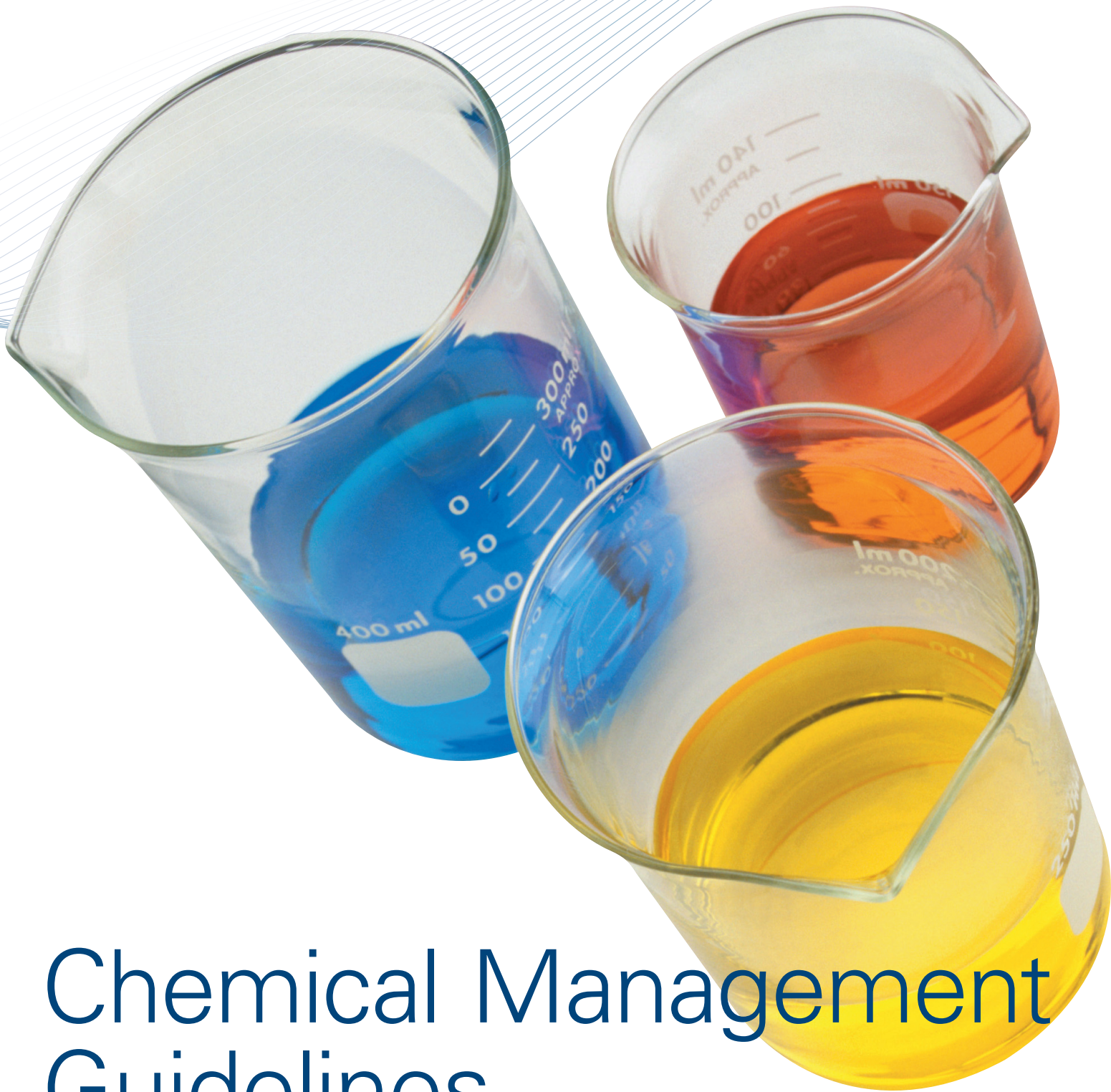




THE UNIVERSITY OF
MELBOURNE

HEALTH, SAFETY AND ENVIRONMENT



Chemical Management Guidelines

Date: 22 March 2011
Version: 2.2
Authorised by: General Manager, Occupational Health & Safety
Next Review: 3 May 2013
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Introduction

Part A of this guidance material can be used by staff or students who require an overview of the steps required to meet the University of Melbourne and regulatory requirements for the management of chemicals. More detailed information is contained in Part B. Appendices and a Glossary of Terms are provided in Part C.

The following tables have been organised to represent various common work environments within the University, and the documentation and actions required to meet University and regulatory requirements:

- Chemical Management in an Office Environment
- Chemical Management in a Workshop Environment*
- Chemical Management in a Laboratory Environment

* Whilst tables have not been developed for farms, sheds, grounds, theatres, commercial kitchens and so on, the “Workshop Environment” table can be readily used to include these environments.

Quick Reference Guide: Chemical Management in an Office Environment

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Permits and Licensing	Nil		Section 1.3
MSDS	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Purchase office chemicals/supplies from the University of Melbourne's preferred provider. MSDSs been populated on the University of Melbourne's MSDS database. 2. If using a chemical that is not supplied by the preferred supplier refer to the MSDS database. If the MSDS is not on the MSDS database contact the manufacturer/supplier for a copy and add to the MSDS database (see Section 1.6.1). 3. There are arrangements so that all staff and students can access the MSDSs. 4. The MSDS is < 5 years old. 		Section 1.4 Section 1.6
Chemical Inventory	<p>Ensure <i>one</i> of the following:</p> <ol style="list-style-type: none"> 1. The chemicals are in the Chemical Inventory (Manifest) section of the MSDS database; or 2. If the MSDS database is not used list chemicals on a Chemical Inventory template. 	<ul style="list-style-type: none"> • Chemical Inventory Template • Example of an Office Chemical Inventory 	Section 1.5 Section 1.6
Purchasing and Acquisition	<p>Ensure the following</p> <ol style="list-style-type: none"> 1. Purchase office chemical supplies from the University of Melbourne's preferred supplier; and 2. If using a chemical that is not supplied by the University of Melbourne's preferred supplier complete a Pre-purchase Checklist 	<ul style="list-style-type: none"> • Pre-Purchase Checklist 	Section 1.7
Importation	Nil		Section 1.8
Manufacture or Supply	Nil		Section 1.9
Chemical Risk Assessment	<p>Ensure <i>one</i> of the following:</p> <ol style="list-style-type: none"> 1. Purchase chemicals supplied by the University of Melbourne's preferred supplier and keep copies of the relevant generic chemical risk assessments; or 2. If using a chemical that is not supplied by the University of Melbourne's preferred supplier and a generic risk assessment is not suitable complete an individual Chemical Risk Assessment 	<ul style="list-style-type: none"> • Generic Chemical Risk Assessments for the office • Chemical Risk Assessment template 	Section 1.10
Labelling	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Retain office chemical supplies in their original containers. 2. If decanting is required then store in a suitable container and label accurately. 		Section 1.11
Storage and Handling	Store as per directions on the container/packaging.		Section 1.12
Signage	Nil		Section 1.13
Monitoring	Nil		Section 1.14
Health Surveillance	Nil		Section 1.15
Training	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. There is an allocated member of staff (normally the EHS Management Representative or EHS Coordinator) to manage and maintain the documentation. 2. The allocated person has attended the Chemical Management training. 		Section 1.16

Quick Reference Guide: Chemical Management in an Office Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Waste Management	Use the University of Melbourne's current preferred recycling arrangements or waste disposal arrangements. Store used toner cartridges in sealed plastic bags away from work areas.		Section 1.17
Access Arrangements	Nil		Section 1.18
Emergency Procedures	Ensure there is a basic first aid kit and trained first aider available.		Section 1.19

Quick Reference Guide: Chemical Management in a Workshop Environment

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Permits and Licensing	<p>For the following classifications of chemicals licenses/ permits are required prior to purchase.</p> <p>Scheduled Carcinogens</p> <ul style="list-style-type: none"> Schedule 1 Carcinogenic Substances Schedule 2 Carcinogenic Substances <p>Drugs, Poisons and Controlled Substances</p> <ul style="list-style-type: none"> Scheduled Poisons – S2, S3, S4, S8, S9 and Listed Regulated S7 	<ul style="list-style-type: none"> Schedule 1 Carcinogenic and Schedule 2 Carcinogenic license application Industrial and Educational Permit Poisons Control Plan Part 1: S2, S3, S4, S8, S9 and Listed Regulated S7 Poisons Control Plan Part 2: S8 and S9 Example of a Poisons Control Plan Part 1 Example of a Poisons Control Plan Part 2 	<p>Section 1.3</p> <p>Section 3.4</p> <p>Section 5.4</p>
MSDS	<p>Ensure <i>each</i> of the following:</p> <ol style="list-style-type: none"> There is a current MSDS (<5 years old) on the MSDS database for every chemical in the workshop. If there isn't a current MSDS in the MSDS database obtain the MSDS from the manufacturer or supplier and add to the database (see Section 1.6.1). There are arrangements so that all staff and students can access the MSDSs. 		<p>Section 1.4</p> <p>Section 1.6</p>
Chemical Inventory	<p>Ensure <i>one</i> of the following:</p> <ol style="list-style-type: none"> The chemicals are in the Chemical Inventory (Manifest) section of the MSDS database; or If the MSDS database is not used list the chemicals on Chemical Inventory template. 	<ul style="list-style-type: none"> Chemical Inventory Template Example of a Workshop Chemical Inventory 	<p>Section 1.5</p> <p>Section 1.6</p>
Purchasing and Acquisition	<p>Ensure the following:</p> <ol style="list-style-type: none"> Purchase chemicals that have a risk assessment and are on the MSDS database When purchasing a new chemical or a chemical that does not have a risk assessment complete a Pre-purchase Checklist 	<ul style="list-style-type: none"> Pre-Purchase Checklist 	Section 1.7
Importation	See Section 1.8 for requirements where chemicals are imported		Section 1.8
Manufacture or Supply	See Section 1.9 for requirements where chemicals are manufactured or supplied		Section 1.9
Chemical Risk Assessment	<p>The type of chemical risk assessment will be determined by the complexity and nature of the chemical(s) and the task/environment in which they will be used.</p> <p>The types of chemical risk assessment include:</p> <ul style="list-style-type: none"> Chemical Risk Assessment Process Chemical Risk Assessment (normally for laboratories only) <p>(continued...)</p>	<ul style="list-style-type: none"> Chemical Risk Assessment template 	Section 1.10

Quick Reference Guide: Chemical Management in a Workshop Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Chemical Risk Assessment (continued)	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. A chemical risk assessment is completed for all chemicals. The chemical can be included in a generic risk assessment or as an individual risk assessment and must include: <ul style="list-style-type: none"> o identifying the hazards and risks associated with the chemical and the activities; and o implementing controls for the identified risks, using the Hierarchy of Control <ul style="list-style-type: none"> - elimination - substitution - isolation - engineering - administrative - personal protective equipment o reviewing the effectiveness of the chemical risk assessment. 2. Ensure there are arrangements so that all staff and students are familiar with and can access the chemical risk assessments. 3. Personal hygiene arrangements are available, including wash room facilities, workshop guidelines, standard operating procedures and PPE. 	<ul style="list-style-type: none"> • Generic Chemical Risk Assessments for the Laboratory/Workshop • Individual Chemical Risk Assessments for Laboratory/Workshop 	
Labelling	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Where reasonably practicable retain chemicals in original packaging 2. Where chemicals are decanted or stored in new containers attach label with: <ul style="list-style-type: none"> o the product name of the chemical; o the name, address and contact telephone number of the Australian manufacturer or importer of the substance; o the chemical name for all Type I ingredients and the chemical or generic name for Type II ingredients; o relevant health and safety information about the substance, including its risk and safety phrases, except where the container is so small that it is not practical to provide such information; and 3. Other information relevant to the chemical classification: <ul style="list-style-type: none"> o Hazardous Substance: include the word HAZARDOUS o Dangerous Good: include a Class Diamond o Drug, Poison or Controlled Substance: include the Poison Schedule 4. Labels can be printed using the MSDS database (ChemFFX) labelling facility which meets the requirements set out in the above point 5. Rolls of Labels/stickers can be ordered from the Chemistry Store. 		Section 1.11 Section 2.5 Section 4.5 Section 5.5

Quick Reference Guide: Chemical Management in a Workshop Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Storage and Handling	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Store as per requirements specified by the manufacturer/supplier on the container/MSDS. 2. Depending on the quantity of chemical(s) store in local bunded areas and/or trays to contain spills/leakage. 3. Dangerous Goods <ul style="list-style-type: none"> o the chemicals must be separated and segregated according to quantities and incompatibility of Classes. o chemical lockers and storage arrangements for Classes must meet relevant Australian Standards (see Section 4.3.2). o secure cylinders 	<ul style="list-style-type: none"> • Chemical Storage and Handling – Quick Reference Poster 	<p>Section 1.12 Section 4.3.2 Section 4.6</p>
Signage (and Placarding)	<p>Ensure that:</p> <ol style="list-style-type: none"> 1. Cupboards, lockers and refrigerators used for storing chemicals are signed to indicate the type of chemicals (eg Class) being stored. 2. Additional signs where required, such as “do not use to store food”, are displayed. 3. Where dangerous goods are stored placarding is displayed as appropriate. 		<p>Section 1.13 Section 4.7</p>
Monitoring	<p>Refer to the MSDS and determine monitoring requirements during the chemical risk assessment phase.</p>		<p>Section 1.14</p>
Health Surveillance	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Refer to the MSDS and determine the health surveillance requirements during the chemical risk assessment phase. 2. Scheduled Carcinogenic Substances: <ul style="list-style-type: none"> o refer to the MSDS and obtain advice from the University’s Occupational Health Services o a record must be kept of each person who works with a scheduled carcinogenic substance 3. Contact the Occupational Health Nurse to determine if there are additional requirements. 		<p>Section 1.15 Section 2.6 Section 3.6</p>
Training	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Refer to the MSDS and determine the training requirements during the chemical risk assessment phase 2. All staff and students receive the relevant training as determined in the above point 		<p>Section 1.16</p>
Waste Management	<p>Use the University of Melbourne’s current preferred recycle arrangements or waste disposal arrangements.</p>	<ul style="list-style-type: none"> • Chemical Storage and Handling – Quick Reference Poster 	<p>Section 1.17</p>
Access Arrangements	<p>Access arrangements are relevant to the risks associated with the chemical and the chemical classification.</p> <p>Scheduled Carcinogens</p> <ul style="list-style-type: none"> • Only staff/students, who work directly with the scheduled carcinogen, have received chemical training and are fully conversant with the chemical risk assessment can access scheduled carcinogens <p style="text-align: right;"><i>(continued...)</i></p>		<p>Section 1.18 Section 3.5 Section 5.6 Section 6.1.5 Section 6.2.5 Section 7.5</p>

Quick Reference Guide: Chemical Management in a Workshop Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
<p>Access Arrangements (continued)</p>	<p>Drugs, Poisons and Controlled Substances</p> <ul style="list-style-type: none"> Drugs, Poisons and Controlled Substances that require an Industrial and Educational Permit: only staff named on the poisons permit or staff/students directly under their control can access the scheduled poison. <p>Chemicals of Security Concern</p> <ul style="list-style-type: none"> Only staff/students, who work directly with the chemical of security concern, have received chemical training and are fully conversant with the chemical risk assessment can access chemicals of security concern. <p>Precursor Chemicals</p> <ul style="list-style-type: none"> Only staff/students, who work directly with the precursor chemical, have received chemical training and are fully conversant with the chemical risk assessment can access precursor chemicals. 		
<p>Emergency Procedures</p>	<p>Ensure the following:</p> <ol style="list-style-type: none"> Refer to the MSDS to determine the emergency procedures and requirements during the chemical risk assessment phase First aid requirements, including supplies and training, are suitable for the chemicals used Spill kits are available and suitable for the chemicals used. Additional emergency resources and training are provided where relevant (eg self contained breathing apparatus, emergency showers and eye wash facilities) 		<p>Section 1.19</p>

Quick Reference Guide: Chemical Management in a Laboratory Environment

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Permits and Licensing	<p>For the following classifications of chemicals licenses/permits are required prior to purchase.</p> <p>Scheduled Carcinogens</p> <ul style="list-style-type: none"> Schedule 1 Carcinogenic Substances Schedule 2 Carcinogenic Substances <p>Drugs, Poisons and Controlled Substances</p> <ul style="list-style-type: none"> Scheduled Poisons – S2, S3, S4, S8, S9 and Listed Regulated S7 <p>Chemicals of Security Concern</p> <ul style="list-style-type: none"> Weapons of Mass Destruction High Consequence Dangerous Goods (Ammonium Nitrate >45%) <p>Precursor Chemicals</p>	<ul style="list-style-type: none"> Schedule 1 and Schedule 2 license application Industrial and Educational Permit Poisons Control Plan Part 1: S2, S3, S4, S8, S9 and Listed Regulated S7 Poisons Control Plan Part 2: S8 and S9 Example of a Poisons Control Plan Part 1 Example of a Poisons Control Plan Part 2 Permits and notifications as per the Chemical Weapons Convention License to Access High Consequence Dangerous Goods (if > 3kg) End User Declaration 	<p>Section 1.3</p> <p>Section 3.4</p> <p>Section 5.4</p> <p>Section 6.1.4</p> <p>Section 6.2.4</p> <p>Section 7.4</p>
MSDS	<p>Ensure <i>each</i> of the following:</p> <ol style="list-style-type: none"> There is a current MSDS (<5 years old) on the MSDS database for every chemical in the laboratory. If there isn't a current MSDS in the MSDS database obtain the MSDS from the manufacturer or supplier and add to the database (see Section 1.6.1). There are arrangements so that all staff and students can access the MSDSs. 		<p>Section 1.4</p> <p>Section 1.6</p>
Chemical Inventory	<p>Ensure <i>one</i> of the following:</p> <ol style="list-style-type: none"> The chemicals are in the Chemical Inventory (Manifest) section of the MSDS database; or If the MSDS database is not used list the chemicals on Chemical Inventory template. 	<ul style="list-style-type: none"> Chemical Inventory Template Example of a Laboratory Chemical Inventory 	<p>Section 1.5</p> <p>Section 1.6</p>
Purchasing and Acquisition	<p>Ensure the following:</p> <ol style="list-style-type: none"> Purchase chemicals that have a risk assessment and are on the MSDS database When purchasing a new chemical or a chemical that does not have a risk assessment complete a Pre-purchase Checklist 	<ul style="list-style-type: none"> Pre-Purchase Checklist 	Section 1.7
Importation	See Section 1.8 for requirements where chemicals are imported		Section 1.8
Manufacture or Supply	See Section 1.9 for requirements where chemicals are imported		Section 1.9

Quick Reference Guide: Chemical Management in a Laboratory Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
<p>Chemical Risk Assessment</p>	<p>The type of chemical risk assessment will be determined by the complexity and nature of the chemical(s) and the task/environment in which they will be used.</p> <p>The types of chemical risk assessment include:</p> <ul style="list-style-type: none"> • Chemical Risk Assessment • Process Chemical Risk Assessment <p>Ensure the following:</p> <ol style="list-style-type: none"> 1. A chemical risk assessment is completed for all chemicals. The chemical can be included in a generic risk assessment or as an individual risk assessment and must include: <ul style="list-style-type: none"> o identifying the hazards and risks associated with the chemical and the activities; and o implementing controls for the identified risks, using the Hierarchy of Control <ul style="list-style-type: none"> - elimination - substitution - isolation - engineering - administrative - personal protective equipment o reviewing the effectiveness of the chemical risk assessment. 2. There are arrangements so that all staff and students are familiar with and can access the chemical risk assessments. 3. Personal hygiene arrangements are available, including wash room facilities, laboratory guidelines, SOPs and PPE. 	<ul style="list-style-type: none"> • Chemical Risk Assessment template • Process Chemical Risk Assessment template • Generic Chemical Risk Assessments for the Laboratory/Workshop • Individual Chemical Risk Assessments for Laboratory/Workshop • Process Chemical Risk Assessment (example provided in the Laboratory Notebook) 	<p>Section 1.10</p>
<p>Labelling</p>	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Where reasonably practicable retain chemicals in original packaging 2. Where chemicals are decanted or stored in new containers attach label with: <ul style="list-style-type: none"> o the product name of the chemical; o the name, address and contact telephone number of the Australian manufacturer or importer of the substance; o the chemical name for all Type I ingredients and the chemical or generic name for Type II ingredients; o relevant health and safety information about the substance, including its risk and safety phrases, except where the container is so small that it is not practical to provide such information; and 3. Other information relevant to the chemical classification: 4. Hazardous Substance: include the word HAZARDOUS 5. Dangerous Good: include a Class Diamond 6. Drug, Poison or Controlled Substance: include the Poison Schedule <p style="text-align: right;"><i>(continued...)</i></p>		<p>Section 1.11 Section 2.5 Section 4.5 Section 5.5</p>

Quick Reference Guide: Chemical Management in a Laboratory Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Labelling (continued)	<ol style="list-style-type: none"> 7. Labels can be printed using the ChemFFX labelling facility which meets the requirements set out in the above point 8. Rolls of labels/stickers can be ordered from the Chemistry Store. 		
Storage and Handling	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Store as per requirements specified by the manufacturer/supplier on the container/MSDS. 2. Depending on the quantity of chemical(s) store in local bunded areas and/or trays to contain spills/leaks 3. Local storage arrangements that ensure chemicals are not stored in fume cupboards 4. Where relevant special arrangements are adopted for: <ul style="list-style-type: none"> o hazardous work zones (intrinsically safe refrigerators and other electrical equipment) o shock sensitive chemicals o time sensitive chemicals o temperature sensitive chemicals 5. Dangerous Goods <ul style="list-style-type: none"> o the chemicals must be separated and segregated according to quantities and incompatibility of Classes. o chemical lockers and storage arrangements for Classes must meet relevant Australian Standards. (see Section 4.3.2) o secure cylinders 	<ul style="list-style-type: none"> • Chemical Storage and Handling – Quick Reference Poster 	Section 1.12 Section 4.3.2 Section 4.6
Signage (and Placarding)	<p>Ensure that:</p> <ol style="list-style-type: none"> 1. Cupboards, lockers and refrigerators used for storing chemicals are signed to indicate the type of chemicals (eg Class) being stored. 2. Additional signs where required, such as “do not use to store food”, are displayed. 3. Where dangerous goods are stored placarding is displayed as appropriate. 		Section 1.13 Section 4.7
Monitoring	<p>Refer to the MSDS to determine monitoring requirements during the chemical risk assessment phase.</p>		Section 1.14
Health Surveillance	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Refer to the MSDS to determine the health surveillance requirements during the chemical risk assessment phase. 2. Scheduled Carcinogenic Substances: <ul style="list-style-type: none"> o refer to the MSDS and obtain advice from the University's Occupational Health Services o a record must be kept of each person who works with a scheduled carcinogenic substance 3. Contact the Occupational Health Nurse to determine additional requirements. 		Section 1.15 Section 2.6 Section 3.6
Training	<p>Ensure the following:</p> <ol style="list-style-type: none"> 1. Refer to the MSDS and determine the training requirements during the chemical risk assessment phase. 2. All staff and students receive the relevant training as determined in the above point. 		Section 1.16

Quick Reference Guide: Chemical Management in a Laboratory Environment (cont)

STEPS	ACTIONS/REQUIREMENTS	DOCUMENTS	PART B
Waste Management	Use the University of Melbourne's current preferred recycle arrangements or waste disposal arrangements.	<ul style="list-style-type: none"> Chemical Storage and Handling – Quick Reference Poster 	Section 1.17
Access Arrangements	<p>Access arrangements are relevant to the risks associated with the chemical and the chemical classification.</p> <p>Scheduled Carcinogens</p> <ul style="list-style-type: none"> Only staff/students, who work directly with the scheduled carcinogen, have received chemical training and are fully conversant with the chemical risk assessment can access scheduled carcinogens <p>Drugs, Poisons and Controlled Substances</p> <ul style="list-style-type: none"> Drugs, Poisons and Controlled Substances that require an Industrial and Educational Permit: only staff named on the poisons permit or staff/students directly under their control can access the scheduled poison. <p>Chemicals of Security Concern</p> <ul style="list-style-type: none"> Only staff/students, who work directly with the chemical of security concern, have received chemical training and are fully conversant with the chemical risk assessment can access chemicals of security concern. <p>Precursor Chemicals</p> <ul style="list-style-type: none"> Only staff/students, who work directly with the precursor chemical, have received chemical training and are fully conversant with the chemical risk assessment can access precursor chemicals. 		Section 1.18 Section 3.5 Section 5.6 Section 6.1.5 Section 6.2.5 Section 7.5
Emergency Procedures	<p>Ensure the following:</p> <ol style="list-style-type: none"> Refer to the MSDS to determine the emergency procedures and requirements during the chemical risk assessment phase. First aid requirements, including supplies and training, are suitable for the chemicals used. Spill kits are available and suitable for the chemicals used. Additional emergency resources and training are provided where relevant (eg self contained breathing apparatus, emergency showers and eye wash facilities). 		Section 1.19

1. GENERAL REQUIREMENTS

1.1. Scope

Part B of this guide has been developed to provide additional guidance and information to support the Chemical Risk Management (UOM 320) procedure. This additional material will provide more information and understanding to assist staff and students using Part A – Quick Reference Guide who may require further guidance.

The Chemical Risk Management (UOM 320) procedure is available at <http://policy.unimelb.edu.au/UOM0320>.

The guidance material is intended for use for chemicals only, such as hazardous substances, dangerous goods, scheduled poisons, or chemicals with a chemical abstract number. The guidance material *does not* provide information or guidance on biologicals, ionising radiation sources (Class 7 Dangerous Good), asbestos or explosives (Class 1 Dangerous Good).

Throughout this guide the generic term “chemical” is generally used. The term “hazardous substance” as defined by WorkSafe (see Section 2.2) is used when the guidance applies specifically to this classification of chemical.

1.2. Legislation

The legislation that governs chemical management is complex and considerable. The following list represents the majority of Acts and Regulations that may be applicable to the University of Melbourne:

- *Agricultural and Veterinary Chemicals (Victoria) Act 1994 (Vic)*
- *Dangerous Goods Act 1985 (Vic)*
- *Dangerous Goods (Storage and Handling) Regulations 2000 (Vic)*
- *Dangerous Goods (Transport) Regulations 1987 (Vic)*
- *Dangerous Goods (HCDG) Regulations 2005 (Vic)*
- *Drugs Poisons and Controlled Substances Act 1981 (Vic)*
- *Drugs Poisons and Controlled Substances Regulations 2006 (Vic)*
- *Drugs Poisons and Controlled Substances (Precursor Chemicals) Regulations 2007 (Vic)*
- *Drugs Poisons and Controlled Substances (Volatile Substances) Regulations 2004 (Vic)*
- *Environmental Protection Act 1970 (Vic)*
- *Environment Protection (Industrial Waste Resource) Regulations 2009 (Vic)*
- *Excise Act 1901 (Cth)*
- *Excise Regulations 1925 (Cth)*
- *Hazardous Substances Information System – Guidance Material for Hazard Classifications (Cth)*
- *Industrial Chemical (Notification and Assessment) Act 1889 (Cth)*
- *National Environment Protection Council (Victoria) Act 1995 (Vic)*
- *Occupational Health and Safety Act 2004 (Vic)*
- *Occupational Health and Safety Regulations 2007 (Vic) pt 4.1 Hazardous Substances and Materials*
- *Occupational Health and Safety Regulations 2007 (Vic) pt 4.2 Scheduled Carcinogenic Substances*

- *Occupational Health and Safety Regulations 2007* (Vic) pt 4.4 Lead
- *Pollution of Waters by Oils and Noxious Substances Act 1986* (Vic)
- *State Environment Protection Policy* (SEPP) (The Air Environment) – General Provisions in SEPP (The Air Environment) Governing Maximum Ground-Level Concentrations of Various Pollutants (Vic)
- *State Environment Protection Policy* (SEPP) (Waters of Victoria) – Standards for Quality of Water Entering Stormwater System (Vic)
- *Therapeutic Goods Act 1994* (Vic)
- *Water Act 1989* (Vic)
- *Water Industry Act 1994* (Vic)
- *Water Industry Regulations 2006* (Vic)
- *Weapons of Mass Destruction (Prevention of Proliferation) Act 1995* (Cth)
- *Weapons of Mass Destruction 1995* (Cth)

Refer to the “Chemical” category in the [University of Melbourne Health and Safety Risk Register](#) for Standards, Codes and Guidance material applicable to the University of Melbourne.

1.3. Permits and Licensing

The procurement and possession of some chemical classifications have permit and licensing requirements. Refer to the relevant sections in this guide for permit and licensing requirements.

- Scheduled Carcinogens – Section 3.4
- Drugs, Poisons and Controlled Substances – Section 5.4
- Chemicals of Security Concern – Section 6.1.4, Section 6.2.4
- Precursor Chemicals – 7.4

1.4. Material Safety Data Sheet (MSDS)

Prescribed by the *Occupational Health and Safety Regulations* (2007), manufacturers and importers are responsible for determining whether a chemical they supply for use in a workplace is hazardous. If the chemical is classified as hazardous, a material safety data sheet (MSDS) must be prepared and made available to a purchaser of the chemical. In addition the MSDS must be current, ie less than 5 years old. An MSDS should not be confused with a product specification sheet, which provides information on the performance characteristics of the chemical and directions for application.

The MSDS provides information about the hazards (health effects) of the chemical and how to use it safely. It also helps the user of a chemical to identify, assess and control risks associated with the use of the chemical in the workplace.

An MSDS must be written in English and contain the following information:

1. product name;
2. name and address and telephone number of:
 - the manufacturer of the chemical in Australia, or
 - the importing supplier in Australia of the chemical;
3. an Australian emergency telephone number;
4. date of preparation or last review;
5. a statement of the chemical’s classification regarding a hazardous substance;

6. the hazard classification of the chemical determined in accordance with HSIS† or approved criteria for Classifying Hazardous Substances;
7. the risk phrase and safety phrase for the chemical;
8. the chemical name for each Type I ingredient;
9. for each Type II ingredient:
 - o its chemical name, or
 - o if the identity of the ingredient is commercially confidential, its generic name;
10. for each Type III ingredient if it has a known synergistic effect with another ingredient that makes up the hazardous chemical:
 - o its chemical name, or
 - o if the identity of the ingredient is commercially confidential, its generic name;
11. proportion (or proportion ranges) of the ingredients in the chemical;
12. first aid information;
13. emergency procedures to apply in the event of incident or exposure;
14. precautions for safe use of the chemical including engineering controls and personal protective equipment;
15. precautions for the safe storage and disposal of the chemical;
16. exposure standards (if any) for the chemical or its ingredients;
17. the physical and chemical properties of the chemical or its ingredients including any hazardous decomposition likely to be generated during normal use; and
18. information on the health effects of the chemical.

Manufacturers/importers/suppliers have a legal obligation to supply a current MSDS and an employer may assume that the information is accurately detailed in the MSDS. Nevertheless where there are obvious discrepancies or omissions (for example no first aid information) the chemical should not be purchased or used until a complete MSDS is provided by the manufacturer/importer/supplier.

The *OHS Regulations 2007* (Vic) do not prescribe the format (style or presentation) required for an MSDS.

The *National Code of Practice for the Preparation of Material Safety Data Sheets* 2nd Edition (NOHSC:2011 [2003]) provides detailed information on the requirements for MSDS including recommended formatting and layout for manufacturers/suppliers.

A quick guide/checklist is available to ensure that the MSDS meets the requirements of the *OHS Regulations 2007* (Vic), based on the format set out by *National Code of Practice for the Preparation of Material Safety Data Sheets*: [MSDS Checklist](#).

Whilst an MSDS is not required for non-hazardous chemicals, a copy of the MSDS provides a method for determining the chemical's hazardous status. It is strongly advised that an MSDS for a non-hazardous substance is retained and is referenced to determine safe use, handling storage and disposal.

NOTE:

The *National Code of Practice* and the *OHS Regulations 2007* (Vic) essentially have the same requirements for MSDS. Nevertheless where the requirements differ the *OHS Regulations 2007* take precedence over the *National Code of Practice*.

† Hazardous Substances Information System: The HSIS is an internet resource that enables the user to search information on substances that have been classified in accordance with the *Approved Criteria for Classifying Hazardous Substances* (NOHSC:1008[2004]) 3rd Edition and/or have National Exposure Standards declared under the *NOHSC Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment* (NOHSC:1003[1995]) or subsequent updates. [Web address](#).

Risk Phrases and Safety Phrases

The nature of a risk associated with the use of a chemical is described by the “risk phrase” also known as the R-phase.

The safety precautionary measure associated with the use of the chemical is described by the “safety phrase” also known as the S-phrase.

A list of the risk phrases and the safety phrases is located in [Hazardous Substances Information System – Guidance Material for Hazard Classifications \(Cth\), Appendix 2: Risk and Safety Phrases](#).

1.4.1. Access to MSDS

Staff and students handling and storing chemicals must have access to current MSDS. This access must be as close to the work as is reasonably practicable. Access arrangements will depend on the environment and the infrastructure that is already in place. For example where staff and students have ready access to a computer, an MSDS database could be used. In contrast where electronic access is not readily available, hardcopies of the MSDSs may be required.

Irrespective of the access arrangements the MSDS should current (<5 years old) and be available for *all* chemicals – including those in use and those stored.

Note: Where a chemical is still in use/stored and the manufacturer is no longer in business the last known MSDS (or an equivalent) must be kept.

1.5. Chemical Inventory

A Chemical Inventory identifies the nature, quantity and location of *all* chemicals kept by a Division, School/ Department or laboratory/workshop/other local area.

The chemical inventory must satisfy the regulatory requirements of different Victorian statutes. These include the:

- Hazardous Substances Register (*OHS Regulations 2007* [Vic]); and
- Dangerous Goods Manifest (*Dangerous Goods [Storage and Handling] Regulations 2000* [Vic]).

The *Drugs, Poisons and Controlled Substances Regulations 2006* (Vic) do not require a Poisons Inventory; however they provide a practical method for recording and tracking scheduled poisons (see Section 5).

The University requires all chemicals to be identified and listed on a chemical inventory which includes the following information:

- Division name;
- Department name/number;
- Building name/number;
- Supervisor (person responsible);
- CAS (Chemical Abstract System) Number;
- Manufacturer’s/Supplier’s Chemical Name;
- Manufacturer’s name (product or commercial name);
- Supplier;
- Total volume of the chemical (quantity);
- Classification of chemical (Dangerous Goods, Hazardous Substances, Controlled Substances [Poison Schedule]);
- (Where the chemical is a Dangerous Good) DG Class, Subsidiary Risk, Packaging Group and UN number;
- Room number/description of each chemical; and

- MSDS available and current

A Chemical Inventory Template (where the University of Melbourne database is not used - see Section 1.5.1) is at the following link: [Chemical Inventory Template](#).

In addition, examples of completed chemical inventory templates for common workplace environments are as follows:

- [Example of an Office Chemical Inventory](#)
- [Example of a Workshop Chemical Inventory](#)
- [Example of a Laboratory Chemical Inventory](#)

1.5.1. University of Melbourne Chemical Inventory

ChemWatch is the University of Melbourne's preferred electronic MSDS and chemical inventory management system and meets the Division's chemical regulatory requirements as set out in section 1.5.

The Chemical Inventory is referred to as the chemical "Manifest" in ChemGold III.

ChemWatch provides two programs:

- ChemFFX (detailed in Section 1.6.1), which allows the user to search all ChemWatch and University MSDS and print labels; and
- ChemGold III, which, in addition to the features of ChemFFX, allows the user to develop and maintain chemical inventories.

ChemGold III is available from <http://safety.unimelb.edu.au/topics/chemical/chemwatch/chemgold.html>

The features of ChemGold III include:

- logon to ChemGold III (requires a user name and password provided by the local EHS Contact)
- inventory of Material Safety Data Sheets;
- storage of the manufacturer's/supplier's original MSDS;
- chemical inventories for Divisions, departments and specified areas;
- generated reports such as chemical inventories including:
 - Hazardous Substances Inventory,
 - Dangerous Goods Manifests, and
 - Poisons Inventory;
- chemical risk assessments;
- information on chemical labelling (see Section 1.11) and placarding (see Section 4.7) for any given chemical entered into the database;
- determines when placarding is required based on the volume of a dangerous good stored in a given area;
- includes the classification of a chemical (Hazardous Substance, Dangerous Good, Controlled Substance); and
- provides warnings of chemical incompatibilities within a given area, where segregation may be required.

1.6. MSDS Database

1.6.1. Description

ChemWatch - ChemFFX is the University of Melbourne's preferred electronic Materials Safety Data Sheet (MSDS) database, which can assist a Division meet its chemical regulatory requirements.

Access to ChemFFX is available using University of Melbourne network login details, from <http://safety.unimelb.edu.au/unimelb-only/chemffx.html>.

1.6.2. Adding Chemicals/MSDS to ChemWatch

Additional MSDS can be added to ChemGold III. There is a button in ChemGold III allowing the user to provide information directly to ChemWatch.

Adding MSDS to ChemGold III will automatically update ChemFFX.

1.7. Purchasing and Acquisition

When acquiring/purchasing chemicals a hazard identification/risk assessment should be completed prior to purchase. This will include obtaining the MSDS to determine the:

- chemical classification (hazardous substance, dangerous good, scheduled poison etc);
- subsequent regulatory requirements;
- controls for the safe use, storage and transport;
- waste management requirements; and
- first aid and emergency requirements.

This information enables the proposed user to ensure that:

1. facilities and resources are available to use, store and dispose of the chemical safely;
2. regulatory requirements can be met; and
3. controls are put in place prior to purchase.

Where the purchaser has identified that a chemical is hazardous there may also be an opportunity at this stage to acquire a less hazardous chemical.

When purchasing new chemicals a safe and sustainable disposal method should be identified. Any specialised clean up equipment should also be identified with the purchase of a new chemical.

An [EHS Pre-Purchase Risk Assessment Checklist](#) should be completed for all new chemicals.

In summary, remember to:

- (where reasonably practicable) purchase less hazardous chemicals;
- purchase smaller quantities to reduce manual handling issues, storage space and waste;
- ensure the chemical is added to the inventory;
- ensure the MSDS is available and can be accessed by everyone; and
- introduce controls that will restrict who can authorise purchasing.

1.8. Importation

Importation of chemicals into Australia is complex and is covered by a number of Commonwealth jurisdictions and legislation. The Commonwealth has divided the chemicals into four broad categories (or Schemes). These are:

- Industrial Chemicals

Ministry: Health and Aging

Agency: [National Industrial Chemicals Notification Scheme \(NICNAS\)](#)

- Agricultural and Veterinary Chemicals

Ministry: Agriculture, Fisheries and Forestry

Agency: [Australian Pesticides and Veterinary Medicines Authority](#)

- Medicines and Medicinal Products

Ministry: Health and Aging

Agency: [Therapeutic Goods Administration](#)

- Food Additives, Contaminants and Natural Toxicants

Ministry: Health and Aging

Agency: [Food Standards Australia New Zealand](#)

Staff importing chemicals into Australia must contact the relevant Commonwealth Ministry for their legal requirements/obligations.

1.9. Manufacture or Supply

Staff that manufacture chemicals for sale or exchange to another workplace (other than the University of Melbourne) have additional responsibilities under the *Occupational Health and Safety Regulations 2007* (Vic) pt 4.1 Hazardous Substances.

Staff must determine if the chemical is a hazardous substance (see Section 2)

In the case of a hazardous substance staff must ensure the following:

- prepare and provide an MSDS in accordance with the *OHS Regulations 2007* (see Section 1.4);
- review the MSDS to ensure the information remains current and correct and review at least every 5 years; and
- label any containers in accordance with the *OHS Regulations 2007* (see Section 1.11).

Manufacture or supply *does not* apply to a chemical:

- that is produced as waste during the process of manufacturing the chemical; or
- when the chemical is used in the workplace (ie at the University of Melbourne).

1.10. Chemical Risk Assessment

1.10.1. Introduction and Documentation

A chemical risk assessment determines whether there is a risk to staff or students' health from using a chemical in the workplace (including any new chemicals that may be produced during an activity). Therefore all staff and students who engage in activities associated with chemicals must be aware of the hazards/risks associated with chemicals and the controls that have been put in place to reduce the risks.

For newly purchased/introduced chemicals a preliminary risk assessment should have been completed prior to purchase (see Section 1.7). Normally the pre-purchase risk assessment will not provide enough guidance on the safe use, handling, storage and disposal of a chemical throughout the life of its use. Therefore a risk assessment should be completed before a chemical is used for the first time in the workplace.

The chemical risk assessment should be kept where users of the chemical can access the risk assessment easily and quickly and ensures that:

- chemicals will be appropriately and safely managed from purchase through until disposal; and
- an emergency plan has been developed and can be implemented in the event of an adverse incident.

A Chemical Risk Assessment consists of the following steps:

1. identify who shall complete the chemical risk assessment;

2. identify hazards and risks;
3. control the risks;
4. record the risk assessment; and
5. review the risk assessment

The complexity of the chemical risk assessment will depend on the chemical(s) in use and their interaction with the activity. The table below defines the type of chemical risk assessment and the relevant documentation that should be used.

1.10.2. Type of Chemical Risk Assessment

Chemical risk assessments can be generic or individual as follows:

- *generic assessments* are used for a group of chemicals that have similar properties and hazards and therefore require the same methods of control (for example acrylic based paints could be assigned into a common generic chemical risk assessment and paints containing isocyanate could be assigned to another); and
- *individual assessments* are used for chemicals that:
 - have unique risks;
 - have unique controls; and/or
 - are used in manner other than the intended purpose of the manufacturer or supplier.

There are two chemical risk assessment templates. These are:

- Chemical Risk Assessment
- Process Chemical Risk Assessment

TYPE OF CHEMICAL RISK ASSESSMENT AND DOCUMENTATION	DESCRIPTION	EXAMPLES
Chemical Risk Assessment Chemical Risk Assessment Worksheet	Chemicals that can be grouped together into generic risk assessments. Chemicals that are assessed as high risk because they have severe physical or environmental adverse outcomes if there is an incident will require individual assessments. For example: <ul style="list-style-type: none"> • Scheduled Carcinogens • Hydrofluoric acid • Cyanide 	<ul style="list-style-type: none"> • Generic Chemical Risk Assessments for the Office • Generic Chemical Risk Assessments for the Laboratory/Workshop • Individual Chemical Risk Assessments for the Laboratory/Workshop
Process Chemical Risk Assessment Laboratory Notebook Sample	Activities that include many chemicals where it is not reasonably practicable or valid to complete a separate risk assessment for each chemical. Under these circumstances a risk assessment setting out the process steps of the activity should be completed.	An example of a Process Chemical Risk Assessment is outlined in the Laboratory Notebook Sample.

1.10.3. Identify Who Shall Complete the Risk Assessment

It is important that staff and students completing a chemical risk assessment are competent and familiar with both the:

- risk assessment process; and
- chemical and the interaction of that chemical with the activity.

See Section 1.16 with regards to training needs for staff and students completing a chemical risk assessment.

1.10.4. Identify Hazards and Risks

MSDS and labels for all hazardous substances supplied to the workplace should be reviewed to obtain information on the health hazards, precautions for use and safe handling requirements for the substance. Some products - for example, hazardous substances in retail packages - may have sufficient information on the consumer package label to cover most likely situations of exposure, such as the clean up and proper disposal of spills.

What to do if an MSDS for a chemical is unavailable

If an MSDS and/or labels are not required under the *OHS Regulations 2007*, equivalent information on health hazards and precautions for use and safe handling should be obtained. The use of equivalent information will usually be limited to situations where the substance is generated in the workplace as a result of the use of a hazardous substance.

[National Industrial Chemical Notification and Assessment Scheme \(NICNAS\)](#) Summary Reports are a helpful source of equivalent information. NICNAS Summary Reports have been produced for every chemical notified and assessed under the *Industrial Chemical (Notification and Assessment) Act 1989* (Cth). These reports contain information including:

- the chemical's general uses, precautions and restrictions to be observed during manufacture, handling, storage, use and disposal;
 - information on emergency procedures; and
 - summaries of health and environmental effects data.

Determine the Chemical Classification

Under different statutes there may be additional legal requirements with regards to the chemical classification. Refer to the relevant sections in this guidance for additional specific requirements.

Examples of different statute requirements based on classification include:

- Hazardous Substances Register is required under the *OHS Regulations 2007* (Vic);
- Dangerous Goods Manifest and signage may be required under the *Dangerous Goods (Storage and Handling) Regulations 2000* (Vic); and
- Poisons License is required where scheduled poisons (eg S4, S8) are kept (*Drugs, Poisons and Controlled Substances Regulations 2006* [Vic]).

Review the Information

To assess the risks to health and environment, the staff member or student using the chemical must find out how the chemical and any chemicals generated through its use may be harmful to a person's health or environment. Therefore, when reviewing the information about a chemical, consider the following factors:

- a) The routes of exposure to chemicals and the health effects associated:
 - inhalation;
 - ingestion;
 - absorption through the skin or via the eyes; and
 - injection.
- b) The form (including concentration) in which the chemical may be present, such as solid, liquid or gas.
- c) The chemical and physical properties of the chemical.
- d) The health effects for each route of entry or contact identified, such as:
 - either immediate or delayed;
 - sensitisation or allergic reactions;

- o cancer;
 - o damage to specific target organs;
 - o harmful to human reproduction; and
 - o synergistic effects.
- e) The effects on the environment taking into account
- o storage and transport; and
 - o generated waste.

1.10.5. Personal Hygiene

Irrespective of the chemical and its associated risks, personal hygiene when handling and storing chemicals is an integral part of controlling physical exposure. Personal hygiene requirements include:

- providing readily available wash up facilities;
- washing hands immediately after using chemicals;
- storing food or drink separately from chemicals (ie do not store chemicals and food together);
- ensuring that laboratories, workshops and other areas where chemicals are used are free from eating and drinking;
- displaying “rules” in laboratories and workshops that include hygiene requirements; and
- wearing suitable PPE, such as eye/face protection, gloves and over garments (overalls, laboratory coats).

1.10.6. Control the Risks

The Hierarchy of Control should be used when determining the most appropriate manner for controlling risks associated with chemical use. Generally a combination of controls will be required nevertheless the higher the level of control the more effective it will be. The control measures of most effective to least effective include:

a) Elimination

Where reasonably practical designing or modifying work activities or processes that do not require use of chemicals. An example of elimination includes:

- o equipment that can be sterilised through autoclaving and therefore disinfecting chemicals are not required.

b) Substitution

Use a less hazardous chemical or a chemical in a less hazardous form. A substitute chemical should not introduce a new or a higher degree of risk to health. Examples of substitution include:

- o detergent in place of a chlorinated solvent for cleaning;
- o water-based paint in place of a solvent-based paint; and
- o painting with a brush rather than spray-painting, which creates a mist.

c) Isolation

Isolation involves separating people from the chemical by distance or barriers to prevent or reduce exposure. Examples of isolation include:

- o closed systems such as those used during the processing and transfer of flammable liquids;
- o the use of glove boxes or glove bags;
- o placing a process, or a part of it, within an enclosure which may also be fitted with exhaust extraction

to remove contaminants; and

- o isolating operations in one room with access restricted to properly protected personnel.

d) Engineering Controls

Engineering controls are physical controls (such as plant) that eliminate or reduce the generation of chemicals, suppress or contain chemicals, or limit the area of contamination in the event of spills and leaks. Engineering controls often entail partial enclosure, exhaust ventilation or automation of processes. Examples of engineering controls include:

- o local exhaust ventilation to trap airborne contaminants close to their point of release;
- o fume cupboards (ensure fume cupboard is suitable for the chemical used eg scrubbers in ventilation systems where percuric acid is used); and
- o enclosed automated machinery to reduce exposure (eg automated spray painting booth).

Refer to the University of Melbourne's Laboratory Risk procedure for more information on fume cupboards. In addition the Australian Standards[‡] provide guidance on the type, use and maintenance requirements for fume cupboards.

e) Administrative Controls

Administrative controls are systems of work or safe work practices which help to reduce employee exposure to chemicals and those chemicals generated by their use. Examples of administrative controls include:

- o reducing the number of employees exposed to the chemical (for example by restricting employee access to certain areas);
- o reducing the duration and/or frequency of employees' exposure through specific work procedures;
- o good housekeeping, including regular cleaning of work areas;
- o changing packaging material to reduce exposure during handling (for example purchasing liquids in ready to use packages instead of decanting from large containers);
- o using vacuuming or wet sweeping methods to suppress dust that may be generated during sweeping;
- o cleaning up spills immediately;
- o prohibiting eating and drinking in work areas; and
- o providing suitable washing facilities

f) Personal Protective Equipment

Personal protective equipment (PPE) includes overalls, aprons, footwear, gloves, chemical resistant glasses, face shields and respirators.

Do not depend entirely on PPE to control risk, because this control relies on staff and students following instructions and procedures correctly.

You should ensure that where PPE is used, staff and students have been trained to fit and use it properly. In addition, make sure that the equipment is:

- o properly selected for the individual and task;
- o readily available;
- o clean and functional;
- o correctly used when needed; and

[‡] AS/NZS 2243.8 *Safety in Laboratories Part 8: Fume Cupboards*

- o maintained by appropriately trained staff in keeping with relevant standards.

1.10.7. Review the Risk Assessment

At regular scheduled intervals all chemical risk assessments, including the effectiveness of the controls, should be reviewed. The frequency of the reviews can be based on the level of risk associated with using the chemical. For example if the chemical has been assessed with a high risk the risk assessment may be reviewed annually. Whereas a chemical assessed as a low risk may be scheduled for review biennially. All risk assessments should be reviewed at intervals not exceeding five years.

Risk assessments should also be reviewed where there are changes to the environment or systems of work that alter the effectiveness of the original controls such as:

- a new chemical is introduced into the work area;
- the process or plant is modified;
- new information on the hazards for the chemical becomes available;
- monitoring (environmental or health surveillance) indicates that controls are not adequate;
- accidents and near misses occur;
- chemicals are moved to new location; and
- improved control measures become available.

1.11. Labelling

The purpose of labelling is to ensure that the contents of a container can be readily identified by product name, and to provide basic information about the contents of the container – its ingredient(s), hazards and precautions for safe use.

1.11.1. Information Included on the Label

A chemical within a container must be identified by a label that is written in English and it should include:

- the product name of the chemical;
- the name, address and contact telephone number of the Australian manufacturer or importer of the substance;
- the chemical name for all Type I ingredients
- the chemical name (or generic name if it is commercially confidential) for Type II ingredients;
- relevant health and safety information about the substance, including its risk and safety phrases, except where the container is so small that it is not practical to provide such information; and
- other information relevant to the chemical classification (for example, hazardous substances require the word the word “HAZARDOUS” clearly and prominently displayed). See relevant sections for additional information.

A container into which a chemical has been decanted must be labelled if:

- the decanted substance is not consumed; or
- the container is not cleaned or its contents neutralised, cured or chemically deactivated *immediately* after use.

Where labelling is required, but it is not practical to label the container with the product name (for example, because the container is too small or the chemical has a long name) some other means to identify the contents of the container should be used (for example, abbreviations/symbols on a label that are displayed on a chart in the area where the chemical is used). Inform staff and students likely to be exposed to the substance about the meaning of the identification method used.

Blank label stickers can be ordered through the Chemistry Store (Building 153, Old Chemistry).

1.11.2. Unlabelled Containers

If an unlabelled container is found in the workplace, the contents should be identified and the correctly labelled before the chemical is used.

If the contents of a container is not known, a label such as 'CAUTION DO NOT USE: UNKNOWN SUBSTANCE' should be attached to the container. The container should be removed from use until its contents are identified.

1.12. Storage and Handling

1.12.1. Storage Requirements

Many chemicals have specific storage requirements because of their physical properties. The hazards or risks associated with chemical storage can include one or a combination of the following:

- chemicals that become unstable over time that may result in fire or explosion;
- chemicals that are temperature sensitive;
- chemicals that are shock sensitive;
- chemicals with a particular physical property that are incompatible with chemicals with another physical property;
- chemical packaging may become damaged and leak;
- chemicals may be decanted into inappropriate or unlabelled containers;
- the storage arrangements introduce additional hazards associated with the chemical; and
- there may be particular licensing conditions or constraints affecting storage requirements.

Storage arrangements should be identified during the chemical risk assessment and appropriate provisions provided. Storage requirements are specified on the MSDS.

Consideration should also be given to the quantities that will be stored, particularly as bulk storage areas may require additional signage and controls. (Refer to Section 4.7 on placarding arrangements for Dangerous Goods).

Refer to relevant sections in this guide for storage requirements.

1.12.2. Decanting

Where reasonably practicable chemicals should be kept in their original container with the original labelling from the manufacturer/supplier. Where chemicals are decanted the new containers must be appropriate for the chemical they will hold and be correctly labelled.

Decanting chemicals in explosive atmospheres or chemicals that may produce explosive atmospheres require special arrangements that will not produce static electricity (eg earthing equipment, non-synthetic protective garments).

Particular attention must be given to decanting chemicals that unique hazards such as:

- solvents which can create explosive atmospheres; or
- asphyxiants.

1.12.3. Transporting and Transferring

Relocation of Laboratory and Workshop Chemicals

The University has a preferred contractor for the temporary and permanent relocation of chemicals. The contractor can be arranged through the Local EHS Contact and arrangements should be made at least 3 weeks in advance of the proposed move date. The contractor will segregate the different classes of

dangerous goods, pack, transport and unpack the chemicals at the new location.

Chemicals Purchased Internally

The internal supplier shall engage a licensed dangerous goods agent for the transport of chemicals to the purchaser. The chemicals must be in the manufacturer's original packaging where possible and all legal requirements met, including paperwork, placarding and labelling. The packages shall contain packing material to reduce the chance of damage to the chemical containers. Where liquids in glass containers are to be shipped, vermiculite or other suitable packing materials shall be used if not in the supplier's original packaging.

Chemicals Transported by Staff and Students

Only small quantities of chemicals should be transported. Packaging requirements are the same as "chemicals purchased internally".

1.13. Signage

Cupboards, lockers and refrigerators used for storing chemicals should be labelled to indicate the type of chemicals (eg Class) being stored. Additional signs may also be required, such as "do not use to store food".

There are specific signage requirements (Placarding) for Dangerous Goods. Refer to Section 4.7.

1.14. Monitoring

Atmospheric monitoring measures the level of the chemical contaminate in the air (gases, vapours, fumes, dusts, particles etc). The results of the monitoring can then be compared to Exposure Standards[§] to determine if the controls are adequate.

Commonly monitoring is undertaken:

- during the risk assessment process to help determine that the controls are adequate; or
- continuously in an area as part of the required controls (eg oxygen monitors in a room that stores gas cylinders).

Where monitoring is required, it should be completed by a competent person with the appropriate calibrated equipment. The Local EHS Contact can provide additional advice. Information on calibration requirements for such equipment is available from [Safety Bulletin 01/09 - Calibration Requirements for EHS Monitoring Equipment](#).

1.15. Health Surveillance

The purpose of health surveillance is to ensure that control measures are effective and to provide an opportunity to reinforce specific preventive measures and safe work practices.

Health surveillance is required where staff or students are exposed to certain chemicals. Examples include:

- chemicals listed in Schedule 3 – National Model Regulations for the Control of Workplace Hazardous Substances (NOHSC:1005[1994]); and
- chemicals where there is a reasonable likelihood that adverse health conditions could occur under particular conditions.

See Section 2.6 (Hazardous Substances) and Section 3.6 (Scheduled carcinogens) for additional information.

Additional health surveillance advice can be obtained from the Occupational Health Nurse at the University of Melbourne's Occupational Health Service. Contact details are available from:

[§] Exposure standards represent airborne concentrations of substances in a person's breathing zone, which according to current knowledge, should neither impair health nor cause a person discomfort. Exposure standards should be recorded on an MSDS.

NOTE:

Cryogenic liquids and asphyxiants must be transported in closed dewars or closed vacuum flasks. When transported by vehicle, the containers must be positioned so that if there is accidental release, they will vent to the outside, not to the interior of the vehicle (including the boot). For example, in the open tray of a utility.

1.16. Training

The purpose of information, instruction and training is to ensure that staff and students handling chemicals have the skills and knowledge they need to perform their tasks in a manner that is safe and without risks to health and the environment, so far as it reasonably practicable. It should enable them to follow health and safety procedures and use risk controls that are set in place for their protection. It should also provide them with an appreciation of the nature of the chemicals used in the workplace and the risks associated with their use, and the reason why risk controls are used. The mix of information, instruction and training provided will depend on the severity of the hazards and risks, the level of EHS responsibility of staff and what the employee already knows about the chemicals and their use.

For example staff that are expected to complete chemical risk assessments and/or supervise other staff or students using chemicals should complete Chemical Management training. Students who are under constant supervision may only require a review of the chemical risk assessment.

The topics that could be covered in Chemical Management training include:

- prepurchasing requirements;
- legislation requirements;
- classification of chemicals;
- chemical risk assessment;
- labelling;
- storage requirements;
- handling, storing and disposing of waste;
- transportation requirements; and
- emergency procedures.

Chemical Management training is conducted by OHS & Injury Management Common Services and can be arranged by contacting the Local EHS Contact.

1.17. Waste Management

1.17.1. Waste

Chemical waste includes:

- any chemical whether solid, liquid, gaseous or radio-active which is discharged, emitted or deposited in the environment in such volume, constituent or manner as to cause an alteration in the environment;
- any discarded, rejected, unwanted, surplus or abandoned chemical;
- any otherwise discarded, rejected, abandoned, unwanted or surplus chemical intended for:
 - recycling, reprocessing, recovery or purification by a separate operation from that which produced the matter, or
 - sale; and
- any chemical prescribed to be waste.

Chemical waste must be stored appropriately (including segregation and bunding) so that the container/receptacle is impervious to rodents and insects, and in such a way that it does not detrimentally affect the surrounding area by odour, visual pollution, air pollution, noise pollution and so on.

1.17.2. Site Compliance Agreements

When discarding chemical waste into the sewer system the University of Melbourne has waste agreements, including trade waste agreements, which all staff, students and contractors must comply with.

General requirements of these agreements include:

- pH must be between pH 6 to pH 10;
- sulphide levels must be < 1 mg/L; and
- Discharge of methanol, large quantity of sugars, fats, heavy metals, fungicides, pesticides, phenol or other antibacterial agents are *prohibited*.

For further guidance contact the department technical manager or Local EHS Contact.

1.17.3. Labelling Chemical Waste

Where waste is collected for disposal it must be stored in container that is fit for the purpose and appropriately labelled as chemical waste. The label must contain the following information:

- Chemical name, or mixture ingredients;
- Departmental name and number;
- Dangerous Goods Class Diamond (if applicable);
- Packaging Group;
- Type of waste (ie organic solvent, inorganic solvent); and
- Volume.

1.17.4. Storage of Chemical Waste

Waste chemicals for disposal should be stored in a designated or quarantined area that includes segregation and bunding. Where practicable chemical waste should be reduced to lower the impact on the environment. For example a trained person could neutralise unwanted hydrochloric acid by adding sodium bi-carbonate. This would reduce the impact on the environment as transport of the waste would be eliminated.

1.17.5. Process for Disposal

The General Manager OHS & Injury Management arranges for a waste contractor to dispose of chemical waste once a month. Waste collection is supervised at all times by an OHS & IM staff member in conjunction with the Waste Contractor.

The following steps are required:

- a) A waste manifest is emailed to OHS Common Services (details: <http://safety.unimelb.edu.au/support/waste/>) 48 hours before the scheduled waste pickup date. Information required in the email will depend on the type of waste. Generally you will need to supply the:
 - quantity (kilogram, litre);
 - number of containers - the containers must be appropriate for the type of waste being disposed;
 - type of hazard – dangerous good, hazardous substance; and
 - other relevant information.
- b) The waste chemicals are packed appropriately for transport.
- c) The waste is segregated into appropriate Dangerous Goods and Hazardous substances Classes.

NOTE:

Some waste labels are available from OHS & Injury Management Common Services. Hazard Diamond labels are available through the Chemistry Store.

- d) The waste generator takes the chemical waste to an approved waste pickup point on the morning of the third Thursday of each month (excluding January).
- e) The EPA Waste Certificate is retained by OHS & IM for reconciliation. Where prior arrangements have been made, an electronic certificate is generated through the EPA online system (WasteCert).

1.18. Access Arrangements

Access to chemicals should be restricted to authorised personnel with regards to the following:

1. Legal requirements
 - o For example, scheduled poisons, such as Schedule 8, require restricted access to named personnel on the poisons permit and staff or students under their direct supervision
2. Intended use of the chemical
 - o For example, whilst Mortein aerosol is a dangerous good, Class 2.1, it is intended for general use by staff and students and therefore there would be little or no access restriction requirements with regards to safety
3. Hazards and risks associated with the chemical
 - o For example, Hydrogen fluoride is a highly corrosive Dangerous Good, Class 8 (Subsidiary 6.1) where known exposures have resulted in permanent injury and death. Therefore access should be restricted to personnel who work directly with the chemical, have completed chemical training and are conversant with the chemical risk assessment.

1.19. Emergency Procedures

Local emergency procedures must be developed and take into account the physical properties of the chemical including, fire and explosion, environmental damage and the likely health effects if exposure occurs. This information will be provided on the MSDS.

The emergency procedure arrangements should be determined during the risk assessment phase and should include:

- general first aid requirements and appropriately trained first aiders (including their location and contact details);
- specific first aid requirements that may be required for some chemicals (eg cyanide);
- spill kits appropriate for the physical properties of the chemical;
- additional equipment to mitigate or reduce environmental impact (spills should be contained wherever possible, and floor drains and sinks should be isolated);
- fire fighting medium appropriate for the physical properties of the chemical;
- consideration of the need for Self Contained Breathing Apparatus; and
- consideration of the need for environmental monitoring devices.

2. HAZARDOUS SUBSTANCES

2.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of hazardous substances. Additional requirements for hazardous substance are identified in this section.

2.2. Introduction

A hazardous substance is a chemical that has the potential to cause harm to a person's health and is a chemical that:

- a) is listed on the HSIS (Hazardous Substances Information System) and the concentration of the chemical or its ingredients equals or exceeds the concentration cut-off levels listed on the HSIS that relate to health effects; or
- b) meets the criteria for a hazardous substance set out in the *Approved Criteria for Classifying Hazardous Substances* (NOHSC:1008[2004]).

[HSIS web link](#)

Hazardous substances may be solids, liquids or gases; they may be pure substances or mixtures. When used in the workplace, these substances often generate vapours, fumes, dusts and mists. A wide range of industrial, laboratory and agricultural chemicals are classified as hazardous.

Hazardous substances may enter the human body in a number of ways, depending on the substance and how it is used (the nature of the work). The major routes of exposure to hazardous substances in the workplace are inhalation and skin contact or absorption. Less frequently, these substances may be ingested, or injected into the body.

Hazardous substances may cause immediate or long-term health effects. Exposure to these substances may result in poisoning, irritation, chemical burns, sensitisation, cancer, birth defects or diseases of certain organs such as the skin, lungs, liver, kidneys and nervous system. The severity of the health effects depends on the chemical and the dose absorbed.

2.3. Legislation

2.3.1. Acts and Regulations

- *Occupational Health and Safety Act 2004* (Vic)
- *Occupational Health and Safety Regulations 2007* (Vic) pt 4.1 Hazardous Substances
- *Approved Criteria for Classifying Hazardous Substances* (NOHSC:1008 [2004]) 3rd Edition (Cth)
- *National Model Regulations for the Control of Workplace Hazardous Substances* (NOHSC:1005 [1994]) (Cth)
- *Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment* (NOHSC:1003 [1995]) (Cth)
- *Guidance Note for the Assessment of Health Risks Arising from the Use of Hazardous Substances in the Workplace* (NOHSC:1317 [1994]) (Cth)
- *Hazardous Substances Information System – Guidance Material for Hazard Classifications* (Cth)

2.3.2. Supporting Codes and Guidance Materials

- *Code of Practice Hazardous Substances 2000* (Vic)
- *WorkSafe Chemical Safety Self Assessment Tool* (Vic)
- [Hazardous Substances Information System \(HSIS\)](#) (Cth)

2.4. Register of Hazardous Substances

The *Occupational Health and Safety Regulations 2007* require the employer to keep a Register of Hazardous Substances that lists all hazardous substances in the workplace. This requirement can be fulfilled by keeping a Chemical Inventory as described in Section 1.5.

2.5. Labelling

In addition to the labeling requirements set out in Section 1.11, the word "HAZARDOUS" should be clearly

and prominently displayed on the label.

2.6. Health Surveillance

The National Model Regulations for the Control of Workplace Hazardous Substances (NOHSC:1005 [1994]) (Commonwealth) has identified a number of chemicals that when used in the workplace, health surveillance should be provided.

The costs associated with health screening should be borne by and are the responsibility of the relevant Division.

Currently the hazardous substances that require health screening include:

- acrylonitrile
- inorganic arsenic
- asbestos
- benzene
- cadmium
- inorganic chromium
- inorganic lead
- creosote
- isocyanates
- inorganic mercury
- 4,4'-methylene bis (2-chloroaniline) [MOCA]
- organophosphate pesticides
- pentachlorophenol
- polycyclic aromatic hydrocarbons (PAH)
- crystalline silica
- thallium
- vinyl chloride

The above list may be changed from time to time. The Occupational Health Service can be contacted for the most current list.

3. SCHEDULED CARCINOGENS

3.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of scheduled carcinogens. Additional requirements for scheduled carcinogens are identified in this section.

3.2. Introduction

Carcinogenic chemicals are hazardous substances that may cause cancer. Two schedules of carcinogenic chemicals have been restricted under the Occupational Health and Safety Regulations 2007 and are discussed in this section.

3.3. Legislation

3.3.1. Acts and Regulations

- *Occupational Health and Safety Act 2004* (Vic)
- *Occupational Health and Safety Regulations 2007* (Vic) pt 4.1 Hazardous Substances
- *Occupational Health and Safety Regulations 2007* (Vic) Part 4.1 Scheduled Carcinogenic Substances
- *Approved Criteria for Classifying Hazardous Substances* (NOHSC:1008 [2004]) 3rd Edition (Cth)

3.3.2. Supporting Standards, Codes and Guidance Materials

- National Hazardous Substances Regulatory Package. Substances Subject to Prohibitions on Use (Schedule 2) Nov 2001 (Cth)
- National Code of Practice for the Control of Scheduled Carcinogenic Substances (NOHSC:2014 [1995]) (Cth)

3.4. Permits/Licenses

3.4.1. Schedule 1 Carcinogenic Substances (chemicals)

The use of Schedule 1 Carcinogenic substances is only permitted in laboratories after a license is obtained from WorkSafe Victoria. Use of these chemicals is *not permitted* in any other workplace.

Schedule 1 Carcinogens include:

- 2-Acetylaminofluorene
- Aflaxotins
- 4-Aminodiphenyl
- Benzadines and its salts
- Bis(chloromethyl) ethyr
- Chloromethyl ethyl ether (technical grade)
- 4-Dimethylaminoazobenzene
- 2-Naphthylamine and its salts
- 4-Nitrodiphenyl

3.4.2. Schedule 2 Carcinogenic substances (Chemicals)

The use of Schedule 2 Carcinogenic substances are permitted in workplaces (not just laboratories) after a license is obtained from WorkSafe Victoria.

Schedule 2 Carcinogens include:

- Acrylonitrile
- Benzene – when contained in feedstock containing more than 50% benzene by volume
- 3,3'-Dichlorobenzidine and its salts
- Diethylsulfate
- Dimethyl sulfate
- Ethyl dibromide – when used as a fumigant
- 4,4'-Methylene bis(2-chloroaniline)

- 2-Propiolactone
- o-Toluidine and o-Toluidine hydrochloride
- Vinyl chloride monomer

3.4.3. License Application

Contact the Local EHS Contact for Schedule 1 and Schedule 2 Carcinogenic license application details.

A separate application must be made for each chemical and you must provide supporting documentation outlining the control measures to prevent exposure. A WorkSafe application fee also applies.

3.5. Access Arrangements

Access to scheduled carcinogens should be restricted to staff or students who:

- work directly with the scheduled carcinogens;
- have received chemical training; and
- have been fully briefed on the chemical risk assessment.

3.6. Health Surveillance

Health surveillance is required for scheduled carcinogens and an MSDS will provide some initial advice on the types and frequency of health tests required. Additional advice should be sought from the University's Occupational Health Services.

Records must be maintained and kept for each person who works with a scheduled carcinogenic substance. The records must contain:

- the person's full name;
- the person's date of birth;
- the person's residential address during the period that the person worked with the scheduled carcinogenic substance;
- the name of each scheduled carcinogenic substance that the person worked with; and
- the period of time over which the person worked with each of the scheduled carcinogenic substances.

A written copy outlining the above details must be given to each person who works with a scheduled carcinogenic substance on leaving the University of Melbourne.

4. DANGEROUS GOODS

4.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of dangerous goods. Additional requirements for dangerous goods are identified in this section.

This section does not include information or guidance on Class 1 Explosives or Class 7 Radioactive Substances. For information on Class 7 Radioactive Substances, refer to [Ionising Radiation Risk Management \(UOM 324\)](#).

4.2. Introduction

Dangerous goods are solids, liquids or gases, which have been classified as dangerous goods under the *Australian Code for the Transport of Dangerous Goods by Road or Rail* (ADG Code) (Cth). Chemicals in this classification must adhere to legislative requirements when being transported and stored. Safety hazards

such as flammability, explosiveness and dangerous reactions are of concern with dangerous goods.

Before the dangerous goods are supplied for use, they are:

- assigned a Class, Subsidiary Risk and Packing Group; and
- packed in accordance with the ADG Code, with particular emphasis on the need for packaging to be in sound condition and compatible with the goods.

4.2.1. Class

Victoria (Australia) has adopted a system of classification and labelling for dangerous goods based on the United Nations system used in other countries. This system helps people to quickly recognize dangerous goods, their properties and dangers.

Dangerous goods are divided into nine classes based on their dangerous properties. Except for very small packages, all packages and containers, shipping containers, unit loads, tankers, etc. which hold dangerous goods for transport must carry the correct Class Label. This label (or diamond sign) shows the nature of the hazard by the colour and symbol, and the Class of the goods by numeral. The responsibility for classification of products lies with the manufacturer or person packaging the products.

For a visual representation of the nine dangerous goods class and their relevant diamonds, refer to the WorkSafe publication [Recognising Dangerous Goods Segregation Chart](#).

4.2.2. Subsidiary Risk

Some dangerous goods also have a subsidiary risk of another class. Dangerous goods can have subsidiary risks of Class 3, 4, 5 or 8, and dangerous goods of Classes 1, 3, 4, 5, and 8 can have a subsidiary risk of Class 6.1.

A limited number have multiple subsidiary risks.

4.2.3. Packaging Group

Dangerous goods must be packed in good quality packaging which is strong enough to withstand the shocks and loadings normally encountered during transport and handling. There are three packaging groups based on the degree of risk associated with the dangerous goods.

Packaging Group I

Dangerous Goods that have a *high* degree of risk and require a high packing intensity.

Packaging Group II

Dangerous Goods that have a *medium* degree of risk and require a medium packing intensity.

Packaging Group III

Dangerous Goods that have a *low* degree of risk and require a low packing intensity.

The primary purpose of Packaging Groups is for prescribing transport and placarding requirements. Packaging Groups also assist in determining the level of risk associated with dangerous goods, and may be used to assist with conducting risk assessments for storage, handling and use.

4.3. Legislation

4.3.1. Acts and Regulations

- *Dangerous Goods Act 1985* (Vic)
- *Dangerous Goods (Storage and Handling) Regulations 2000* (Vic)
- *Australian Dangerous Goods Transport Code Edition 7* (Cth)
- *National Code of Practice for the Labelling of Workplace Substances* (NOHSC:2012 [1994]) (Cth)

4.3.2. Supporting Standards, Codes and Guidance Materials

- AS 1216 Class Labels for Dangerous Goods
- AS 1940 The Storage and Handling of Flammable and Combustible Liquids
- AS 2030 (series) The Verification, Filling, Inspection, Testing and Maintenance of Cylinders for Storage and Transport of Compresses gases
- AS 1894 The Storage and Handling of Non-Flammable Cryogenic and Refrigerated Liquids
- AS 4757 Handling and Destruction of Drugs
- AS/NZS 2229 Fuel Dispensing Equipment for Explosive Atmospheres
- AS 1692 Steel Tanks for Flammable and Combustible Liquids
- AS/NZS 1020:1995 The Control of Undesirable Static Electricity
- AS 3780 The Storage and Handling of Corrosive Substances
- AS 4332 The Storage and Handling of Gas Cylinders
- AS/NZS 1596 The Storage and Handling of LP Gas
- AS/NZS 2022 Anhydrous Ammonia – Storage and Handling
- AS/NZS 2243.10 Safety in Laboratories Part 10: Storage of Chemicals

4.4. Dangerous Goods Manifest

The *Dangerous Goods (Storage and Handling) Regulations 2000* (Vic) require that the employer keep a Dangerous Goods Manifest that lists all dangerous goods stored in the workplace. These requirements may be satisfied by keeping a Chemical Inventory as described in Section 1.5.

At the University of Melbourne, a Dangerous Goods Manifest is kept at the fire panel of designated buildings where the volume of dangerous goods stored exceeds the “Manifest Quantity”; so that it is available to the emergency services in the event of an emergency. The Building Emergency Controller (BEC) is responsible for maintaining the Dangerous Goods Manifest.

Designated buildings are determined by the General Manager OHS & Injury Management or his/her delegate in accordance with dangerous goods legislation.

4.5. Labelling

In addition to the labelling requirements set out in Section 1.11 all dangerous goods must have the accompanying class diamond as discussed in Section 4.2.1.

4.6. Storage and Handling

The *Dangerous Goods (Storage and Handling) Regulations 2000* (Vic) refer to Australian Standards that specify how storage areas are to be designed, constructed and located to minimize risks.

Dangerous goods should also be stored in accordance with their dangerous goods class. If a dangerous good has a subsidiary risk then it should be stored in accordance with primary risk. Some dangerous goods classes cannot be stored with other dangerous goods classes. The storage arrangements may also be influenced by quantities of dangerous goods: that is, in small quantities some classes may be stored together, but in higher quantities they must be segregated.

Small locally stored quantities of dangerous goods can be stored in purpose built chemical lockers and cabinets (according to class) that meet appropriate Australian Standards. The [Chemical Storage and Handling – Quick Reference](#) poster outlines storage of dangerous goods classes in small quantities where segregation of classes may not be required.

Larger storage areas for chemicals also need to meet appropriate Australian Standards according to dangerous

goods class. This includes, ventilation requirements, atmospheric monitoring (where applicable) bunding, fire rating of walls, floor and ceiling and so on.

WorkSafe Victoria has developed a [Recognising Dangerous Goods and Segregation](#) poster, which can be used as a guide for large quantities such a chemical storage room or gas cylinder compound.

Refer to Section 4.3.2 Supporting Standards, Codes and Guidance Materials for referenced Standards and documentation.

4.7. Transport

Specific requirements will apply for transporting dangerous goods in a vehicle outside University of Melbourne property. This includes travel in a vehicle on public roads between buildings on the same University campus. Contact your Local EHS Contact for advice on these requirements.

4.8. Placarding

HAZCHEM signs are required on all entrances to a building where dangerous goods are stored in quantities that exceed the "Placarding Quantity" outlined in Schedule 2 of the *Dangerous Goods (Storage and Handling) Regulations 2000*. Schedule 2 is reproduced as Appendix II in this document.

More information regarding the dimensions, required information and location of placards can be obtained from the Local EHS Contact.

Placards at Storage Locations

Building/facility-specific dangerous goods diamonds must be displayed on or near each storage location.

Determining Quantities of Dangerous Goods

ChemGold III records quantities of dangerous goods by Division and building, and can determine a total quantity of a dangerous good for a Division or a building.

5. DRUGS, POISONS AND CONTROLLED SUBSTANCES

5.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of drugs, poisons and controlled substances. Additional requirements for drugs, poisons and controlled substances are identified in this section.

5.2. Introduction

Drugs and poisons controlled under the *Drugs, Poisons and Controlled Substances Act 1981* and the *Drugs, Poisons and Controlled Substances Regulations 2006* are defined under the Act as being in the *Poisons Code (Vic)* or in the *Standard for the Uniform Scheduling of Drugs and Poisons, Schedule 2,3,4,5,6,7,8 and 9 Poisons*.

Only these defined chemicals are controlled and included in this section. They include:

- prescription medicines
- pharmacy-only medicines
- drugs of dependence
- many household, industrial and agricultural chemicals.

5.2.1. Scheduling

The chemicals described above are put into schedules (categories) based on their type, use, associated risks and so on. The categories are numbered from Schedule 1 to Schedule 9 with Schedule 1 currently unassigned.

5.3. Legislation

5.3.1. Acts and Regulations

- *Drugs, Poisons and Controlled Substances Act 1981*
- *Drugs, Poisons and Controlled Substances Regulations 2006* (Vic)
- *Standard for the Uniform Scheduling of Drugs and Poisons* (Cth)

5.3.2. Supporting Standards, Codes and Guidance Material

- [Poisons Code](#) (Vic)
- [Guide to the Drugs, Poisons and Controlled Substances Regulations 2006](#) - Department of Human Services
- [How to Complete an Application Form](#) [for Poisons Permit] - Department of Human Services
- [How to Nominate a Responsible Person](#) [for Poisons Permit] - Department of Human Services

5.4. Poisons Permit

Faculties/Departments are required to hold an Industrial and Educational Permit (Poisons Permit) for certain drugs, poisons and controlled substances. The permit allows for the purchase and use of these chemicals in an industrial, educational, advisory and research capacity.

There are four steps to the application of an Industrial and Educational Permit. These are:

- complete an Industrial and Educational Permit application form
- complete an application to nominate a responsible person
- complete and maintain a Poisons Control Plan
 - Part 1 is required for Schedule 2, 3, 4, 8 and 9 poisons plus Listed Regulated Poisons in Schedule 7
 - Part 2 is required for Schedule 8 or 9 poisons
- pay the required fee.

5.4.1. Application for a Permit

An application for an Industrial and Educational Permit must be made prior to the purchase of drugs, poisons and controlled substances. An [application for a permit](#) can be downloaded from the Department of Human Services.

5.4.2. Application to Nominate a Responsible Person

A suitable person must be nominated as the holder of the Industrial and Educational Permit. Currently the requirements are for:

- Schedule 4, 8 or 9 poisons: Appropriate qualifications, i.e., an appropriate degree or diploma, OR at least 5 years experience and proven training in the handling and recording of poisons and controlled substances
- Schedule 2, 3 or 7 poisons: At least 5 years experience and proven training in the handling and recording of similar poisons and controlled substances
- the provision of health services: Appropriate qualifications must be held e.g., the person must be a registered medical practitioner, dentist, pharmacist, nurse or ambulance officer
- licenses relating to the supply of drugs of dependence, a National Police Record Check is to be carried out (for the applicant) in relation to the nominated person and to any person who is to have unsupervised access to those drugs

An [application to nominate a responsible person](#) can be downloaded from the Department of Human Services

5.4.3. Maintain a Poisons Control Plan

A Faculty/Department must develop and maintain a Poisons Control Plan in order to apply for a poisons permit and to comply with a currently held poisons permit.

The permit will identify one or more Responsible Person(s) to ensure compliance with the conditions of the permit and the contents of the Poisons Control Plan.

The Poisons Control Plan is intended to enable the Responsible Person(s) to understand what standards are required and to enable the Department of Human Services to understand how those standards are to be achieved

The Poisons Control Plan consists of two parts. Part 1 is required for all applicants and permit holders. Part 2 is required for applicants and permit holders for Schedule 8 and Schedule 9 poisons only.

A [Poisons Control Plan Part 1 and Part 2](#) can be downloaded from the Department of Human Services.

Example completed poisons plans are as follows:

- [Example completed Poison Control Plan Part 1](#)
- [Example completed Poison Control Plan Part 2](#)

5.4.4. Fees

Refer to the Department of Human Services for associated [fees](#).

5.5. Labelling

In addition to the labelling requirements set out in Section 1.11, the Poison Schedule should be displayed on the label.

5.6. Access Arrangements

Access to Drugs, Poisons and Controlled Substances that require an Industrial and Educational Permit should be restricted to staff who:

- work directly with the scheduled poison;
- have received chemical training;
- have been fully briefed on the chemical risk assessment; and
- are nominated responsible person; or
- staff/students directly under the control of the nominated responsible person.

5.6.1. Records

Transaction records must be kept for Schedule 4, Schedule 8 and Schedule 9 poisons. For each scheduled poison records must include:

- records of supply:
 - date of each transaction
 - name, form, strength and quantity
 - name and address or location (eg laboratory room number) of person to whom the scheduled poison is transferred, supplied, used and destroyed
- records of use
- records of transfers between different storage locations

- records of destruction or disposal

There are additional requirements for Schedule 8 and Schedule 9 poisons as follows:

- records are able to be readily sorted by poison
- records show a true and accurate balance of each poison
- records show the name of the person carrying out the transaction

Therefore records can be kept by either hard copy (eg logbook) or computer provided that they meet the above requirements and cannot be altered, obliterated, deleted or removed without detection.

6. CHEMICALS OF SECURITY CONCERN

6.1. Weapons of Mass Destruction

6.1.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of chemicals associated with weapons of mass destruction. Additional requirements for chemicals associated with weapons of mass destruction are identified in this section.

6.1.2. Introduction

Australia is a strong supporter of international efforts to prevent the proliferation of weapons of mass destruction and is an active member of major international arms control treaties and international export control regimes. Chemicals that have been associated with the proliferation of weapons of mass destruction are now tightly controlled with regards to importation and exportation across Australian borders.

6.1.3. Legislation

6.1.3.1 Acts and Regulations

- Customs Act 1901 (Cth)
- Chemical Weapons (Prohibition) Act 1994 (Cth)
- Chemical Weapons (Prohibition) Regulations 1997 (Cth)
- Customs (Prohibited Imports) Regulations 1956 (Cth)
- Customs (Prohibited Exports) Regulations 1958 (Cth)
- Weapons of Mass Destruction (Prevention of Proliferation) Act 1995 (Cth)

6.1.3.2 Supporting Standards, Codes and Guidance Materials

The Chemical Weapons Convention A Guide for Australian Industry Using or Trading Chemicals

6.1.4. Permits and Notifications

Strict laws and constraints are applied to Chemical Weapons Convention (CWC) scheduled chemicals. These are chemicals that have been identified by the CWC and listed into 3 categories (schedules).

A full listing of the scheduled chemicals and subsequent requirements is in [The Chemical Weapons Convention. A Guide for Australian Industry Using or Trading Chemicals](#).

For further information and assistance contact Australia's [National Authority for the Chemical Weapons Convention \(a department of DFAT\)](#).

6.1.5. Access Arrangements

Authorised access should include the safety requirements outlined in Section 1.18. In addition the arrangements should consider reducing the opportunity for theft and other illegal behaviours, such as an

inventory system in place that can account for the use and movements of the chemicals.

6.2. High Consequence Dangerous Goods (HCDG)

6.2.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of high consequence dangerous goods. Additional requirements for high consequence dangerous goods are identified in this section.

6.2.2. Introduction

The term high consequence dangerous goods (HCDG) has been given to dangerous goods of security concern because their mis-use may lead to mass casualties and/or destruction.

Chemicals declared to be HCDG are:

- ammonium nitrate in concentrations > 45%; and
- calcium ammonium nitrate in concentrations > 45%.

6.2.3. Legislation

6.2.3.1 Acts and Regulations

- *Dangerous Goods (HCDG) Regulations 2005 (Vic)*

6.2.3.2 Supporting Standards, Codes and Guidance Materials

- [High Consequence Dangerous Goods for Storage, Transport and Primary Producer Licenses and Permits Advice](#) - WorkSafe Victoria

6.2.4. Permits and Notifications

Tertiary education institutions in Victoria are exempt from licensing approvals under the following conditions:

- the HCDG is for the purposes of educational instruction, research or testing; and
- that the quantity does not exceed 3 kg per area (laboratory).

A License to Access High Consequence Dangerous Goods will be required if the above criteria can not be met.

Contact the EHS Manager/Adviser for License to Access High Consequence Dangerous Goods application details.

6.2.5. Access Arrangements

Authorised access should include the safety requirements outlined in Section 1.18. In addition the arrangements should consider reducing the opportunity for theft and other illegal behaviours, such as an inventory system in place that can account for the use and movements of the chemicals.

7. PRECURSOR CHEMICALS

7.1. Scope

The chemical management requirements listed in Section 1 General Requirements are relevant to the chemical management of precursor chemicals. Additional requirements for precursor chemicals are identified in this section.

7.2. Introduction

Precursor chemicals are chemicals that are known to have been used in the illicit manufacture of drugs.

Precursor apparatus are apparatus that can be used to manufacture illicit chemicals. The chemicals and apparatus have been divided into 3 categories.

Category 1 Precursor Chemicals

Chemicals that require an End User Declaration (EUD) with each purchase.

Category 2 Precursor Chemicals

Chemicals and apparatus that require a EUD with each purchase.

Category 3 Precursor Apparatus

Apparatus that may be used in the illicit production of drugs that require an EUD with each purchase.

Lists of Category 1, Category 2 and Category 3 chemicals and apparatus are contained in the *Drugs, Poisons and Controlled Substances (Precursor Supply) Regulations 2010 (Vic)*.

7.3. Legislation

7.3.1. Acts and Regulations

- *Drugs, Poisons and Controlled Substances (Precursor Chemicals) Regulations 2007 (Vic)*
- *Drugs, Poisons and Controlled Substances (Precursor Supply) Regulations 2010 (Vic)*

7.3.2. Supporting Standards, Codes and Guidance Materials

- [Code of Practice for Supply Diversion into Illicit Drug Manufacture \(Cth\)](#)

7.4. End User Declaration

End User Declaration is required for the purchase of precursor chemicals and apparatus.

The End User Declaration is required at the time of purchase. The format of the declaration will vary depending on the manufacturer/supplier, but must include:

- for Category 1 Precursor Chemicals:
 - the name and address of the receiver; and
 - details of the receiver's proof of identity provided by the receiver to the supplier; and
 - the name and quantity of the category 1 precursor chemical to be supplied; and
 - the proposed date of the supply of the category 1 precursor chemical from the supplier's premises (if known); and
 - the intended use of the category 1 precursor chemical.
- for Category 2 Precursor Chemicals:
 - the name and address of the receiver; and
 - details of the receiver's proof of identity provided by the receiver to the supplier; and
 - the name and quantity of the category 2 precursor chemical to be supplied; and
 - the intended use of the category 2 precursor chemical.
- for Category 3 Precursor Apparatus:
 - the name and address of the receiver; and
 - details of the receiver's proof of identity provided by the receiver to the supplier; and
 - the name and quantity of the category 3 precursor apparatus to be supplied; and
 - the intended use of the category 3 precursor apparatus.

7.5. Access Arrangements

Authorised access should include the safety requirements outlined in Section 1.18. In addition the arrangements should consider reducing the opportunity for theft and other illegal behaviours, such as an inventory system in place that can account for the use and movements of the chemicals and apparatus.

Appendix I - Glossary of Terms

TERM	DEFINITION
Controlled Substances (Scheduled Drugs and Poisons)	Controlled Substances is a classification of pharmaceuticals and poisons that require licensing. Under the license conditions there are restrictions on access, labeling and use. Restrictions are determined by the <i>Drugs, Poisons and Controlled Substances Regulations 2006</i> (Vic).
Dangerous Goods	Dangerous Goods are solids, liquids or gases, which have been classified as dangerous under the <i>Australian Code for the Transport of Dangerous Goods by Road or Rail, 7th Edition</i> (ADG Code 7). Persons in control of chemicals in this classification must adhere to legislative requirements when being transported and stored. Safety hazards such as flammability, explosiveness and dangerous reactions are controlled under the <i>Dangerous Goods (Storage and Transport) Regulations 2000</i> (Vic).
Explosives	Explosives as listed in Class 1 of the <i>Australian Code for the Transport of Dangerous Goods by Road or Rail, 7th Edition</i> .
Hazardous Substances	Hazardous Substance is a substance that has the potential to cause harm to a person's health and is a substance that: <ol style="list-style-type: none"> is listed on the HSIS (Hazardous Substances Information System) and the concentration of the substance or its ingredients equals or exceeds the concentration cut-off levels listed on the HSIS that relate to health effects; or meets the criteria for a hazardous substance set out in the <i>Approved Criteria for Classifying Hazardous Substances</i>. (<i>Occupational Health and Safety Regulations 2007</i> [Vic])
HSIS	Hazardous Substances Information System
Ionising Radiation	Electromagnetic or particulate radiation capable of producing ions directly or indirectly but does not include electromagnetic radiation of a wavelength of greater than 100 nanometres. (<i>Radiation Act 2005</i> [Vic])
Manufacture or Supply	Chemicals that are created within the University of Melbourne for sale or exchange to another workplace (other than the University of Melbourne).
Material Safety Data Sheet (MSDS)	A MSDS is a document prepared by a manufacturer or importer of chemicals, which describes the use, the chemical and physical properties, the health hazard information, the precautions for use, the safe handling information and the emergency information. They are regulated by the <i>Occupational Health and Safety Regulations 2007</i> pt 4.1 Hazardous Substances.
MSDS Database	An electronic Materials Safety Data Sheet (MSDS) repository and chemical inventory management system implemented by the University of Melbourne that can assist a Division meet its chemical regulatory requirements.
NICNAS	National Industrial Chemical and Assessment Notification Scheme
PPE	Personal protective equipment
Risk Phrase	A phrase (also known as the R-phase) that describes the nature of a risk associated with the use of a chemical as outlined in the <i>Approved Criteria for Classifying Hazardous Substances</i> (NOHSC:1008) (Cth)
Safety Phrase	A phrase (also known as the S-phrase) that describes the safety precautionary measures associated with the use of the chemical
Schedule 1 Carcinogenic Substance	Schedule 1 carcinogenic substance means a [chemical] (or any of its salts) listed in Schedule 1 to the <i>National Model Regulations for the Control of Scheduled Carcinogenic Substances</i> used – <ol style="list-style-type: none"> as a pure substance; or in a mixture containing 0.1% or more of that substance, determined as a weight/weight (w/w) concentration for solids or liquids and a volume/volume (v/v) concentration for gases but does not include amosite or crocidolite as listed in that Schedule. (<i>Occupational Health and Safety Regulations 2007</i> [Vic])

TERM	DEFINITION
Schedule 2 Carcinogenic Substance	<p>Schedule 2 carcinogenic substance means –</p> <ul style="list-style-type: none"> a) benzene as listed in Schedule 2 to the <i>National Model Regulations for the Control of Scheduled Carcinogenic Substances</i>; and b) any other substance (or any of its salts) listed in that Schedule used – <ul style="list-style-type: none"> o as a pure substance; or o in a mixture containing 0.1% or more of that substance, determined as a weight/weight (w/w) concentration for solids or liquids and a volume/volume (v/v) concentration for gases <p>but does not include chrysotile or cyclophosphamide as listed in that Schedule. (<i>Occupational Health and Safety Regulations 2007</i> [Vic])</p>
Scheduled Drugs and Poisons	See Controlled Substances
Type I Ingredient	<p>An ingredient which:</p> <ul style="list-style-type: none"> a) in accordance with the National Occupational Health and Safety Commission's <i>Approved Criteria for Classifying Hazardous Substances</i> (NOHSC:1008) is carcinogenic, mutagenic, teratogenic, a skin or respiratory sensitiser, very corrosive, corrosive, toxic or very toxic, a harmful substance which can cause irreversible effects after acute exposure, or a harmful substance which can cause serious damage to health after repeated or prolonged exposure; or b) has an exposure standard listed in the National Occupational Health and Safety Commission's <i>Exposure Standards for Atmospheric Contaminants in the Occupational Environment</i> (NOHSC:1003); and c) is present in a quantity which exceeds the lowest relevant concentration cut-off level specified for the hazard classification in the National Occupational Health and Safety Commission's <i>Approved Criteria for Classifying Hazardous Substances</i> [NOHSC:1008]. <p>(<i>National Code of Practice for the Preparation of Material Data Sheets 2nd Ed</i> [NOHSC:2011(2003)])</p>
Type II Ingredient	<p>An ingredient which:</p> <ul style="list-style-type: none"> a) is a harmful substance (not covered by Type II point (a) above) in accordance with the National Occupational Health and Safety Commission's <i>Approved Criteria for Classifying Hazardous Substances</i> (NOHSC:1008); and b) is present in a quantity which exceeds the lowest relevant concentration cut-off level specified for the hazard classification in the National Occupational Health and Safety Commission's <i>Approved Criteria for Classifying Hazardous Substances</i> (NOHSC:1008) <p>(<i>National Code of Practice for the Preparation of Material data Sheets 2nd Ed</i> [NOHSC:2011(2003)])</p>
Type III Ingredient	<p>Any ingredient which does not meet the criteria for either Type I or Type II ingredients described above.</p> <p>(<i>National Code of Practice for the Preparation of Material data Sheets 2nd Ed</i> [NOHSC:2011(2003)])</p>

Appendix II - Schedule 2 of the Dangerous Goods (Storage and Handling) Regulations 2000 (Vic)

This information is reproduced from *Schedule 2 of the Dangerous Goods (Storage and Handling) Regulations 2000 (Vic)*, available from <http://www.legislation.vic.gov.au/>. Please refer to the source for the most current version of this information.

ITEM	DESCRIPTION OF DANGEROUS GOODS	PACKING GROUP	PLACARDING QUANTITY	MANIFEST QUANTITY	FIRE PROTECTION QUANTITY
1.	Class 2				
	Class 2.1	N/A	500 L	5000 L	5000 L
	Class 2.2 Subsidiary Risk 5.1	N/A	2000 L	10 000 L	20 000 L
	Other Class 2.2	N/A	5000 L	10 000 L	20 000 L
	Class 2.3	N/A	50 L	500 L	2000 L
	Aerosols	N/A	5000 L	10 000 L	20 000 L
	Cryogenic Fluids	N/A	1000 L	10 000 L	20 000 L
2.	Class 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1 or 8	I	50 kg or L	500 kg or L	2000 kg or L
		II	250 kg or L	2500 kg or L	10 000 kg or L
		III	1000 kg or L	10 000 kg or L	20 000 kg or L
		Mixed Packing Groups in a single Class with the quantity of each Packing Group below the specified quantity for the Packing Group .	1000 kg or L	10 000 kg or L	20 000 kg or L
3.	Class 9	II	1000 kg or L	10 000 kg or L	20 000 kg or L
		III	5000 kg or L	10 000 kg or L	20 000 kg or L
		Mixed Packing Groups in Class 9 with the quantity of each Packing Group below the specified quantity for the Packing Group .	5000 kg or L	10 000 kg or L	20 000 kg or L
4.	Mixed Classes of dangerous goods where none of the Classes , types or Packing Groups (if any) present exceeds the quantities specified for the relevant quantity in Items 1, 2 and 3 of this Table.	N/A	5000 kg or L— The quantity only applies where the Placarding Quantity for an individual Class that is present is 5000 kg or L.	10 000 kg or L	20 000 kg or L
			2000 kg or L— The quantity only applies where the Placarding Quantity for all of the Classes present is 2000 kg or L or less.		
5.	C1 combustible liquids stored and handled with fire risk dangerous goods where none of the Classes ,	N/A	1000 kg or L	10 000 kg or L	20 000 kg or L

ITEM	DESCRIPTION OF DANGEROUS GOODS	PACKING GROUP	PLACARDING QUANTITY	MANIFEST QUANTITY	FIRE PROTECTION QUANTITY
	types or Packing Groups (if any) present exceeds the relevant quantities in Items 1, 2 or 3 of this Table.				
6.	Goods too dangerous to be transported that are not kept in a laboratory.	N/A	0 kg or L	0 kg or L	0 kg or L
7.	C1 combustible liquids in bulk stored and handled in isolation from other dangerous goods.	N/A	10 000 L	100 000 L	100 000 L
	C1 combustible liquids stored and handled in packages in isolation from other dangerous goods.	N/A	50 000 L	100 000 L	100 000 L
	C1 combustible liquids in bulk and in packages stored and handled in isolation from other dangerous goods provided the quantity in bulk is 10 000 L or less.	N/A	50 000 L	100 000 L	100 000 L

Note: For the purposes of item 3 in the Table, where Class 9 dangerous goods do not have a Packing Group assigned to them, they are deemed to be assigned to Packing Group III.

Appendix III - Scheduling of Drugs, Poisons and Controlled Substances

Drugs, poisons and controlled substances listed in the [Poisons Code](#) or in the [Standard for the Uniform Scheduling of Drugs and Poisons, Schedule 2,3,4,5,6,7,8 and 9 Poisons \(Cth\)](#) are divided into the following schedules. Please refer to these sources for the most current version of this information.

Schedule 1

Blank

Schedule 2

Poisons for therapeutic use that should be available to the public only from pharmacists, or where there is no pharmacy service is available, from persons licensed to sell Schedule 2 poisons.

Schedule 3

Poisons for therapeutic use that are dangerous or are so liable to abuse as to warrant their availability to the public being restricted to supply by pharmacists or medical, dental or veterinary practitioners.

Schedule 4

Poisons that should, in the public interest, be restricted to medical, dental or veterinary prescription or supply, together with substances or preparations intended for therapeutic use, the safety or efficacy of which requires further evaluation.

Schedule 5

Poisons of a hazardous nature that must be readily available to the public but require caution in handling, storage and use.

Schedule 6

Poisons that must be available to the public but are of a more hazardous nature or poisonous nature than those classified in Schedule 5.

Schedule 7

Poisons which require special precautions in manufacture, handling, storage or use, or special individual regulations regarding labelling or availability.

Schedule 8

Poisons to which the restrictions recommended for drugs of dependence by the 1980 Australian Royal Commission of Inquiry into Drugs should apply.

Schedule 9

Poisons, which are drugs of abuse, the manufacture, possession, sale or use of which, should be prohibited by law except for amounts, which may be necessary for medical or scientific research conducted with the approval of Commonwealth and/or State or Territory Health Authorities.