



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

**UOW SAFE@WORK**

# HAZARDOUS WASTE DISPOSAL GUIDELINES

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# 1. Introduction

The University of Wollongong generates waste that is unsafe to dispose of with general waste. Disposal of hazardous waste must be done in accordance with legislative requirements, particularly the Protection of the Environment Operations Act 1997 (POEO Act) under the direction of the Department of Environment and Heritage NSW. It is an offence under the act to cause any substance to leak, spill or otherwise escape in a manner that harms or is likely to harm the environment.

The University has arrangements in place to dispose of contaminated/hazardous waste via licensed contractors at appropriate service sites for the treatment and reuse/disposal/destruction of the waste.

Appropriate waste disposal is the overall responsibility of the waste generator with Facilities Management Division and WHS Unit overseeing the process. This includes appropriate handling and transporting of the waste to the Hazardous Waste Store by the waste generators. Any queries regarding contaminated/hazardous waste practices can be directed to local hazardous waste contacts, WHS Unit on extension 3931 or Environmental Services on extension 3217.

Contaminated/hazardous waste may involve the disposal of a number of different materials. Varying waste disposal practices are used at the university. An example is the disposal of low level radioisotope material that is relocated to an isolated storage facility for collection as outlined in the [Radioactive Waste Disposal Guidelines](#).

For information on hazardous waste disposal at campuses other than the Wollongong campus please contact Facilities Management Division on 4221 3217.

# 2. Definitions

For the purpose of this Guideline, the definitions below apply.

The generator of waste	means an individual conducting work in a school, faculty, research unit or any place where the waste is created.
Hazardous waste	at the University of Wollongong means waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practices, and wastes generated in clinical or other facilities resulting from the investigation or treatment of patients or research projects.
Typical hazardous waste	includes sharps, anatomical waste, clinical waste, chemically contaminated waste, infectious waste, human tissue, cytotoxic, pharmaceutical waste, animal waste, laboratory waste, chemical waste and radioactive waste (or items contaminated with this material eg boats, beakers, paper towels, gloves, etc).
Chemically contaminated waste	<p><a href="#">Waste Classification Guidelines Part 1: Classifying Waste</a>) definition:</p> <ul style="list-style-type: none"> <li>▪ containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing<sup>2</sup> or vacuuming</li> <li>▪ coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste</li> <li>▪ lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ lead paint waste arising otherwise than from residential premises or educational or child care institutions</li> <li>▪ any mixture of the wastes referred to above.</li> </ul>
Clinical waste/infectious & related	Human tissue, body fluids or blood, visibly bloodstained body fluids, materials or equipment, laboratory specimens or cultures, animal tissue, carcasses, or other waste, from specimens used for research (or items contaminated with this material eg boats, beakers, paper towels, gloves, etc).
Cytotoxic waste	Any substance contaminated with any residues or preparations that contain materials that are toxic to cells principally through their action on the reproduction of cells (or items contaminated with this material eg boats, beakers, paper towels, gloves, etc).
Effluent	Waste water from sewage collection or treatment plants, or waste water from collection or treatment systems.
Sharps waste	Any waste capable of cutting or penetrating skin or the container in which they are packaged.

## 3. Responsibilities

### 3.1. Waste Generator

The generator of the hazardous waste has the responsibility for identifying the waste and providing information on the hazardous nature of the waste as per the safety data sheet (SDS).

The waste generator must provide a waste tracking log for all waste that they intend to place in the Hazardous Waste Store ([Waste tracking logs](#) are available on the web and must be handed to the waste attendant prior to the hazardous waste being placed in the store).

The waste generator must apply a [Hazardous Waste Label](#) to all waste that identifies the Unit, i.e. lab number and first initials, date, name of individual, contact number, contents, dangerous goods class, UN number, type of packaging and volume. Labels can be obtained from Print & Distribution Services by completing the [Hazardous Waste Label order form](#).

The waste generating unit needs to nominate an individual/s responsible for the coordination of waste management activities in their Unit, School or Faculty.

### 3.2. Facilities Management Division

Funding for provision of general waste services including provision of:

- reusable waste collection receptacles
- waste removal
- waste labels
- personnel to oversee waste collection program and operate Hazardous Waste Store.

Where hazardous waste requires costly specialised treatment or handling measures eg. explosive materials or unidentifiable items then associated costs will be the responsibility of the waste generator.

### 3.3. WHS Unit

The WHS Unit provides information on University procedures and facilities for the disposal of hazardous waste.

### 3.4. Hazardous Waste Contacts

[Hazardous Waste Contacts List](#) provides information on the local procedures and facilities for the disposal of hazardous waste. They are also able to supply and order:

- [hazardous waste labels](#)
- [waste tracking logs](#).

## 4. Minimum Requirements for Disposal

The minimum requirements for disposal of any contaminated or hazardous waste generated by University activities includes:

- all waste is disposed of in accordance with the relevant legislative requirements for the type of waste
- disposal is conducted and implemented in consultation with employees of the relevant area
- a risk management process in accordance with the University's methodology is utilised when planning and implementing hazardous waste disposal.

## 5. Colour Coded Waste Identification & Packaging

All contaminated/hazardous waste is to be identified and placed into appropriate coloured bags or receptacles prior to the generator taking the waste to the Hazardous Waste Store. All liquids must be contained in appropriate containers (usually plastic 5 Litre containers).

**NOTE:** *Some waste bags have been known to degrade over time and should only be used for waste that is expected to be disposed of within 12 months.*

Should any general waste be mixed or contaminated with any of the above listed waste it must be then treated as contaminated/hazardous waste i.e. *cytotoxic is mixed with general waste it must then be treated as if it was cytotoxic waste and all rules apply.*

For further information refer to AS 4123.7 Mobile waste containers – Colours, markings, and design requirements.

## 6. Hazardous Waste Types

### 6.1. Clinical/Contaminated Waste

Clinical/contaminated waste is bagged, labelled and disposed in an appropriate clinical waste bin (yellow base & yellow lid) the day prior to the collection date. Waste may need to be frozen prior to disposal to minimise decay. Clinical waste bins are labelled and coloured yellow base and yellow lid currently located in:

- Building 32
- Building 35
- Building 41
- Building 43 Collection only as requested - notify relevant Hazardous Waste Contacts
- Building 70 Collection only as requested - notify relevant Hazardous Waste Contacts

## 6.2. Chemically Contaminated Waste

Chemically contaminated waste is placed in a Chemically Contaminated waste bin (yellow base & orange lid). Once full, these bins are placed out for collection in one of the secure waste compounds at Building 41, 32 or 6. Chemically Contaminated waste bins are labelled and coloured yellow base and orange lid and are generally located in labs that generate such waste. Please note that no concentrations of chemical are permitted to be placed in this bin and must be disposed of via the Chemical Store (see 6.3 Hazardous Chemicals and Dangerous Goods)

## 6.3. Hazardous Chemicals and Dangerous Goods

The requirements for transport and storage of waste are determined by its dangerous goods classification. For further information see Appendix or the [Dangerous Goods Storage Compatibility Guide](#).

The Hazardous Waste Store accepts waste of the following classes:

- Class 3 Flammable liquid (not including nitromethane)
- Class 4.1 Flammable solid
- Class 6.1 Toxic (not including cyanides)
- Class 8 Corrosive (concentrated strong acids are to be segregated from concentrated strong alkalis)
- Class 9 Miscellaneous Dangerous Goods

The following are NOT accepted into the Hazardous Waste Store:

- quantities in excess of 200L or 200kg
- containers greater than 5L
- high or extreme risk contaminated/hazardous waste
- Dangerous Goods of Class 1, 2, 4.2, 4.3, 5.1, 5.2 and 7.

The Facilities Management Division oversees the disposal of waste and consults with the WHS Unit to make appropriate arrangements with a licensed contractor for the disposal of hazardous waste. See [Hazardous Waste Disposal Flowchart](#) for more information.

Waste should be kept securely and safely within the generators Unit, Faculty or School until it can be taken to the Hazardous Waste Store located in GS6 at the western end of Building 15 (Science Road) or collected by the waste contractor.

Every second Wednesday, between 9:00am and 11:00am according to the schedule, the Hazardous Waste Store is opened by a staff member from the Facilities Management Division to allow waste generators to place their appropriately labelled waste in the store. Each receptacle must be labelled with a hazardous waste label, supplied through Print & Distribution Services. The waste contractor will not accept waste that is not correctly contained and labelled. The waste generator must ensure that all contaminated/hazardous waste is labelled and contained appropriately.

All waste that is rated as high or extreme risk is not accepted into the Hazardous Waste Store. Waste generators of high or extreme risk waste complete the Waste tracking log and provide a copy to the Hazardous Waste Store. Arrangements will then be made for direct collection of the waste by the waste contractor. There may be a fee for this service.

## 6.4. Radioactive Waste

Radioactive waste shall be disposed of in accordance with the Radiation Control Act 1990 and will be assessed prior to disposal at the University's Radioactive Waste Store. Further information is detailed in the [Radioactive Waste Disposal Guidelines](#).

## 6.5. Sharps Waste

Information on disposal of sharps is detailed in the [Working with Sharps Guidelines](#). To assist in the safe disposal of needles used for work related tasks, sharps containers should be purchased through supervisors or other appropriate management representatives and disposed when the waste reaches the fill line using the [Hazardous Waste Store](#).

## 6.6. Glass Waste

Information on disposal of glass waste, including broken glass, is detailed in the [Working with Sharps Guidelines](#). To assist in the safe disposal of broken glass used for work related tasks, glass waste containers can be provided by Environmental Services, who are also contacted to arrange replacement when the glass bin is full.

## 6.7. General Waste

General waste will be collected for disposal by Facilities Management cleaners. This will include general waste in kitchens, offices and toilets as well as recycled waste.

If the need for extra waste collection is required this can be organised by contacting the Facilities Management Service Centre on 4221 3217.

## 6.8. Sanitary Waste

The removal of sanitary waste will be conducted by a contractor managed by Environmental Services, Facilities Management.

## 6.9. Live Micro-Organisms

All unwanted waste containing live micro-organisms shall be sterilized by pressure steam sterilization (autoclaving) or treated by a chemical disinfectant as per the [Biosafety Manual](#). Any solid or liquid waste containing Genetically Modified Organisms (GMO) must be decontaminated by pressure steam sterilization, chemical treatment, incineration or any other method approved in writing by The Office of the Gene Technology Regulator (OGTR). Chemical disinfection must be carried out in accordance with Appendix F of AS/NZS 2243.3:2010. Any potential GMO waste being transported out of the facility must be transported in accordance with the “*Guidelines for the Transport of GMO’s*”.

For further instructions on the disposal of biological waste refer to the [UOW Biosafety Manual](#).

# 7. Involvement of Waste Contractor

The University has a service agreement with an authorised Waste Contractor to collect and dispose of the waste in accordance with the Waste Tracking guidelines set down by the NSW Environmental Protection Authority.

The nominated Waste Contractor will attend the University to collect the waste from the nominated location/s as per the schedule. Due to the waste tracking system as set by the Environment Protection Authority, the collection process will need to include a full summary of waste collected at each disposal station and each category of waste will need to be logged by the generator. (Refer Collection Arrangements)

The Waste Contractor is required to dispose of the waste following the EPA Waste Tracking Guidelines, and forward copies of all handling and disposal dockets with their invoice for services to EPA including a statutory declaration that all wastes have been disposed of in the appropriate manner.

## 8. Program Evaluation

In order to ensure that these guidelines continue to be effective and applicable to the University the program will be reviewed regularly by the WHS Unit in consultation with the WHS Committee. The review is to focus on the effectiveness of the methods used to identify, assess and control risk in the workplace.

Conditions which might warrant a review of the guidelines on a more frequent basis would include:

- reported hazards or injuries
- non-conforming systems
- WHS Committee concern.

Following the completion of any review, the program will be revised and updated in order to correct any deficiencies. These changes will be communicated to the University community via the WHS Committee and via the [Document Review](#) system.

## 9. Related Documentation

- [Biosafety Manual](#)
- [Laboratory Waste Disposal Guidelines](#)
- [Radioactive Waste Disposal Guidelines](#)
- [Working With Sharps Guidelines](#)

## 10. Referenced Documentation

- [NSW Protection of the Environment Operations Act 1997](#)
- [NSW Protection of the Environment Operations \(Waste\) Regulation 2014](#)
- [NSW WHS Act 2011](#)
- [NSW WHS Regulation 2011](#)
- [NSW Radiation Control Act 1990](#)
- [NSW Radiation Control Regulation 2013](#)
- [NSW Waste Avoidance and Resource Recovery Act 2001](#)
- [NSW Environmentally Hazardous Chemicals Act 1985](#)
- [NSW Dangerous Goods \(Road and Rail Transport\) Act 2008](#)
- [Australian Code for the Transport of Dangerous Goods by Road and Rail \(7<sup>th</sup> Edition\)](#)
- [Guidelines for Certification of a Physical Containment Level 2 Laboratory, Version 3.2](#)
- [Australian Standards:](#)
  - AS/NZS 2243 Safety in Laboratories series
  - AS 4123.7 Mobile waste containers – Colours, markings, and design requirements
- [Waste Classification Guidelines Part 1: Classifying Waste \(NSW EPA\)](#)



## 11. Version Control

<b>Version Control</b>	<b>Date Released</b>	<b>Approved By</b>	<b>Amendment</b>
1	October 1996	WHS Manager	New document created
2	April 2003	WHS Manager	Document updated to reflect current requirements
3	February 2005	WHS Manager	Document updated to reflect current requirements
4	March 2006	WHS Manager	Document updated to reflect current requirements
5	June 2009	WHS Manager	Document updated to reflect current requirements including waste tracking log, classes accepted into hazardous waste store
6	April 2010	Manager WHS	Minor review. No significant change.
7	August 2010	Manager WHS	Document updated to incorporate the Personnel name change to Human Resources Division.
8	March 2012	Manager WHS	Re-brand
9	November 2012	Manager WHS	Minor update and name changes
10	November 2015	Manager WHS	Scheduled review. No major changes.
11	May 2016	Manager WHS	Corrected document title in header and footer. Added Buildings 32 and 43 to 3.1.2. Simplified section 11. Updated references and related documents. Added chemically contaminated waste.

# Appendix 1 – Segregation based on Dangerous Goods Classification

The following table is from the [Australian Dangerous Goods Code](#) Version 7, Volume 2, part 9 and specifies incompatibilities based on the classification of dangerous goods. For further information on specific substances please refer to the [SDS](#) for the product.

**Table 9.1 Incompatibility based on Classification**

Goods are considered incompatible if, in this table, any of the following conditions are met:

- the primary hazard of one is incompatible with the primary hazard of the other; or
- the primary hazard of one is incompatible with a subsidiary risk of the other; or
- a subsidiary risk of one is incompatible with a subsidiary risk of the other.

CLASS or DIVISION	1	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6	7 (7)	8	9	Food or Food empties	Fire-risk substances or Combustible liquids
<b>1</b> Explosives	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
<b>2.1</b> Flammable gas	(1)	0	0 <sup>(3)</sup>	0	0 <sup>(2)</sup>	N	N	N	N	N	0	N	0	0	0	0
<b>2.2</b> Non-flammable non-toxic gas	(1)	0 <sup>(3)</sup>	0	0 <sup>(4)</sup>	0	0	N	0	0	N	0	0	0	0	0	0
<b>2.3</b> Toxic gas	(1)	0	0 <sup>(4)</sup>	0	N	0	N	0	N	N	0	0	0	0	N <sup>(8)</sup>	0
<b>3</b> Flammable liquids	(1)	0 <sup>(2)</sup>	0	N	0	0	N	0	N	N	0 <sup>(6)</sup>	N	0	0	0	0
<b>4.1</b> Flammable solids	(1)	N	0	0	0	0	N	0	N	N	0	N	0	0	0	0
<b>4.2</b> Spontaneously combustible	(1)	N	N	N	N	N	0	0	N	N	0	N	0	0	0	0
<b>4.3</b> Dangerous when wet	(1)	N	0	0	0	0	0	0	N	N	0	N	N	0	0	0
<b>5.1</b> Oxidizing substances	(1)	N	0	N	N	N	N	N	0 <sup>(6)</sup>	N	0 <sup>(5)</sup>	N	N	0 <sup>(5)</sup>	0	N
<b>5.2</b> Organic peroxides	(1)	N	N	N	N	N	N	N	N	0	0 <sup>(5)</sup>	N	N	0 <sup>(5)</sup>	0	N
<b>6</b> Toxic or Infectious substances	(1)	0	0	0	0 <sup>(5)</sup>	0	0	0	0 <sup>(5)</sup>	0 <sup>(5)</sup>	0	0	0 <sup>(6)</sup>	0	N <sup>(8)</sup>	0
<b>7</b> Radioactive material <sup>(7)</sup>	(1)	N	0	0	N	N	N	N	N	N	0	0	N	0	N <sup>(8)</sup>	0
<b>8</b> Corrosive substances	(1)	0	0	0	0	0	0	N	N	N	0 <sup>(6)</sup>	N	0 <sup>(6)</sup>	0	N <sup>(8)</sup>	0
<b>9</b> Miscellaneous dangerous goods	(1)	0	0	0	0	0	0	0	0 <sup>(5)</sup>	0 <sup>(5)</sup>	0	0	0	0	0	0

In the above table

0 means compatible unless a numbered exception applies.

N means incompatible unless a numbered exception applies.

## Exceptions

- Explosives are incompatible with all other dangerous goods in all quantities except as provided in the Australian Explosives Code or, for Division 1.4S, where 9.1.2.2.2 applies.
- Division 2.1 and Class 3 are incompatible in transport if both are in tanks or other receptacles with a capacity individually exceeding 500L.
- Division 2.1 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500L capacity.
- Division 2.3 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500L capacity.

5. Class 5 is incompatible with those Class 6 or Class 9 materials that are fire-risk Substances.
6. Some specific examples of these Classes or Divisions are incompatible – see Table 9.2 below.
7. See the Code of Practice for the Safe Transport of Radioactive Substances regarding the compatibility of Class 7 with undeveloped photographic film, personnel and mail.
8. Food and food packaging are incompatible with these classes in all quantities, except where 9.1.2.3 applies.

**Table 9.2**                      **Examples of Particular Incompatible Dangerous Goods not identified in Table 9.1**

<b>Column 1</b> <b>Dangerous Goods or</b> <b>Group of Dangerous Goods</b>	<b>Column 2</b> <b>Goods Incompatible with</b> <b>Column 1 Group</b>
–Ammonium nitrate	–Tetranitromethane –Dichloroisocyanuric acid –Trichloroisocyanuric acid –any: <ul style="list-style-type: none"> <li>• bromate</li> <li>• chlorate</li> <li>• chlorite</li> <li>• hypochlorite</li> <li>• chloroisocyanurate</li> <li>• inorganic nitrite</li> </ul>
–Calcium hypochlorite (Dry or Hydrated) and its mixtures	–Ammonium nitrate –Dichloroisocyanuric acid –Trichloroisocyanuric acid –any chloroisocyanurate
–Class 6	–Nitromethane
–Concentrated strong acids	–Concentrated strong alkalis
–Cyanide compounds	–Acids