

### 6.1 Inventory and reporting mechanisms

An inventory (manifest) of all materials received and stored at the facility is essential both for safety reasons and for logistic reasons (as for the occasions when the store is cleared by waste contractors). Computerised systems are available to assist in maintaining a register as well as in identifying materials by category. The ease of maintaining the inventory as material is received needs to be considered during the design of the facility.

### 6.2 Material safety data sheets (MSDSs)

MSDSs are information sheets which are prepared and supplied by the manufacturers or suppliers of chemicals. An MSDS provides information to users of a particular substance about its properties, its uses and its effects on health, as well as on safe handling procedures and the precautions necessary for its use. MSDSs for all items stored in the facility must be readily accessible to staff handling materials received from the public. MSDSs must also be located in a place or places convenient to emergency services personnel responding to a call for assistance. Placement of MSDSs should be considered during the facility design stage.

### 6.3 Scale drawings

Scale drawings that show fencing and signs, fire suppression equipment stations, storage areas for PPE and spill response equipment, and shower and eyewash stations should be visible outside the main door to the store. Copies should also be held in the office and be readily available to staff and emergency services personnel.

## 7.0 MATERIAL REDISTRIBUTION TO THE PUBLIC

It will often be found that chemicals delivered to HCW depots are still in their original containers and may not even have been opened or used. Some materials, such as water-based paint, may be suitable for redistribution to the public for use. The facility design may incorporate an area where the public can be given access to such materials to take away.

However, HCW operators need to be aware of the potential risks and liability associated with redistribution of chemicals from unknown sources. It is recommended that materials for redistribution to the public be restricted to those materials that have been clearly identified and that are in their original containers with the original label (listing ingredients, warnings, clear instructions for use, etc.).

## 8.0 WHERE TO GO FOR MORE INFORMATION

It is important that all facility designers, depot operators and their staff are aware of current government laws and regulations as well as the licence conditions imposed by the relevant regulatory agencies. Contact details and other information on state government departments and agencies that have requirements for the safe collection and storage of chemicals are provided below. These agencies can provide technical advice.

### 8.1 Relevant Western Australian Government departments and agencies

#### **Department of Environment and Conservation**

168 St Georges Terrace, Perth WA 6000

Telephone: (08) 6364 6500

Telephone emergency: 1800 018 800

Email: [info@environment.wa.gov.au](mailto:info@environment.wa.gov.au)

Internet: [www.dec.wa.gov.au](http://www.dec.wa.gov.au)

*Environmental Protection Act 1986*

Environmental Protection Regulations 1987

Environmental Protection (Controlled Waste) Regulations 2001

Environmental Protection (Unauthorised Discharges) Regulations 2004

Licence conditions as set for each individual waste depot

#### **Department of Consumer and Employment Protection**

Resources Safety Division, Dangerous Goods Safety Branch

Mineral House, 100 Plain Street, East Perth WA 6004

General enquiries, telephone: (08) 9222 3595

Dangerous goods storage enquiries, telephone: (08) 9222 3413

Dangerous goods transport enquiries, telephone: (08) 9222 3595

Email: [online@docep.wa.gov.au](mailto:online@docep.wa.gov.au)

Internet: [www.docep.wa.gov.au](http://www.docep.wa.gov.au)

*Explosives and Dangerous Goods Act 1961*

Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992

*Dangerous Goods (Transport) Act 1998*

Dangerous Goods (Transport) (Road and Rail) Regulations 1999

Guidelines for the Preparation of an Emergency Plan and Manifests, Guidance Note S310 REV 5

Storage of Dangerous Goods: Licensing and Exemptions, Guidance Note S301 REV 12

Storage of Dangerous Goods: Placarding of Stores and Premises, Guidance Note S302 REV 10

Storage of Dangerous Goods: General Requirements for Licensed Premises, Guidance Note S303 REV 8

Storage of Dangerous Goods: Code of Practice, draft for public comment, March 2006

#### **Department of Consumer and Employment Protection, WorkSafe**

1260 Hay Street, West Perth WA 6005

Telephone: 1300 307 877 or (08) 9327 8777

Email: [safety@docep.wa.gov.au](mailto:safety@docep.wa.gov.au)

Internet: [www.worksafe.wa.gov.au](http://www.worksafe.wa.gov.au)

*Occupational Safety and Health Act 1984*

Occupational Safety and Health Regulations 1996

### **Fire and Emergency Services Authority of Western Australia**

480 Hay Street, Perth WA 6000

Telephone: (08) 9323 9300

Emergency: 000

Email: [fesa@fesa.wa.gov.au](mailto:fesa@fesa.wa.gov.au)

Internet: [www.fesa.wa.gov.au](http://www.fesa.wa.gov.au)

Guidelines for the preparation of special risk plans

### **Chemistry Centre (WA)**

125 Hay Street

East Perth WA 6004

Telephone: (08) 9222 3177

Facsimile: (08) 9325 7767

Email: [chemistry@ccwa.wa.gov.au](mailto:chemistry@ccwa.wa.gov.au)

Internet: [www.ccwa.wa.gov.au](http://www.ccwa.wa.gov.au) OR [www.doir.wa.gov.au/ccwa](http://www.doir.wa.gov.au/ccwa)

Information and inspection service to identify unknown chemicals

## **8.2 Australian standards**

The following standards relate to the storage and handling of chemicals and are available from Standards Australia at [www.saiglobal.com/shop](http://www.saiglobal.com/shop)

- AS 1940:2004 The storage and handling of flammable and combustible liquids
- AS 3780:1994 The storage and handling of corrosive substances
- AS 1692:2006 Steel tanks for flammable and combustible liquids
- AS/NZS 1596:2002 The storage and handling of LP Gas
- AS 2714:1993 The storage and handling of hazardous chemical materials - Class 5.2 substances (organic peroxides)
- AS 4332:2004 The storage and handling of gases in cylinders
- HB 76:2004 Dangerous goods - Initial emergency response guide
- AS 2507:1998 The storage and handling of agricultural and veterinary chemicals
- AS 1678.8A1:2004 Emergency procedure guide - Transport - Group text EPGs for Class 8 substances - Corrosive substances
- AS 4326:1995 The storage and handling of oxidizing agents
- AS/NZS 4452:1997 The storage and handling of toxic substances
- AS 2865:2001 Safe working in a confined space
- AS 2444:2001 Portable fire extinguishers and fire blankets: selection and location
- AS 1603 Automatic fire detection and alarm systems
- AS 1670 Fire detection, warning, control and intercom systems

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