Transport, storage and disposal of hazardous substances manual

Southern Cross University

Contents

Introduction

Southern Cross University (SCU) is committed to providing a safe and healthy workplace for students, staff, contractors and visitors.

The intention of this manual is to outline practices for the transport, storage and disposal of workplace hazardous substances to comply with the relevant legislation so as to minimise the risk of disease and injury due to exposure to hazardous substances in the workplace, as recommended by Safe Work Australia.

Critical Risks

A review of critical risks at SCU was conducted in 2024 and in response to the risks identified, High Risk Procedures (HRPs) were written to address risks.

More information about Critical Risks is available at https://www.scu.edu.au/staff/hr-services/workplace-health-and-safety/critical-risk/

High Risk and Management Procedures

High Risk Procedures (HRP), to manage critical risks have been developed and HRP relevant to this manual are listed below:

HRP06	Scheduled Substances
HRP11	Hazardous Chemical Management
HRP13	Biological Safety
HRP15	Personal Protective Equipment

Higher level WHS management procedures have been developed to mitigate risks, in particular, the procedure below to identify and mitigate hazards:

WHSMP02	Hazard Identification, Risk and Opportunity Management
WHSMP06	Training and Competency
WHSMP13	Responsibility and Accountability Statement

Users of this manual must refer to the HRPs and WHS Management procedures as part of their processes to minimise and mitigate risk.

Definitions

Australian Code for the Transport of Dangerous Goods by Road and Rail *(ADG Code)* refers to the code prepared by the standing National Advisory Committee on the Transport of Dangerous Goods and endorsed by the Australian Transport Advisory Council. The ADG Code is based on recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods. The ADG Code covers the classification, packaging, marking and transport of dangerous goods.

Chemstore is the chemical and hazardous waste storage facility at the Lismore campus.

Chemwatch is an online chemical management system which is where a register of all hazardous substances which are used or produced in the workplace and the available Safety Data Sheet *(SDS)* for hazardous substances, as required by WHS Regulations.

Dangerous goods storage facility is an area designated for the storage of hazardous materials

Emergency services are defined on a jurisdiction by jurisdiction basis with the intention of including all firefighting services and organisations with functional responsibility for emergency response.

Globally Harmonised System of Classification and Labelling of Chemicals (GHS) is an internationally agreed system developed by the United Nations that standardizes how hazardous chemicals are classified and communicated on labels and safety data sheets

Hazardous substance is a substance that:

- Is classified as such by the publication from SafeWork Australia Classifying hazardous substances – National Guide or
- Has National Exposure Standards as per the "Exposure standard" listed above.

Risk means the likelihood that a substance will cause harm in the circumstances of its use.

Safety Data Sheet (SDS) is a document that summarizes health and safety information about hazardous chemicals

Waste is defined as 'any gas, liquid, solid or energy (or a combination of waste) that is surplus to, or unwanted from any industrial, commercial, domestic or other activity, whether or not of value.

Responsibilities

Roles and responsibilities are defined in the WHS Management procedure:
WHSMP13 Responsibility and Accountability Statement

Managers

Responsibility to ensure that legislation relating to hazardous substances is implemented and that appropriate support strategies and management plans are adopted according to the University's hazardous substance procedures and practices and will include identification, assessment and control of hazardous substances.

Workers

Workers will comply, to the extent that they are capable, with all activities carried out in accordance with the provisions of the WHS Regulations in their state, see List of WHS Regulators

Workers will report promptly to their Supervisor any matters of which they are aware that may affect the University's compliance with the provisions of the WHS Regulations in their state, see List of WHS Regulators

Workers must cooperate with the University and in relation to the tasks that affect them directly, contribute to the process of identification, assessment and control, and support implementation of the legislation by participation in:

- Risk assessment processes.
- Consultation.
- Training.
- Monitoring and health surveillance.

Assessment of Risk

Risks associated with the task must be assessed as per the WHS Management Procedure:

WHSMP02 Hazard Identification, Risk and Opportunity Management

Chemical management procedures

Storage

All areas on SCU campuses, excluding the dangerous goods storage facility, are required to maintain quantities of dangerous goods in designated depots below 100 kilograms/litres at all times where practicable.

The Supervisor of the dangerous goods storage facility is to be contacted in regard to all matters concerning the storage of dangerous goods at the dangerous goods storage facility.

Access to SDSs is to be kept at all designated depots where dangerous goods are kept including the dangerous goods storage facility.

Personal protective equipment *(PPE)* is to be maintained and used where appropriate.

Spills Management

Spill kits are to be kept and maintained where hazardous substances are in use, including storage areas, laboratories, vehicles and dangerous goods storage facilities.

Work units are to train personnel in spill management appropriately.

Transport

Transport of dangerous goods on a SCU site is to be carried out in a designated vehicle only. The designated vehicle will be equipped with a spill kit and a copy of '*SAA/SNZ HB76*: Dangerous Goods – Initial Emergency Response Guide'.

The vehicles currently designated to transport hazardous chemicals are listed below.

Registration	Description	Hazardous materials
AN99TM	TOYOTA FORKLIFT	Delivery vehicle - any of the hazardous substances listed on the schedule
UNI109	MAZDA BT-50 U 6AUTO 3.2 L DUAL C/CH CAB XT 4X4 (WITH 3XM ALLOY TRAY & CANOPY)	Liquid nitrogen; petrol and laboratory solvents/waste; flammable solids; small amounts of laboratory reagents/waste); oxidizing substances and organic peroxides, small amounts of laboratory reagents/waste; • Class 6 • Class 7 • Class 8 • Class 9
UNI119	Mazda B30 Dual Cab	• Class 2.1 • Class 2.2 • Class 3 • Class 4, 5 and 7 • Class 6 • Class 8 • Class 9 • Scuba Cylinders
UNI177	FORD RANGER 4X4 PU XLS DOUBLE 3.2L TDCI 6SPD AUTO PICK-UP	• Class 2 • Class 3 • Class 5 • Class 6 • Class 8 • Class 9
UNI191	BT-50 U 6AUTO 3.2L DUAL C/CH XT 4X4	• Class 2.1 • Class 2.2 • Class 3 • Class 4, 5 and 7 • Class 6 • Class 8 • Class 9 • Scuba Cylinders

Registration	Description	Hazardous materials
UNI199	BT-50 U 6AUTO 3.2L DUAL C/CH XT 4X4	• Class 2.1 • Class 2.2 • Class 3 • Class 4, 5 and 7 • Class 6 • Class 8 • Class 9 • Scuba Cylinders
XN42FS	ISUZU NQR 87/80-190 AMT 5.2L T/D 6SPD AMT TIPPER	• 200L diesel to fill generators • 20L unleaded to full grounds equipment • Miscellaneous Herbicides
07393C	CLUB CAR CARRYALL ELECTRIC	Small quantities of: • Paints, lubricants, glues, aerosols etc. • > 4L hydrochloric acid (plumber only) • Gas bottles as required • Oxy-acetylene bottles (plumber/A/C mechanic)
07392C	CLUB CAR CARRYALL ELECTRIC	Small quantities of: • Paints, lubricants, glues, aerosols etc. • > 4L hydrochloric acid (plumber only) • Gas bottles as required • Oxy-acetylene bottles (plumber/A/C mechanic)
65745D	CLUB CAR CARRYALL 700	Small quantities of: • Paints, lubricants, glues, aerosols etc. • > 4L hydrochloric acid (plumber only) • Gas bottles as required • Oxy-acetylene bottles (plumber/A/C mechanic)
82360D	CLUB CAR CARRYALL 700	Small quantities of: • Paints, lubricants, glues, aerosols etc. • > 4L hydrochloric acid (plumber only) • Gas bottles as required • Oxy-acetylene bottles (plumber/A/C mechanic)

Work Units are to ensure that only suitably trained drivers are to transport dangerous goods. Driver training is to include:

a. Chemical and biological safety.
b. Manual handling.
c. Spill and emergency response.
d. Other training as identified by the Work Unit.

Vehicle load is not to exceed 200 kilograms/litres.

Correct separation of classes of dangerous goods is to be maintained.

Secondary containment (bunding) is to be used to contain spills of the liquid type and amount being stored. The bunding containers should be constructed of materials impermeable to the type of waste being transported.

Hazardous substances are not to be transported between campuses in university or private vehicles.

Disposal of waste

The disposal of waste is to be coordinated with the Property Services team. This will be carried out by contract from an outside source.

Emergency

For emergencies involving the transport of dangerous goods at SCU, refer to '*SAA/SNZ HB76*: Dangerous Goods – Initial Emergency Response Guide'.

For emergencies involving dangerous goods, refer to: 'Emergency Procedures Manual'.

Safety Data Sheets must be readily accessible to an emergency service worker or anyone else who is likely to be exposed to the hazardous chemical at the workplace.

Disposal of chemical and pathological waste

Waste process responsibilities

Chemical waste generators include students, laboratory technicians, researchers, academics and maintenance and grounds staff. It is the responsibility of the chemical waste generators to observe the following:

- To segregate the chemical waste from other wastes to avoid contamination.
- To collect, classify, label, manifest and store chemical wastes in accordance with this policy.
- All necessary equipment to clean up the area should be available in the case of accidental spillage.

Clinical and Biohazard Waste Disposal Guidelines

Clinical waste disposal from the Veterinary School will be carried out as per the Faculty of Science and Engineering *Clinical Waste Management Plan 2024.*

Other wastes will be disposed of via an accredited contractor or in accordance with biosecurity requirements e.g. from the Office of the Gene Technology Regulator or the Department of Agriculture, Fisheries and Forestry,

Classification of hazardous chemicals

Laboratory users are reminded that all chemicals may be potentially hazardous and that no chemical is free of hazard under all conditions, but most can be handled safely under specified conditions. Few chemicals are associated with a single hazard, most have more than one.

Chemical waste should be known as completely as possible, and it should be handled accordingly.

The classification of dangerous goods as detailed in the ADG Code is the basis of a classification for laboratory use *(Table 1).*

Table 1 - Classification of dangerous goods

Class.	Subdivisions.
1. Explosives.	**1.1:** Substances and articles which have a mass explosion hazard.
	1.2: Substances and articles which have a projection hazard but not a mass explosion hazard.
	1.3: Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.
	1.4: Substances and articles which present no significant hazard.
	1.5: Very insensitive substances which have a mass explosion hazard.
	1.6: Extremely insensitive articles which do not have a mass explosion hazard.
2. Gases.	**2.1:** Flammable gases.
	2.2: Non-flammable, non-toxic gases.
	2.3: Toxic gases.
3. Flammable liquids	**n/a.**

4: Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases.	**4.1:** Flammable solids, self-reactive substances solid desensitised explosives and polymerizing substances.
	4.2: Substances liable to spontaneous combustion.
	4.3: Substances which in contact with water emit flammable gases.
5: Oxidising substances and organic peroxides.	**5.1:** Oxidising substances.
	5.2: Organic peroxides.
6: Toxic and infectious substances.	**6.1:** Toxic substances.
	6.2: Infectious substances.
7: Radioactive material.	**n/a.**
8: Corrosive substances.	**n/a.**
9: Miscellaneous dangerous substances and articles, including environmentally hazardous substances.	**n/a.**

The numerical order of the classes and divisions is not that of the degree of danger.

Waste Disposal Procedures

Waste disposal shall be in accordance with statutory guidelines and University license requirements. The SDS shall be consulted for guidance on environmental consequences.

1. Chemical waste adhesive labels (supplied by **Property** Services) are to be filled out by the custodian (including class of chemical and contents) and attached to containers prior to disposal.
2. An electronic manifest must be emailed to chemstore@scu.edu.au prior to delivering chemicals to the University's chemical drop-off locations for disposal.
3. Chemicals stored in drop-off locations in preparation for disposal must be segregated into the appropriately marked areas, i.e. flammables and corrosives.

Campus Storage and Disposal Locations

Access to these areas is restricted to designated department or faculty representatives:

Campus	Drop Off Location	Send Electronic Manifest to	Further Information
Lismore	W1.52	**chemstore@scu.edu.au**	Property Services T: 02 6626 9505 E: **propertyservices@scu.edu.au**
Gold Coast	Building B10.25 B10.19	**chemstore@scu.edu.au**	Ty Steele T: 07 5589 3031 E: **ty.steele@scu.edu.au**

Campus	Drop Off Location	Send Electronic Manifest to	Further Information
NMSC	A0.17	**nmsctech@scu.edu.au**	Property Services T: 02 6626 9505 E: **propertyservices@scu.edu.au**

Lismore Chemstore, W block W1.52

Access to the Lismore dangerous goods storage facility (Chemstore)

Access to the store itself will be strictly controlled and limited to staff who have completed the online training in SCOUT and had an induction at the Chemstore. Access will be controlled through the swipe card system by the Property Services team.

Disposal of waste from the store

Property Services will organise the pickup and removal of hazardous material from the university when there are sufficient quantities to be removed cost-effectively. Property Services will also ensure that there is no excessive accumulation of chemical or other wastes.

Packaging, labelling and documentation

Preparation of chemical waste

It is the responsibility of the work unit producing waste to ensure that:

- A hazardous waste manifest is completed.
- An appropriate hazardous waste container, in good order has been used.
- The container is accurately labelled in respect of the waste contents.
- All previous labelling, not applicable to the waste content is removed.

Packaging

Liquid chemical waste

To reduce the risk of manual handling injuries and chemical spills, waste containers are not to be

more than 10 litres in volume.

Containers must be clearly and correctly labelled, well maintained and constructed from material that is compatible with the liquid waste being stored in accordance with the Australian Dangerous Goods Code.

This container must then be labelled with details of the quantity and type of waste it contains and the correct hazard class clearly written on the label.

Persons using the containers for liquid waste need to ensure that the containers **do not leak** and that there are **no spills** on the outside of the container.

Sharps

Figure 3: Sharps containers

Sharps are objects or devices having sharp edges or sides (such as needles, Pasteur pipettes, scalpel blades, slides, cover-slips and broken glass) that may cut or puncture the skin. In a laboratory where biological work is carried out, these are normally contaminated with biological products and are classified as "contaminated waste".

Sharps containers are to be disposed of by the University's waste disposal contractor. They must N**OT** be opened, emptied or reused under any circumstances.

All laboratory users are to consider waste sharps as contaminated waste. When disposing of sharps, safe work procedures require a minimum amount of handling. Immediately after use, the sharps must be placed in a dedicated secure container clearly labelled for this purpose that complies with *AS 4031*.

Pathological waste

Standardised disposal methods have been set up to ensure the health and safety of University staff and those who may handle the waste downstream (e.g. external waste disposal contractors), and to avoid contamination of the general waste stream with pathological refuse. The following applies:

- Laboratories that generate biological and contaminated waste should base their waste management procedures on the National Health and Medical Research Council's National Guidelines of the management of clinical and related waste;
- Contaminated waste items include items such as swabs, needles, syringes, other sharps, petri dishes and other micro-organism cultures, cell culture solutions, biocans, disposable equipment, biological waste, blood and animal remains;
- Contaminated biologically derived waste such as biological cultures, animal blood or infected animal tissues should be placed in suitable containers that are leakproof and are able to be sealed and segregated from other waste; and
- This container must be labelled with the details required on the SCU waste label.

Labelling hazardous waste for delivery to the Chemstore

All hazardous chemical waste must be correctly labelled in accordance with the Workplace Health and Safety regulations, GHS requirements and the Australian Code for the Transport of

Dangerous Goods by Rail and Road. These documents should be available in each Laboratory or are available from the WHS Team.

The label for hazardous chemical waste must include:

- A description of the constituents of the waste in as much detail as practical, e.g., 70% Ethanol + 30% water – Class 3. Generic descriptions such as "flammable liquid waste", are not sufficient, nor is "Ethanol" or "Formalin". You MUST write the concentration (%) of the material and what other ingredients are likely to be in the solution".
- Appropriate dangerous goods class and subsidiary risk labels, eg, Class 3, Class 9;
- Details of the work unit, faculty of origin, or Research Centre;
- A container identification number that corresponds to your Waste Manifest documentation.
- The SCU category of chemical waste as seen in Figure 1.

Note: Collection of waste will not be made until the correct waste container has been used and a chemical waste label has been affixed.

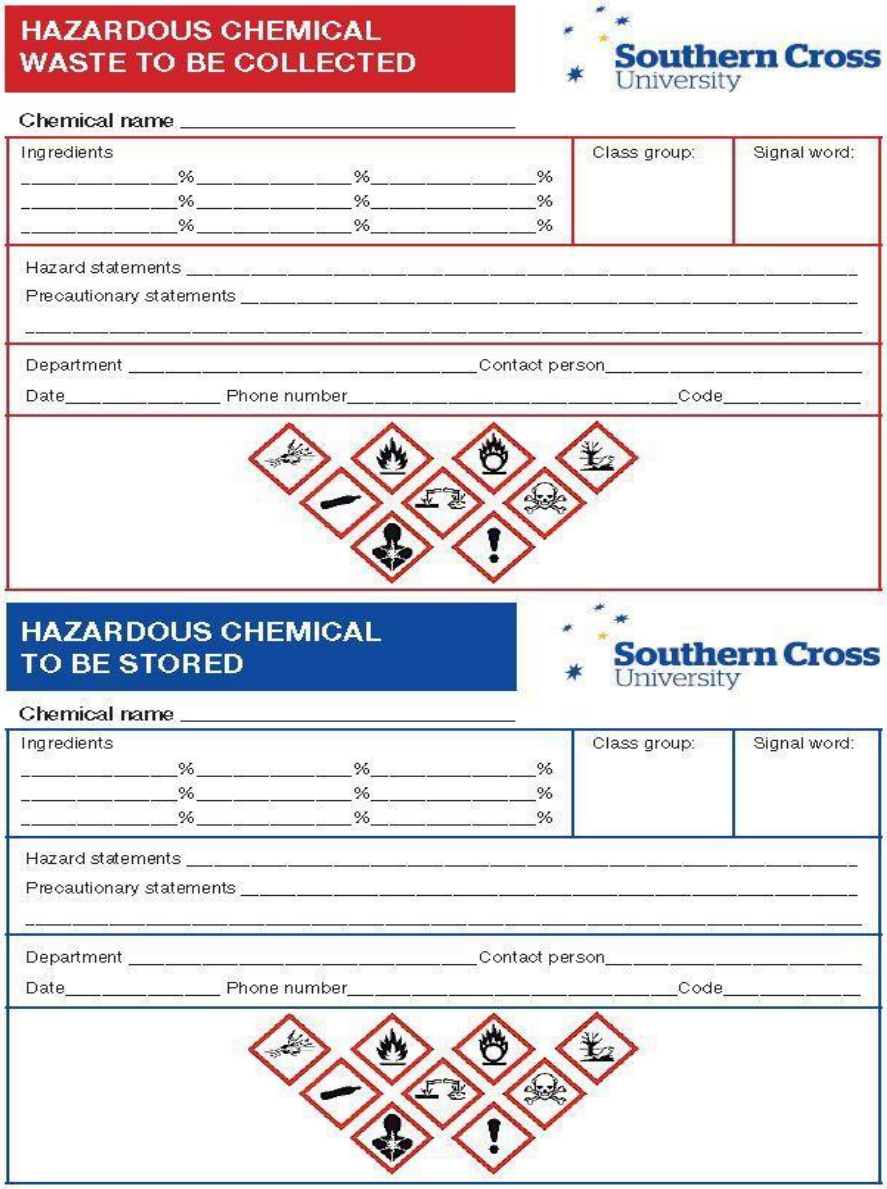

Figure 5: Hazardous waste stickers/Labels –available from the Supervisor of the Dangerous Goods Storage Facility

Manifest of waste materials for disposal

It is the responsibility of the work unit producing waste to ensure that a hazardous waste manifest is completed. Waste collection will not be made until the manifest form has been correctly completed. These forms are available by emailing the Property Services team at chemstore@scu.edu.au .

The manifest should give as much detail as possible. Details required include: **container number, description of goods** e.g. Fish specimens in 10% Formalin/and salt water**, class rating, pack size (**10l or 5l etc.), **quantity** i.e. number of containers, and **extra comments** if any.

In the case of **unknown waste**, any available information should be written in the "Description column".

The original manifest is to be emailed to Property Services at the time of placement into the dangerous goods storage facility.

Chemical Manifest Form

Customer Details		Site Details (if different)	
Contact Person:		Contact Person:	
Company Name:			
Department:			
Postal Address:		Site Address:	
Phone Number:		Phone Number:	
Fax Number:			
Email Address:			
ABN:		Site Notes:	

toxfree

Email to g.maxey@toxfree.com.au

PO Box 90 St Marys South NSW 2760

40 Christie Street St Marys NSW 2760

Mobile 0418 350 299

Phone (02) 9851 4200 Fax (02) 9833 4588

Description (Chemical Name,product,brand)	Pack Size	Quantity	DG Class	UN Number	Packing Group	Physical State (S/L/D/G)	container good condition? (Y/N)	Labelled? (Y/N)

Note: Physical State - S = Solid, L = Liquid (less than 10% sludge), D= Sludge (includes liquids with more than 10% sludge), M = Mixed Liquid/Solid/Sludge, G = Gas

GHS01—Exploding bomb
Explosion, fire, blast or projection hazard.

GHS02—Flame
Flammable liquids, vapour, solids and gases; including self-heating and self-igniting substances.

GHS03—Flame over circle
Oxidising liquids, solids and gases, may cause or intensify fire.

GHS04—Gas cylinder
Gases under pressure.

GHS05—Corrosion
Corrosive chemicals, may cause severe skin and eye damage and may be corrosive to metals

GHS06—Skull and crossbones
Fatal or toxic if swallowed, inhaled or in contact with skin.

GHS07—Exclamation mark
Low level toxicity. This includes respiratory, skin, and eye irritation, skin sensitisers and chemicals harmful if swallowed, inhaled or in contact with skin.

GHS08—Health *Hazard*
Chronic health hazards; this includes aspiratory and respiratory hazards, carcinogenicity, mutagenicity and reproductive toxicity.

GHS09—Environment
Hazardous to aquatic life and the environment.

Figure 7: GHS Pictograms used to identify dangerous goods

Disposal of waste via the sewer

Disposal of chemicals via the sewer system will be as per the local government trade waste approval document.

Contact the Property Services team if you have any questions about your local trade waste approval and associated requirements at PropertyServices@scu.edu.au

The following extract from the trade waste approval provides the requirements for laboratory and related discharges to the sewer system.

- Infectious wastes must be sterilised by autoclaving before being discharged into the sewerage system.
  (Reason: Department and council requirement to protect worker health and safety)
- Biohazardous waste shall be managed and disposed in accordance with NSW EPA, NSW Health Department and biosecurity requirements of the NSW Department of Primary Industry and the Office of the Gene Technology Regulator (OGTR).
- Unused/expired pharmaceutical drugs must be disposed in accordance with NSW EPA and NSW Health regulations.
  (Reason: Department and council requirement to comply with applicable government legislation)
- The discharge of liquid trade waste from the laboratory sinks must be followed by flushing with liberal quantities of water.
  (Reason: Department and council requirement to protect the sewerage system)
- Concentrated acids, caustics, solvents and other concentrated solutions must not be discharged to the sewerage system.
- Chemical solutions containing small quantities of concentrated acids, caustic or other corrosive chemicals must be neutralised before discharge to the sewerage system.
  (Reason: Department and council requirement to protect the sewerage system and worker health and safety)
- All liquid trade waste must pass through a balancing/dilution/neutralization tank before discharge to the sewerage system.
- (Reason: Department and council requirement to neutralise liquid waste and/or lower pollutant concentrations before discharge to the sewerage system)
- Autopsy and necropsy tables, where installed, shall be drained through a flushing floor waste gully provided with an air break in the water supply. The gully shall be fitted with a removable stainless-steel strainer installed at the drainage outlet to collect solids.
  (Reason: Compliance with AS 3500 Plumbing and Drainage)
- Floor drains in the anatomy laboratory shall be fitted with removable screens in order to prevent the discharge of any solid material to the sewerage system.
  (Reason: Pursuant to Schedule 2 of the Local Government (General) Regulation 2021)
- All liquid trade waste that is classified as PC2 shall be assessed as being free from the presence of biohazardous organisms and compliance for discharge. In the event the liquid waste is determined to be unsuitable for discharge, the liquid waste shall be removed by a licensed contractor for off-site management. Should organisms classified as PC3 (or

higher) ever be detected after liquid waste has been discharged to the sewerage system, then Council is to be notified immediately.
(Reason: Department and Council requirement to protect the sewerage system and worker health and safety)

- The waste arising from alkaline hydrolysis process is not permitted to be discharged to the sewerage system.
  (Reason: Department and council requirement to limit loading on the sewerage system)
- Concentrated solutions of Formaldehyde, Glutaraldehyde or Ortho-pthalaldehyde (OPA) need to be neutralised with appropriate agents (refer to the safety data sheet) prior to disposal. If used, a due diligence program for the prevention of the discharge of these chemicals to sewer is to be submitted to council within three months of council's approval.
  (Reason: Department and council requirement to protect the sewerage system)
- Animal droppings, litter and any waste disposal products shall not be disposed off to the sewerage system.
  (Reason: Department and Council requirement to limit loading on the sewerage system and prevent sewer blockages)
- Animal waste disposal units are not allowed to be connected to the sewerage system.
  (Reason: Department and Council requirement to limit loading on the sewerage system)
- The pH of the liquid trade waste shall be checked and corrected, if necessary, before discharge to the sewerage system. The pH shall be recorded and records shall be kept.
  (Reason: Department and Council requirement to protect the sewerage system and worker health and safety)
- The biochemical oxygen demand (BOD5) concentration must not exceed: 300 mg/L at any time.
  (Reason: Department and council requirement to limit loading on the sewerage system)
- The chemical oxygen demand (COD) must not exceed the BOD5 concentration by more than three times.
  (Reason: Department and council requirement to prevent the discharge of non-biodegradable waste and to ensure treatability of the proposed liquid trade waste)
- The concentration of the following substances shall not exceed:
  a. Ammonia (as N) 50 mg/L
  b. Boron 5 mg/L
  c. Bromine 5 mg/L
  d. Fluoride 30 mg/L
  e. Formaldehyde 30 mg/L
  f. Organochlorines Nil
  g. Organophosphorus pesticides Nil
  h. Total oil and grease 100 mg/L
  i. Total recoverable hydrocarbons (TRH) 30 mg/L
  j. Flammable petroleum hydrocarbons 5 mg/L
  k. Phenolic substances 1 mg/L
  l. Pesticides (general) 0.1 mg/L

m. Polynuclear aromatic hydrocarbons 5 mg/L
n. Sulphide 1 mg/L
o. Sulphate (as SO4) 500 mg/L
p. Total dissolved solids 4,000 mg/L
q. Total suspended solids 300 mg/L
r. Total Kjeldahl nitrogen (as N) 100 mg/L
s. Total phosphorus (as P) 20 mg/L
(Reason: Protection of the sewerage system and the environment)

- The concentrations of metals must not exceed:
  a. Arsenic 0.5 mg/L
  b. Cadmium 1 mg/L
  c. Cobalt 5 mg/L
  d. Copper 5 mg/L
  e. Chromium (total) 3 mg/L
  f. Iron 100 mg/L
  g. Lead 1 mg/L
  h. Mercury 0.01 mg/L
  i. Molybdenum 5 mg/L
  j. Selenium 1 mg/L
  k. Silver 2 mg/L
  l. Tin 5 mg/L
  (Reason: Protection of sewage treatment processes, the environment and to enhance beneficial reuse of biosolids and/or effluent)
- A representative sample of the effluent from the laboratories shall be collected quarterly and tested with respect to all parameters listed in the conditions above.
  (Reason: Requirement pursuant to Clause 89 (3a) Local Government Act 1993 protection of the environment, worker health & safety and to ensure compliance with the approval)
- Representative samples of the effluent from the laboratories shall be collected monthly and tested with respect to:
  a. pH
  b. Total Dissolved Solids
  c. Iron
  d. Temperature
  e. Total Kjeldahl Nitrogen
  f. Lead
  g. BOD5
  h. Total Phosphorus (as P)
  i. Mercury
  j. Total Suspended Solids
  k. Sulphides
  l. Total Oil and Greases

m. Formaldehyde
n. COD
o. Phenolic Substances

(Reason: Requirement pursuant to Section 89 (3a) of the Local Government Act 1993 and Council requirement for protection of the environment, worker health and safety and to ensure treatability of the waste)

- A contingency plan and a due diligence program are to be submitted to council within three months and six months respectively of commencement of the approval from council. (Reason: Department and council requirement to ensure that adequate contingency measures are in place to address potentially hazardous situation)

Substances excluded from sewers

The following substances are not permitted to be discharged into the sewerage system:

- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- per- and poly-fluoroalkyl substances (PFAS)
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil*
- any flammable or explosive substances*
- discharges from chemicals and/or oil storage areas and 'Bulk Fuel Depots'
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the Local Government (General) Regulation 2021)
- solid matter*
- disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and any other products marketed as flushable
- any substance assessed as not suitable to be discharged to the sewerage system
- liquid waste that contains pollutants at concentrations which inhibit the sewage treatment process
- any other substances listed in a relevant regulation.

**Above the approved limit*
(Reason: Statutory provision in Local Government Act s. 638 and Department and council requirement for protection of the sewerage system, safety of workers and the environment)

Dangerous goods storage facility – Lismore Chemstore

Management of the dangerous goods storage facility

Management of the dangerous goods storage facility is the responsibility of the Property Services team, however correct use and operation of the dangerous goods storage facility is the shared responsibility of the Property Services team and the various users within the Lismore campus of SCU.
The Supervisor (Property Services) of the facility will be responsible for maintenance of the Hazardous Waste Storage Facility. Maintenance includes:

- The building is secure and access by unauthorized persons is prevented;

- At appropriate intervals, accumulated dust and refuse is collected, bagged, and disposed of as hazardous waste.

Signage and Placarding

Entry to premises

Entry to a store containing chemicals should be restricted to authorised people. Each entry point should display a 'restricted entry' sign, a sign forbidding unauthorised entry, and a 'no smoking' sign.

Placarding requirements

Placarding should be part of an overall management policy for the chemicals store which includes the use of correct labels, safety data sheets *(SDS)* for hazardous substances, workplace registers, and emergency pre-planning.

Placards are to be posted when the aggregate quantity of any category of hazardous substance in a storage area exceeds its exemption limit. Whether placarding is needed or not, other general requirements such as segregation, spillage control and security are still necessary.

Placarding requirements and advice are available from Safework Australia Placard and manifest threshold quantities and the Code of Practice Safework Australia Managing risks of hazardous chemicals in the workplace

The table below lists the placard quantities mentioned in Schedule 11 of the WHS Regulations.

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	ADG Code Classification
1	**Flammable gases**	Category 1A, category 1B or any combination of categories 1A and 1B	200L	5000L	2.1
2	**Gases under pressure**	With acute toxicity, categories 1, 2, 3 or 4 Note— Category 4 only up to LC50 of 5000 ppmV	50L	500L	2.3
3		With skin corrosion categories 1A, 1B or 1C	50L	500L	2.3
4		Not specified elsewhere in this table	1000L	10 000L	2.2
5	**Aerosols**	Category 1, category 2, category 3 or any combination of these categories	5000L	10 000L	2.1 or 2.2
6	**Flammable liquids**	Category 1	50L	500L	3 (PG I)
7		Category 2	250L	2500L	3 (PG II)
8		Category 3	1000L	10 000L	3 (PG III)
9		Any mix of chemicals from Items 6 to 8 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000L	10 000L	
10		Category 4	10 000L	100 000L	Note 3

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	ADG Code Classification
11	Self-reactive substances	Type A	5kg or 5L	50kg or 50L	GTDTBT—Note 4
12		Type B	50kg or 50L	500kg or 500L	4.1 (Type B)
13		Type C to F	250kg or 250L	2500kg or 2500L	4.1 (Type C–F)
14	Flammable solids	Category 1	250kg	2500kg	4.1 (PG II)
15		Category 2	1000kg	10 000kg	4.1 (PG III)
16		Any combination of chemicals from Items 12 to 15 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
17	Pyrophoric liquids and pyrophoric solids	Category 1	50kg or 50L	500kg or 500L	4.2 (PG I)
18	Self-heating substances and mixtures	Category 1	250kg or 250L	2500kg or 2500L	4.2 (PG II)
19		Category 2	1000kg or 1000L	10 000kg or 10 000L	4.2 (PG III)

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	ADG Code Classification
20		Any combination of chemicals from Items 17 to 19 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
21	**Substances which in contact with water emit flammable gas**	Category 1	50kg or 50L	500kg or 500L	4.3 (PG I)
22		Category 2	250kg or 250L	2500kg or 2500L	4.3 (PG II)
23		Category 3	1000kg or 1000L	10 000kg or 10 000L	4.3 (PG III)
24		Any combination of chemicals from Items 21 to 23 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
25	**Oxidising liquids and oxidising solids**	Category 1	50kg or 50L	500kg or 500L	5.1 (PG I)
26		Category 2	250kg or 250L	2500kg or 2500L	5.1 (PG II)
27		Category 3	1000kg or 1000L	10 000kg or 10 000L	5.1 (PG III)
28		Any combination of chemicals from Items 25 to 27 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	ADG Code Classification
29	Organic peroxides	Type A	5kg or 5L	50kg or 50L	GTDTBT—Note 4
30		Type B	50kg or 50L	500kg or 500L	5.2 (Type B)
31		Type C to F	250kg or 250L	2500kg or 2500L	5.2 (Type C–F)
32		Any combination of chemicals from Items 30 and 31 where none of the items exceeds the quantities in columns 4 or 5 on their own	250kg or 250L	2500kg or 2500L	
33	Acute toxicity	Category 1	50kg or 50L	500kg or 500L	6.1 (PG I)— Note 5
34		Category 2	250kg or 250L	2500kg or 2500L	6.1 (PG II)
35		Category 3	1000kg or 1000L	10 000kg or 10 000L	6.1 (PG III)
36		Any combination of chemicals from Items 33 to 35 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
37	Skin corrosion	Category 1A	50kg or 50L	500kg or 500L	8 (PG I)

Column 1 Item	Column 2 Description of hazardous chemical Hazard Class	Column 3 Description of hazardous chemical Hazard Category	Column 4 Placard quantity	Column 5 Manifest quantity	ADG Code Classification
38		Category 1B	250kg or 250L	2500kg or 2500L	8 (PG II)
39		Category 1C	1000kg or 1000L	10 000kg or 10 000L	8 (PG III)
40	**Corrosive to metals**	Category 1	1000kg or 1000L	10 000kg or 10 000L	8 (PG III)
41		Any combination of chemicals from Items 37 to 40 where none of the items exceeds the quantities in columns 4 or 5 on their own	1000kg or 1000L	10 000kg or 10 000L	
42	**Unstable explosives**		5kg or 5L	50kg or 50L	GTDTBT—Note 4
43	**Unstable chemicals**	Any combination of chemicals from Items 11, 29 and 42 where none of the items exceeds the quantities in columns 4 or 5 on their own	5kg or 5L	50kg or 50L	

(1) For the purposes of this table, if a flammable liquid category 4 is used, handled or stored in the same spill compound as one or more flammable liquids of categories 1, 2 or 3, the total quantity of flammable liquids categories 1, 2 or 3 must be determined as if the flammable liquid category 4 had the same classification as the flammable liquid in the spill compound with the lowest flash point. Example: For placarding and manifest purposes, a spill compound containing 1000L of flammable liquid category 1 and 1000L of flammable liquid category 4 is considered to contain 2000L of flammable liquid category 1.

(2) For item 2 in the table, Gases under pressure with acute toxicity, category 4 only applies up to a LC50 of 5000 ppmV. This is equivalent to Division 2.3 dangerous goods under the ADG Code.

(3) Only flammable liquids with a flash point of up to 93°C are classified as hazardous chemicals under the WHS Regulation and the GHS. C1 combustible liquids with flash points between 93°C and 150°C are not classified as hazardous workplace chemicals.

(4) GTDTBT means goods too dangerous to be transported.

(5) Division 2.3 under the ADG Code includes gases and vapours classified as acutely toxic (categories 1, 2 and 3) and gases which are corrosive to skin (category 1).

Entrance to premises

Entrances to the premises are to be provided with outer warning placards. Each outer warning placard is to be posted so as to be clearly visible to persons approaching any entrance.

At premises containing one or more stores, if the aggregate quantity of a hazardous substance stored on the whole premises is greater than its exemption limit, an outer warning placard is required.

Package stores

Package stores are to be placarded (where there is a legislative requirement) with a composite warning placard. At package stores within a building or workplace, the composite warning placard is to be posted at the main entrance to be building or structure so as to be clearly visible at all approaches. At package stores in a room or compartment within a building or structure at the workplace, an additional composite warning placard is to be displayed at every entrance to that room or compartment.

There is a need to placard premises if the aggregate quantity of each category of hazardous substance stored exceeds specified exemption limits.

Training

To gain access to the Chemstore, staff must complete the online training in SCOUT and in-person induction.

Emergency procedures and campus assembly maps

Refer to the University's Emergency Procedures Manuals.

References

Regulations, codes and standards

- Work Health and Safety Act in your jurisdiction
- Work Health and Safety Regulation in your jurisdiction
- Managing risks of hazardous chemicals in the workplace Code of Practice *(Safe Work Australia)*
- Australian Code for Transport of Dangerous Goods by Road and Rail
- Labelling of workplace hazardous chemicals – Code of Practice *(Safe Work Australia)*
- SafeWork NSW - Chemicals and the GHS
- Storage and Handling of Flammable and Combustible Liquids *(AS 1940-2017)*
- Storage and Handling of Corrosive Substances (*AS 3780-2008)*
- Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers *(AS/NZS 3833-2007)*
- Safety in laboratories *(AS2243)*
- Non-reusable containers for the collection of sharp medical items used in health care areas *(AS4031-1996)*
- Explosive atmospheres. Classification off areas – Explosive gas atmospheres (AS/NZS 60079.10.1:2022)
- Dangerous Goods – Initial emergency response guide *(SSA/SNZ HB76:2010)*
- Hazardous waste storage and processing. Guidance for the liquid waste industry (NSW EPA)

Title	Transport, storage and disposal of hazardous substances manual			
Description	Safety guidelines for waste disposal			
Created By	Workplace Health and Safety – WHS			
Date Created	Unknown			
Maintained By	Workplace Health and Safety- HR Services			
Version Number	**Modified By**	**Modifications Made**	**Date Modified**	**Status**
V2	Michael Karkkainen	General Revisions and Updates	13.05.2025	Current