



Managing Chemical Waste Guidelines

PURPOSE

These guidelines support the *Health and Safety Policy* and *Health and Safety Management Standards* at the University.

The aim of these guidelines is to provide information on the management of chemical waste and correct preparation of chemical waste prior to its disposal, including storage, labelling and segregation requirements.

These guidelines apply to all Curtin workers and students who handle chemicals.

DEFINITIONS

Hazardous Waste Waste arising from pharmaceutical or similar practices, from clinical or similar facilities, chemical laboratories or workshops

Bunding A form of containment which can be used to prevent or minimise the unintended escape of a material from an area until such time as a remedial action can be undertaken.

BACKGROUND

Curtin University is committed to the safe and environmentally responsible management of hazardous waste. Where possible, the generation of hazardous waste will be actively avoided. Where this is not possible, the volume of hazardous waste generated will be minimised and the waste will be handled in accordance with relevant legislation and established best practice.

The Environmental Protection Act (1986), Australian Standard AS/NZS 2243.2 - Safety in Laboratories Part 2: Chemical aspects and storage, and the Australian Dangerous Goods Code, controls the disposal of chemical waste and clearly defines the duty of care requirements for all waste producers regarding the identification, segregation, packaging and transport of waste.

1. Waste Classification

Waste type	Description
Non-Hazardous (No DG Class)	Waste that has no Dangerous Goods class. For example, Inorganic salts such as Sodium Sulphate and Ammonium Chloride.
Flammable Liquids (DG Class 3)	Includes solvents such as Acetone, Ethanol and Acetonitrile, mixtures and by-products from synthetic reactions.
Oxidising agent (DG Class 5.1)	Includes Nitrates such as Ammonium nitrate and Chlorates such as Calcium hypochlorite.

Organic Peroxides (DG Class 5.2)	Organic peroxides may be either solid or liquid. They are typically thermally unstable and likely to react dangerously with other substances.
Unidentified Chemicals Samples (DG Class 6.1)	Applies to research samples not readily identifiable often because of inadequate labelling.
Contaminated Glassware or containers with trace amounts of DG Class 6.1 substances	These must be sealed in plastic containers or pails.
Halogenated Solvent (DG Class 6.1)	Generally, these have chloro -, bromo - or fluoro - atoms attached. Any contaminants must be identified on the label.
Toxic (DG Class 6.1)	Includes Acrylamide, Ethidium Bromide, Phenol/Chloroform, Cadmium and Mercury batteries, Mercaptoethanol waste, solid Paraformaldehyde and other toxic wastes.
Aqueous preserved samples (Ethanol/Formaldehyde) (DG class 6.1)	Includes biological samples in Ethanol, Formaldehyde or similar biological fixative. NOTE: Samples that are in Ethanol (30% or higher) should be classified as class 3 flammable liquids.
Corrosives: Solid and Liquid (DG class 8)	Includes acids and alkalis, which react violently when mixed and which are sufficiently volatile to give off vapour irritating to the eyes and nose. Acids and alkalis should be separated.
Laboratory waste Miscellaneous (DG class 9)	This class is generally for environmentally sensitive materials but can also include substances not covered by other classes.
Aqueous waste contaminated with organics (DG Class 9)	Describe all contaminants and their relative concentration

2. Containers and Packaging of Chemical Waste

Where waste is collected for disposal it must be:

- stored in a container that is fit for the purpose and cleaned of spills on the outside
- where possible, in the original container
- the correct container for the type of waste -
 - Glass bottles can be used for most chemicals EXCEPT hydrofluoric acid waste
 - Plastic bottles are suitable for acids and alkalis. DO NOT put aggressive solvents such as ether or dichloromethane, or mixtures containing aggressive solvents, in plastic containers as they soften and begin to dissolve unless the container is made of HDPE (high density polyethylene)
 - Steel drums are suitable for organic solvents, neutral aqueous solutions and oils but are NOT suitable for acids or alkalis. Acidified solvent mixtures should be placed in glass bottles
 - Self-venting bottles e.g. hydrogen peroxide bottles MUST be put inside another container (secondary containment)

- fit for purpose - containers designed for solids e.g. empty sand bottles/silica bottles MUST NOT be used for liquids.
 - Solid waste can be disposed of in plastic containers or double-bagged (using high grade sealed plastic bags, one inside the other)
 - DO NOT mix solids and liquids in the same container (gloves, plastic tips etc. floating in solvent is not acceptable)
- stored in a container that is in good condition
 - there are no cracks, chips or punctures
 - not leaking or corroded
 - securely fastened and is free from external contamination.
- Where external contamination is suspected, containers must be sealed inside a clear plastic bag or placed into a secondary container.

3. Labelling Chemical Waste

The label must contain the following information:

- Chemical name or, mixture ingredients, waste category, waste type, UN No., class and HAZCHEM Code
- The statement “Chemical Waste For Disposal” on at least two sides of the container, area name and contact number
- Dangerous goods class label or GHS pictogram (if applicable)
- Packaging group and volume
- If you are disposing of a chemical in its original container, do not cover the suppliers label as this contains valuable identification and safety information
- Remove all incorrect or incomplete labels.

Substances that are unidentifiable (e.g. which have no labels or illegible labels) should be packed separately. An attempt should be made to describe the appearance (e.g. white powder, clear liquid etc.) and the approximate quantity should be estimated. The contractors will normally receive 'unknowns' though the charge for disposal is likely to exceed the charges for clearly identifiable substances.

4. Storage of Waste Until Disposal

It is the responsibility of the area to provide suitable areas for the storage of chemical waste while it is awaiting disposal. Waste chemicals for disposal should be stored in a well ventilated, designated area that includes appropriate segregation, and bunding.

In some instances, it may not be possible to dispose of the waste through waste contractors, as they may not have the relevant license or treatment facilities. If this occurs, then the waste generator must investigate alternative methods of disposal and if it is not possible to dispose of appropriately, the activity should not be performed.

5. Updating of Registers and Regulatory Notifications

There may be a requirement to update the relevant registers and advise appropriate regulatory bodies. Please contact Health and Safety on (08) 9266 4900 or healthandsafety@curtin.edu.au for more information or the relevant [Compliance Officer](#)

6. Chemical Waste Disposal Program

For information regarding the waste disposal program, please contact Health and Safety on (08) 9266 4900 or healthandsafety@curtin.edu.au

EXEMPTIONS

Nil

RELEVANT DOCUMENTS/LINKS

[ARPANSA](#)

[Chemical Disposal Manifest](#)

[Chemical Management Plan](#)

[Health and Safety Policy](#)

[Health and Safety Management Standards](#)

CONTACT DETAILS

Contact	Health and Safety Ph: (08) 9266 4900 healthandsafety@curtin.edu.au
Approval Authority	Director, Health and Safety