

## Key Risk Area (KRA)

### KRA 1.1 Chemical Management

#### 1. Purpose

This document provides guidance on how the University of Newcastle (**University**) manages chemicals (procurement, storage, handling, use and disposal) and associated risks that will ensure, so far as is reasonably practicable, the health and safety of workers and students, and comply with regulatory requirements.

#### 2. Scope

This document applies to all health, safety and wellbeing activities of staff, students, visitors (including volunteers, contractors and other workers), Council members, and other persons interacting with the University; the operations of staff of University aligned Research Centres and controlled entities; and all activities conducted by or on behalf of the University on and outside of the University's campuses.

This document applies to all chemicals with the exception of chemicals that emit ionising radiation (see KRA 1.9 Radiation Management).

#### 3. Guidelines

##### 3.1. Chemical Management

Supporting guidelines and documentation for KRA is contained on the [Hazardous Chemical Management SharePoint site](#).

The management of chemicals will take into account:

- the University and regulatory requirements for all chemicals (regardless of the chemical classification); and
- the additional University and regulatory requirements based on the chemical classification;
  - hazardous chemicals,
  - prohibited or restricted carcinogens,
  - dangerous goods,
  - poisons and therapeutic goods, and

- other classifications where applicable.

### **3.2. Chemical Management System**

Chemwatch is the system used at the University for chemical management.

The Leader/Supervisor must ensure that all hazardous chemicals and dangerous goods are recorded in the Chemwatch SDS manifest. The manifest will consider:

- chemical classification (hazardous substances, dangerous goods, poisons and therapeutic goods etc);
- storage location; and
- quantities.

For more information and guidance in accessing and maintaining data in the Chemwatch chemical manifest refer to the [Hazardous Chemical Management SharePoint site](#).

#### **3.3.1 Hazardous Chemical Register**

The University maintains a register of hazardous chemicals used, handled or stored at the workplace and a database of SDSs.

At the University the hazardous chemical register data is housed within the Chemwatch manifest. The Hazardous Chemical Management SharePoint details further information about the University SDS Database.

#### **3.3.2 Chemical Manifest**

The University maintains a manifest of Schedule 11 hazardous chemicals used, handled or stored at its workplaces which is notified to SafeWork NSW pursuant to the *Work Health and Safety Regulation 2017* (NSW) if manifest quantities are exceeded.

At the University the manifest data is housed in the Chemwatch manifest. The data notified to SafeWork NSW will be in accordance with the requirements of the *Work Health and Safety Regulation 2017* (NSW), and will include (without limitation) the quantity, classification and location of Schedule 11 hazardous chemicals in the workplace, site plans and emergency contact details. This information will be readily accessible to emergency service organisations when responding to an event/incident in the workplace.

### **3.3. Safety review and Clearance to work with Hazardous Chemicals**

All research and teaching activities involving higher risk or regulated hazardous chemicals require safety review before they start. Anyone wishing to acquire and/or work with higher

risk or regulated chemicals at the University must create and submit a Safety Protocol in Tick@lab. The Safety Protocol will then be reviewed by the Chemical and Radiation Technical Committee (CRTC) as a means of checking that safety implications and any regulatory requirements have been identified, assessed and have appropriate risk elimination or control measures, licences, and permits.

For further information refer to the Sharepoint site [Risk Assessment and Management](#).

### **3.4. Raising Concerns**

Any member of the University community who has concerns about a breach of the KRA should contact the Health, Safety and Wellbeing Team directly and lodge a report in the online Incident / Hazard Reporting System (AIMS).

### **3.5. Purchasing / acquisition**

The Leader/Supervisor must ensure that prior to the purchase/acquisition of a chemical that:

- a current SDS is obtained from the supplier/manufacture;
- if the chemical is a higher risk chemical or regulated material a safety review application must be submitted and the review by the CRTC is completed; and
- the relevant Health and Safety Team member and workers are consulted, so far as is reasonably practicable.

For existing chemicals (reordering) a safety review is not required provided that a chemical risk assessment has been completed and the SDS is current. For more information and guidance regarding the purchasing requirements of chemicals refer to the Hazardous Chemical Management SharePoint site.

### **3.6. Importation**

The Leader/Supervisor importing chemicals must ensure that all regulatory requirements are met, having regards to the following chemical categories as controlled and defined by the relevant jurisdiction:

- industrial chemicals;
- agricultural and veterinary chemicals;
- medicines and medicinal products; and
- food additives, contaminants and natural toxicants.

For more information and guidance regarding importation requirements of chemicals refer to the Hazardous Chemical Management SharePoint site.

### **3.7. Manufacture or Supply**

The Leader/Supervisor manufacturing supplying chemicals outside the University must ensure that all regulatory requirements are met. For more information and guidance regarding manufacture or supply of chemicals refer to the Hazardous Chemical Management SharePoint site.

### **3.8. Chemical Risk Assessment**

The Leader/Supervisor must ensure that all chemicals in their area of responsibility have chemical risk assessments completed prior to use. The depth/complexity of the chemical risk assessment, including generic or individual assessments, will be determined by (without limitation):

- the properties and the associated risks of the chemical;
- the environment in which the chemical will be used; and
- the activities in which the chemical will be applied.

Risk assessments are submitted for safety review via the tick@lab and copies are kept by the area. **HSG 3.1 Health and Safety Risk Management.**

### **3.9. Labelling, Storage and Handling**

The Leader/Supervisor must ensure that all chemicals are accurately and durably labelled in accordance with University and regulatory requirements.

The Head of School/Division must ensure that controls are adopted and maintained that eliminate or minimise so far as is reasonably practicable the risks associated with the storage and handling of chemicals. For all chemicals this will include ensuring at least the following:

- ready access to a current SDS;
- entry onto the department/local area chemical register;
- availability of a risk assessment to all staff and students who are required to handle and/or store the chemicals;
- accurate, clear and durable labelling;
- training for staff and students required to handle the chemicals; and
- emergency plans suitable to the chemical.

### **3.10. Explosives and Security Sensitive Dangerous Substances**

A Safework NSW-issued licence is required to possess and use explosives, including Security Sensitive Dangerous Substances (SSDS). An exception applies under the *Explosives Regulation 2013* (NSW) where a commercial laboratory, university or other research institution uses and handles security sensitive ammonium nitrate for educational, research or analytical purposes, but only if the amount of SSDS does not exceed 3kg of

security sensitive ammonium nitrate. If an amount over the 3kg threshold is required, then a [‘Licence to Use Security Sensitive Dangerous Substances’](#) is needed. Refer [to Explosives and Security Sensitive Dangerous Substances](#) SharePoint site.

### **3.11. Signage and Placarding**

The Head of School/Division must ensure that dangerous goods information, with regards to quantities, Class types and locations are provided to the Associate Director, Health, Safety and Wellbeing and the Chief Warden.

The Associate Director, Health, Safety and Wellbeing must ensure that, where required pursuant to the *Work Health and Safety Regulation 2017* (NSW), placarding is displayed at the workplace. The chief warden must ensure that information with regards to dangerous goods is updated and contained within the Dangerous Goods manifest. The Leader/Supervisor must ensure that all signage and placarding within their area of responsibility is in accordance with University and regulatory requirements.

### **3.12. Health Monitoring**

The Head of School/Division must ensure that health monitoring is available for staff or students in accordance with the *Work Health and Safety Regulation 2017* (NSW) or as otherwise determined in accordance with the Guideline [HSG 8.5 Health Monitoring](#).

### **3.13. Training**

The Head of School/Division must ensure that the required level of information, instruction and training is available to staff and students handling chemicals and is in accordance with requirements outline in Guideline [HSG 4.2 Health, Safety and Wellbeing Induction, Training and Competency](#). The training must provide the skills and knowledge required to perform activities in a manner that is safe and without risks to health, so far as is reasonably practicable.

The Leader/Supervisor must ensure that relevant chemical information is included in the local area induction.

### **3.14. Waste Management and Disposal**

The Leader/Supervisor must ensure, so far as is reasonably practicable, that chemicals are acquired in minimum quantities that mitigate or reduce waste. Chemical waste including excess and expired chemicals must be disposed of regularly and not stockpiled.

A licenced chemical waste contractor conducts regular scheduled chemical waste collections at University sites.

Waste collection can be arranged as follows:

- the waste must be stored in appropriate packaging and clearly and correctly labelled;
- waste is to be stored in a safe location (e.g. flammable waste in flammable cupboard) where it does not impede walkways and spill trays should be used to minimise the risk of spills;
- material must be segregated if required;
- the Request for Disposal of Hazardous Waste spreadsheet must be completed and emailed to [wastecollection@newcastle.edu.au](mailto:wastecollection@newcastle.edu.au) at least two weeks before the pickup;
- late orders will be held over to the following month;
- a responsible person must be available on the day of collection to liaise with the waste disposal contractor;
- hazardous chemicals must never be poured down the sink.

Refer to [Chemical Waste SharePoint site](#) for further information.

### **3.15. Local Area Emergency Preparedness**

When working with hazardous chemicals and there is an incident or unexplained symptoms or illness is experienced, follow the University's Emergency Management Plan, seek medical attention and report the event using the online Incident / Hazard Reporting System (AIMS).

The Leader/Supervisor must ensure that local emergency procedures are developed and maintained, including procedures that take into account (without limitation) the physical properties of chemicals, associated hazards including the risk of fire and explosion, environmental damage and the likely health effects if exposure occurs.

Local area emergency procedures must include (without limitation):

- managing spills and leaks;
- liaising with Emergency management coordinator and Chief warden; and
- supporting University emergency procedures.

The local area emergency arrangements should be determined during the risk assessment phase.

## 4. Definitions

In the context of the Health and Safety Management System Framework:

ADG Code	The Australian Code for the Transport of Dangerous Goods by Road and Rail ('Australian Dangerous Goods Code'), approved by the Transport and Infrastructure Council, as in force or remade from time to time.
Chemicals	A term used to define chemical substances, including dangerous goods, hazardous chemicals as well as substances that do not fall into either classification. They may be solids, liquids or gases; and may be pure substances or mixtures.
Chemwatch	The chemical Management System used by the University to manage its hazardous chemical register and chemical manifest data.
CRTC	Chemical and Radiation Technical Committee.
Dangerous Goods	Solids, liquids or gases (including substances and articles), which have been classified as dangerous goods under the ADG Code. Due to their chemical or physical characteristics, they pose acute risks to people, property and the environment.
Exposure	Coming into contact with a substance or mixture. For example, exposure to chemicals in the workplace can occur through inhalation, skin absorption or ingestion.
Exposure standards	<p>The airborne concentration of a particular substance or mixture that must not be exceeded. The exposure standard can be of three forms:</p> <ul style="list-style-type: none"> <li>• 8-hour time-weighted average</li> <li>• peak limitation</li> <li>• short-term exposure limit.</li> </ul> <p>Exposure standards have been established in Australia for approximately 700 substances and mixtures.</p>
GHS	<p>The Globally Harmonised System of Classification and Labelling of Chemicals (GHS), 7<sup>th</sup> revised edition, published by the United Nations as modified under Schedule 6 of the <i>Work Health and Safety Regulation 2017</i> (NSW). This is an internationally agreed system for classifying and labelling hazardous chemicals.</p> <p>All manufacturers and importers must use GHS 7 to prepare classifications, labels and SDS for hazardous chemicals as of 1 January 2023.</p>
Hazardous chemicals	Mean a substance, mixture or articles that satisfies the criteria for a hazard class in the GHS, other than those that are only in the hazard classes exempted by the <i>Work Health and Safety Regulation 2017</i> (NSW).
Hazard	A situation, condition, event, or thing, including a person's behaviour, that has the potential to harm a person.
Hazardous Chemical Register	<p>A register of hazardous chemicals prepared, kept and maintained in accordance with the <i>Work Health and Safety Regulation 2017</i> (NSW).</p> <p>Specifically, a person conducting a business or undertaking at a workplace must ensure that—</p>

	<p>(a) a register of hazardous chemicals used, handled or stored at the workplace is prepared and kept at the workplace, and</p> <p>(b) the register is maintained to ensure the information in the register is up to date.</p> <p>At the University the hazardous chemical register data is housed within the Chemwatch manifest.</p>
Health Monitoring	<p>Monitoring a person to identify changes in the person's health status because of exposure to certain substances.</p> <p>Pursuant to the <i>Work Health and Safety Regulation 2017</i> (NSW), a PCBU must ensure that health monitoring is provided to a worker carrying out work for the business or undertaking if—</p> <p>(a) the worker is carrying out ongoing work at a workplace using, handling, generating or storing hazardous chemicals and there is a significant risk to the worker's health because of exposure to a hazardous chemical referred to in Schedule 14, Table 14.1, Column 2, or</p> <p>(b) the person identifies that because of ongoing work carried out by a worker using, handling, generating or storing hazardous chemicals there is a significant risk that the worker will be exposed to a hazardous chemical (other than a hazardous chemical referred to in Schedule 14, Table 14.1) and either—</p> <p>(i) valid techniques are available to detect the effect on the worker's health, or</p> <p>(ii) a valid way of determining biological exposure to the hazardous chemical is available and it is uncertain, on reasonable grounds, whether the exposure to the hazardous chemical has resulted in the biological exposure standard being exceeded.</p> <p>Refer to HSG 8.5</p>
Leader / Supervisor	Any member of the University who is responsible for supervising staff and/or undergraduate or postgraduate students and/or for leading research projects.
Manifest	<p>A written summary of the hazardous chemicals used, handled or stored at a workplace.</p> <p>Pursuant to the <i>Work Health and Safety Regulation 2017</i> (NSW), a PCBU at a workplace must, if the quantity of a Schedule 11 hazardous chemical or group of Schedule 11 hazardous chemicals used, handled or stored at the workplace exceeds the manifest quantity for the Schedule 11 hazardous chemical or group of Schedule 11 hazardous chemicals, prepare a manifest of Schedule 11 hazardous chemicals, keep it in a defined manner, and amend it in certain circumstances. Associated responsibilities include notifying the manifest to SafeWork NSW in certain circumstances and maintaining the manifest data. At the University the manifest data is housed in the Chemwatch manifest.</p>
Manufacture	The activities of packing, repacking, formulating, blending, mixing, making, remaking and synthesising of the chemical.
PCBU	Persons conducting a business or undertaking, as defined in the <i>Work Health and Safety Act 2011</i> (NSW).
Personal Protective Equipment (PPE)	Anything used or worn by a person to minimise risk to the person's health and safety, including air supplied respiratory equipment.



Placard	A notice or sign displayed or intended for display in a prominent place or next to a container or storage area for hazardous chemicals at a workplace, and which contains information about the hazardous chemical stored in container or storage area.
Poisons and therapeutic goods	Poisons and therapeutic goods (including drugs) covered by the <i>Poisons and Therapeutic Goods Act 1966</i> (NSW) and its associated regulations.
Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals	<p>Hazardous chemicals for which additional statutory requirements apply under Chapter 7, Part 7.1, Division 8 of the <i>Work Health and Safety Regulation 2017</i> (NSW) in relation to their use, handling and storage. For example:</p> <p>A person conducting a business or undertaking at a workplace must not use, handle or store, or direct or allow a worker at the workplace to use, handle or store, a prohibited carcinogen referred to in Schedule 10, Table 10.1, Column 2 unless—</p> <ul style="list-style-type: none"> <li>(a) the prohibited carcinogen is used, handled or stored for genuine research or analysis, and</li> <li>(b) the regulator has authorised the use, handling or storage of the prohibited carcinogen under clause 384.</li> </ul> <p>A person conducting a business or undertaking at a workplace must not use, handle or store, or direct or allow a worker at the workplace to use, handle or store, a restricted carcinogen referred to in an item in Schedule 10, Table 10.2, Column 2 for a purpose referred to in column 3 for the item unless the regulator has authorised the use, handling or storage of the restricted carcinogen under clause 384.</p> <ul style="list-style-type: none"> <li>(1) A person conducting a business or undertaking at a workplace must not use, handle or store, or direct or allow a worker at the workplace to use, handle or store, a restricted hazardous chemical referred to in an item in Schedule 10, Table 10.3, Column 2 for a purpose referred to in column 3 for the item.</li> <li>(2) A person conducting a business or undertaking at a workplace must not use, handle or store, or direct or allow a worker at the workplace to use, handle or store, polychlorinated biphenyls (PCBs) unless the use, handling or storage is— <ul style="list-style-type: none"> <li>(a) in relation to existing electrical equipment or construction material, or</li> <li>(b) for disposal purposes, or</li> <li>(c) for genuine research and analysis.</li> </ul> </li> </ul>
Risk	The possibility that harm (death, injury or illness) might occur when a person is exposed to a hazard, including the likelihood and potential severity of that harm.
Safety Data Sheet (SDS)	A document prepared under clause 330 or 331 of the <i>Work Health and Safety Regulation 2017</i> (NSW), which is designed to provide the information necessary to use, store and handle hazardous chemicals safely. The manufacturer or importer of each hazardous chemical produces these documents.

Store	A store in the Chemwatch chemical manifest is a specific location where chemicals are stored or handled, this may include but is not limited to a room, laboratory, tank, bunker, shed, freezer, cabinet.
Worker	As defined in the <i>Work Health and Safety Act 2011</i> (NSW). This definition includes (without limitation) employees (including staff), conjoints, students on work experience, contractors and sub-contractors (and their employees), and volunteers.
Workplace	Means any place where work is carried out for a business undertaking, and includes any place where a worker goes, or is likely to be, while at work.

## 5. Responsibilities

A comprehensive list of health, safety and wellbeing responsibilities is provided in [HSG 1.2 Roles and Responsibilities](#).

Specific responsibilities under this Guideline include:

### The University

- Comply with its specific obligations outlined under Chapter 7 of the *Work Health and Safety Regulation 2011* (NSW) in relation to hazardous chemicals.

### Infrastructure and Facilities Services (IFS)

- Ongoing servicing and maintenance of University facilities and related fixed infrastructure and fittings including dangerous goods stores, fume hoods, gas infrastructure including reticulation and extraction and exhaust systems

### Supervisors and Leaders

- Ensure workers who report to them are aware of this KRA;
- Ensure workers who report to them and who are planning to work or working with hazardous chemicals comply with this KRA;
- Report issues of non-compliance of workers in accordance with the KRA;
- Ensure all work activities involving high risk hazardous chemicals and chemicals regulated by specific laws have current safety approval which includes the CRTC assessment before it is commenced;
- Ensures a register of hazardous chemicals is maintained in Chemwatch;
- Support suitable representation of workers who report to them as members of the Chemical and Radiation Technical Committee.

### Health, Safety and Wellbeing Team

- Implement and maintain procedures to support this KRA;

- Provide training programs and assessment of competence for workers to support this KRA;
- Monitor the effectiveness of this KRA and support its implementation;
- Overall monitoring and surveillance of the continuing implementation of standards and guidelines;
- Ensure that appropriate records are kept, including personnel training, health monitoring;
- Provide relevant work health and safety and compliance related advice;
- Service the Chemical and Radiation Technical Committee (CRTC) and administer the safety review system;
- Conduct commissioning and decommissioning inspections of facilities where appropriate.

### **Chemical and Radiation Technical Committee**

- Assist the University to meet its compliance and safety responsibilities under the *Work Health and Safety Regulation 2017* (NSW);
- Review risk assessments and implications of hazardous chemicals and chemicals regulated by specific laws for research and teaching proposals before they commence;
- Review reported incidents, hazards and near-misses involving chemicals;
- Provide relevant work health and safety and chemical compliance related advice.

### **Local Safety Contact Person**

- Assist Supervisors and Leaders to ensure workers who are planning to work or working with chemicals comply with this KRA;
- The person with overall responsibility for operation of the laboratory or facility shall ensure that safe procedures are documented, put into practice, and reviewed and updated regularly;
- The person shall implement initial and continuing induction and training programs, ensure workers are supervised and that maintenance is carried out in accordance with safe procedures;
- Ensure the local register of hazardous chemicals is maintained;
- Report issues of non-compliance of workers in accordance with the KRA.

### Workers and students

- Staff members (or employees), students, visitors, contractors and other workers must comply with reasonable health and safety instructions, policies and procedures including this KRA;
- Only conduct work relating to hazardous substances and dangerous goods that have safety approval, and comply with any associated conditions;
- Report any safety or compliance issues to Leaders/Supervisors or the Health, Safety and Wellbeing Team, in addition to lodging a report in the online Incident / Hazard Reporting System (AIMS).

## 6. References & Related Documents

The following documentation is referenced in, or applicable to this Key Risk Area:

[KRA 1.5: Personal Protective Equipment \(PPE\)](#)

[HSG 1.2 Roles and Responsibilities](#)

[KRA 1.7: Laboratory Safety](#)

[HSG 3.1 Health and Safety Risk Management](#)

[HSG 4.2 Health, Safety and Wellbeing Induction, Training and Competency](#)

[HSG 8.4 Workplace Exposure Monitoring](#)

[HSG 8.5 Health Monitoring](#)

*Work Health and Safety Act 2011 (NSW)*

*Work Health and Safety Regulation 2017 (NSW)*

*Explosives Act 2003 (NSW)*

*Explosives Regulation 2013 (NSW)*

*Poisons and Therapeutic Goods Act 1966 (NSW)*

*Poisons and Therapeutic Goods Regulation 2008 (NSW)*

[Industrial Chemicals Act 2019 \(Cth\)](#)

[Therapeutic Goods \(Poisons Standard - February 2023\) Instrument 2023 \(Cth\)](#)

Globally Harmonised System of Classification and Labelling of Chemicals, 7<sup>th</sup> edition

[National Code of Practice for Chemicals of Security Concern](#)

Code of Practice for Supply Diversion into Illicit Drug Manufacture

Safework NSW Code of Practice: Managing risks of hazardous chemicals in the workplace (2022)

Safework NSW Code of Practice: Labelling of Workplace Hazardous Chemicals (2022)

AS 2243.1:2021 Safety in laboratories – Part 1: Planning and operational aspects

AS2243.2:2021 Safety in laboratories – Part 2: Chemical aspects and storage

AS/NZS 2243.6:2010 Safety in Laboratories – Part 6: Plant and equipment aspects

AS/NZS 2243.8:2014 Safety in Laboratories - Part 8: Fume Cupboards

AS/NZS 2982:2010 Laboratory design and construction

## 7. Amendment History

Version	Date of Issue	Approval	Section(s) Modified	Details of Amendment
1	October 2023	CPCO	All	Original version which combines existing information on the University and sharepoint and webpages. All sections reviewed for legal compliance.

## 8. Appendices

Nil