

POLICIES AND ASSOCIATED PROCEDURES

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1.0 PURPOSE

The objective of this policy is to inform employees (staff, students, contractors), visitors and emergency services personnel working on or visiting the University's premises of:

- the presence and nature of hazardous substances;
- procedures for managing risk associated with hazardous substances and their disposal;
- procedures for managing risks associated with the storage and handling of Dangerous Goods;
- general requirements for the management and disposal of hazardous waste;
- requirements for using equipment that produces ionising radiation;
- requirements for using equipment that produces non ionising radiation; and
- the disposal of sharps.

2.0 BACKGROUND

Victoria University uses a wide range of Hazardous Materials across all its campuses. These Hazardous Materials are also known as Hazardous Substances, Dangerous Goods, Hazardous Waste (biological and chemical), Sharps, Ionising Radiation and Non-Ionising Radiation.

The University seeks to set policy and establish procedures to prevent incidents and accidents involving Hazardous Materials.

This policy seeks to concisely summarise a number of relevant acts and regulations in an attempt to ensure that the University meets its regulatory requirements.

3.0 DEFINITIONS

Dangerous Goods means substances that may be corrosive, flammable, explosive, spontaneously combustible, toxic, oxidising or water reactive. If not controlled they can cause immediate, injury, death and/or damage.

Employee, for the purposes of the remainder of this procedure means all staff, students and contractors as defined below:

- *Staff*: any person who has a current employment contract with Victoria University
- *Contractor*: any person paid for providing services for Victoria University that is not under a current employment contract
- *Student*: any person enrolled in any approved unit, course or degree offered by Victoria University

Hazardous Substances means substances that have the potential to harm human health, these substances may be solids, liquids or gases (they may be pure substances or mixtures). When used in the workplace, these substances can generate vapours, fumes, dusts and mists.

Hazardous Waste means a component of the waste stream, which poses a danger to humans, the environment, equipment and physical structures. It includes toxic, infectious, mutagenic (causing genetic damage), carcinogenic, teratogenic (causing abnormalities of the foetus), explosive, flammable, corrosive, oxidising and radioactive substances.

Hierarchy of Controls means a series of progressive steps to control an identified hazard. Elimination, Substitution, Isolation, Engineering, Administration, Personal protective Equipment.

Ionising radiation means radioactivity generated by an element sufficient to cause harm and damage to humans, animals and/or the environment.

Material Safety Data Sheet (MSDS) means a document that is supplied by the manufacturer and/or supplier of Dangerous Goods and hazardous substances that describes the chemical composition of the substance and provides vital information on how staff should use these substances safely and in accordance with their designated use. All chemicals held on site must have an MSDS.

Non-ionising radiation means radiation where the energy does not exceed 1 electron Volt (1eV).

4.0 KEY WORDS

OHS, Hazardous Substances, Dangerous Goods, Waste Disposal, Ionising Radiation, Non-Ionising Radiation, Sharps Disposal

5.0 POLICY

5.1 Hazardous Substances

The University will take all reasonable actions to achieve a safe and healthy working environment by identifying, assessing and controlling risk associated with hazardous substances in the work place in compliance with the *Occupational Health and Safety Act 2004* and the *Hazardous Substances Regulation (1999)*.

5.2 Dangerous Goods

The University will take all reasonable actions to achieve a safe and healthy working environment by identifying, assessing and controlling risk associated with Dangerous Goods, and ensure compliance with the *Occupational Health and Safety Act 2004* and the *Dangerous Goods Act 1985 and Dangerous Goods Storage and Handling Regulations (2000)*.

Dangerous Goods represent the highest risk category of chemicals that we use at Victoria University, in that their effects are immediate and severe. They can explode, corrode, spontaneously combust, easily ignite, intoxicate, suffocate, burn, eat away at flesh and poison.

It is a common misnomer, that whilst Dangerous Goods are often commonly found in the supermarket, that this makes them less dangerous. This is an incorrect assumption. Regardless where the Dangerous Good is purchased from, it is a high risk product, can cause immediate harm and we are still required to meet the Dangerous Goods legal requirements as detailed in the Act and Regulations.

5.3 Hazardous Waste Disposal

This policy refers to any waste that arises from any research, industrial, commercial, hospital, laboratory or trade activity that has the potential to be harmful to humans and the environment and is prescribed in the *Environment Protection Prescribed Waste Regulations 1988*.

The management and disposal of hazardous wastes is primarily the responsibility of the School or Department that is responsible for generating the hazardous waste. Additionally, each Faculty is expected to develop site-specific procedures that encompass all aspects of hazardous waste management.

The proper management of waste (both hazardous and non-hazardous) involves a step by step procedure to ensure that any waste generated is correctly identified in terms of its potential hazard to the environment and to any person handling it.

The nature of hazardous waste management requires that only fully competent/authorised personnel are involved in certain tasks. Hazardous waste must be removed only by licensed contractors to ensure that the waste is transported in a manner that will protect the environment and human health. Access to the storage sites must be restricted to authorised personnel only, under the management and control of a person appointed by the Head of School/Department.

5.4 Ionising and Non-Ionising Radiation

Ionising radiation means radioactivity generated by an element sufficient to cause harm and damage to humans, animals and/or the environment, while **Non-ionising radiation** means radiation where the energy does not exceed 1 electron Volt (1eV).

The University undertakes to reasonably protect employees, visitors and emergency services personnel from ionizing and non-ionising radiation by making safety information on the subject available to employees, visitors and emergency services personnel and by ensuring that all radiation equipment is maintained in accordance with the manufacturer's guidelines.

5.5 Sharps

The University undertakes to ensure as far as is reasonably practicable, that controls are in place for the correct disposal of sharps so as to protect employees and visitors from sharps injuries.

5.6 Purchasing Hazardous Substances and Dangerous Goods

Persons purchasing a Hazardous Substance or Dangerous Good are required to request a MSDS from the supplier. The person responsible for signing the purchase order shall clearly specify the precise location where the substance is to be delivered, and the name of the person to be contacted at the place of delivery.

A MSDS must be obtained prior to, or at the first time a Hazardous Substance or Dangerous Good is either used or supplied to the workplace. If a MSDS does not accompany a Hazardous Substance on delivery, the person responsible for signing the purchase order must immediately request from the supplier a current MSDS. The substance is NOT to be used until a MSDS is available (on site).

If a supplier fails to provide a current MSDS for a hazardous substance, the substance is to be returned (unopened) to the point of supply. The supplier is to be advised that the substance is returned due to their failure to supply a MSDS; no further order is to be placed with that supplier until the situation is rectified. The supplier is to be advised that they have a legal obligation to supply MSDS's for Hazardous Substances and Dangerous Goods upon request.

The person purchasing the substance must check the issue date of the last MSDS with the supplier. It is a requirement that MSDS are updated every 5 years.

Where possible, chemicals should be purchased in small workable amounts. This reduces the risks associated with bulk storage of hazardous substances; it also eliminates/reduces the need for decanting to smaller containers.

5.7 Inspections and Self Audits

It is a legal requirement that employers, employees, designers, manufacturers, purchasers, persons in management, persons in control and officers conduct Risk Assessments (identify the hazards, assess the risk and implement controls). A regular inspection and self audit program is essential as a formalized method for identifying hazards and reducing risk. Hazard identification should be conducted at least six monthly.

6.0 PROCEDURES

6.1 Hazardous Substances Procedures

- All campuses and sites must be audited for hazardous substances.
- Areas where hazardous substances are stored are to be assessed for risk and control measures implemented for identified risk using the Hierarchy of Controls.
- Review risk assessments every 5 years or when there is a significant change in the work activity.
- Material Safety Data Sheet/s (MSDS/s) for all chemicals are to be available to all persons using the chemicals at a VU campus and Emergency Services Personnel (ESP) where required. All MSDS's have an issue/update date that is not greater than five years and should be checked annually.
- All staff handling hazardous substances must be trained in the storage and use of hazardous substances.
- All hazardous substances must be correctly labeled.
- Appropriate personal protective clothing and equipment (PPE) is to be supplied, worn and maintained where recommended by the MSDS.
- Emergency spill and containment equipment is to be readily accessible.

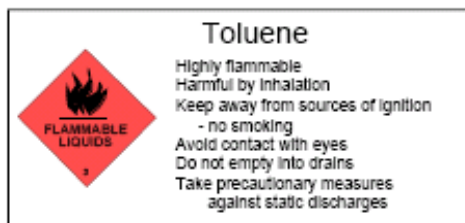
6.2 Dangerous Goods Procedures

Dangerous Goods constitute the highest risk chemicals that we are likely to use at Victoria University.

The Regulations require VU to control risks associated with the storage and handling of Dangerous Goods at our premises. To do this effectively we must identify the hazards that contribute to the risks and assess the likelihood of those hazards causing injury or damage to property or the environment.

An outline of the requirements under the Act and Regulations, are as follows;

- i. Duty to consult people in the workplace before a new Dangerous Good is introduced.
- ii. Conduct a risk assessment for the storage aspect of the Dangerous Good, and also conduct a risk assessment for the usage of the Dangerous Good. There are different risks and consequences associated with the two aspects.
- iii. Review risk assessments every 5 years or when there is a significant change in the work activity
- iv. Implement, monitor and maintain any risk controls put in place. Regularly review risk assessments and controls to ensure they are effective and in order to continually improve our risk profile.
- v. A register of all Dangerous Goods must be kept. This is a list containing basic information about the Dangerous Good – its name, class, supplier and quantity.
- vi. Material Safety Data Sheets (MSDS) must be obtained for all Dangerous Goods. They must be readily available for users at all times. MSDS must not be more than 5 years old, and we must have a system in place for checking and ensuring we have up to date copies on hand. Everyone including students, teachers, lecturers, technicians and managers, must be familiar with the contents of the material safety data sheets.
- vii. We must be able to control any spill of a Dangerous Good. Therefore, we must have appropriate spill kits available. For example, a bucket, dustpan, brush, absorbent material, gloves, safety glasses and mask or face shield.
- viii. Incidents involving Dangerous Goods must be notified to Worksafe Victoria. These are fire, explosions, major spills and incidents where people have been injured. Please contact the OHS Team first.
- ix. All containers holding Dangerous Goods must be labeled with the name of the chemical, supplier and what class the chemical belongs to. There can be no mistaking the contents of a container. If you pour chemical XYZ into a smaller bottle, then that bottle must be labeled.



- x. Placarding, otherwise known as signage, must be put up when quantities exceed those listed in Schedule 2 of the Dangerous Goods Regulations. Signage refers to the Dangerous Goods diamonds that you may have seen, specifying a type/class of Dangerous Good and a number (see example above).
- xi. Storage of Dangerous Goods is critical. Major incidents have occurred because non compatible goods were stored next to each other and, in turn, reacted violently. Generally, different classes of Dangerous Goods should be stored separately, at least 3m apart, and in some situations stored in different rooms. Bunding must be provided (a method to control spills such as a high lip tray) and storage areas must be clean, tidy, free of flammable materials, well ventilated and have appropriate emergency spill kits and fire fighting equipment.

6.3 Hazardous Waste Disposal Procedure

6.3.1 Management of Hazardous Waste

Any material that is designated as a waste and which could be harmful to health and/or the environment due to its properties either currently or in the future (e.g. radioactive waste, animal carcasses) must be:

- handled by staff with knowledge and access to appropriate PPE;
- segregated according to the particular hazards associated with the waste type;
- packaged to ensure that the waste materials cannot escape the container at any time;
- clearly labeled, identifying the type of waste material and the department generating it;
- transported in such a manner to ensure that the health of employees and visitors to the University and/or the environment is not compromised and in accordance with *Victorian EPA requirements* and the *Australian Code for the Transport of Dangerous Goods by Road and Rail*; and
- stored in the site/area specifically designated for the waste type and for the School/ Department generating the waste.

6.3.2 Removal of Hazardous Waste

Hazardous Waste must only be removed by licensed contractors. The generating School/Department must ensure that any contractors engaged to remove and dispose of hazardous waste are competent to do so and that the waste is able to be transported in accordance with the *Victorian EPA Regulations* and requirements specified in the *Australian Code for the Transport of Dangerous Goods by Road and Rail*.

In summary, these requirements are:

- Vehicles transporting prescribed waste must hold a permit from the EPA for the specific waste type(s).
- The vehicle must use the appropriate placards when transporting the waste(s).
- An *EPA Transport Certificate* must be correctly completed, or an *Accredited Agent Certificate* if allowed for the waste type.
- The waste(s) must only be disposed of to a site that has been specifically licensed by the EPA for the particular waste(s).

6.3.3 Storing Hazardous Waste

- A storage site for hazardous wastes, can be a purpose-built facility or an existing facility/room that has been modified;
- The OHS Team must be consulted for advice when planning or designing a storage site;
- Hazardous wastes must be stored in safe and secure containment in a clean and tidy area, which allows access by both University staff for the depositing of wastes, and waste contractors for the collection of the wastes.
- Access to the storage site must be restricted to authorised personnel only and must be under the management and control of a person appointed by the Head of School/ Department.

6.4 Ionising Radiation Procedure

6.4.1 Purchasing and Handling Radionuclides

This procedure applies to any Department of the University using:

- non-sealed radioactive sources;
- sealed radioactive sources; or
- equipment that produces ionising radiation.

6.4.2 Regulatory Requirements

Managers and supervisors of Schools/Departments that use radioactive materials, x- ray units and any other equipment that emits ionising radiation should:

- comply with all responsibilities entrusted to it by the University;
- where required, register the equipment with the *Department of Human Services Radiation Section*;
- obtain from the *Department of Human Services Radiation Section* a license for use of the equipment;
- pay the appropriate license fee;
- ensure all equipment purchased is labelled in accordance with the appropriate legislative requirements;
- when introducing a new piece of equipment or source of radiation ensure that any damaged containers or packages are returned to the supplier or otherwise disposed of safely;
- obtain MSDS/s where necessary;
- obtain plant hazard assessment where necessary from the OHS Team or Worksafe.

6.4.3 Hazard Identification and Risk Assessment

When introducing a new equipment or source of radioactivity into the workplace a hazard identification and risk assessment should be conducted by the person introducing the new equipment, the designated Health and Safety Representative, an OHS Coordinator and other knowledgeable people. This should include:

- nature and severity of the hazard;
- degree of exposure to people in the workplace;
- control measures needed to minimise the potential hazards;
- ensuring a path of disposal for any hazardous machine or substance purchased; and
- requirements for the licensing of staff.

6.4.4 Emergencies

This procedure applies to any Department of the University using:

- non-sealed radioactive sources;
- sealed radioactive sources; or
- equipment that produce ionising radiation.

Emergency procedures must attempt to cover all eventualities associated with the use, storage and disposal of ionising material in the Department's control. The actions that departmental managers / supervisors should take include the following:

- compilation of a list of contacts, including the University Radiation Safety Officer and any other emergency response that is required;
- compilation of precautions that are required in the aftermath of radioactive spills;
- completion of the University's Accident/Incident Report Form and forwarding it to the ORH Team within 24 hours of the event;
- conducting a hazard identification and risk assessment on the emergency procedure. This will include: the nature and severity of the hazard, the degree of exposure to people in the workplace and control measures to minimise the potential hazards.

6.5 Non-Ionising Radiation Procedures

6.5.1 General safeguards

General safeguards to consider are:

- shielding the sources, thus protecting individuals from direct or indirect exposure to radiation;

- maximizing the distance between the source and the operator;
- minimizing the exposure time; and
- the use of PPE (including proper eye shields).

6.5.2 Ultra Violet Radiation

6.5.2.1 Sources of UV Radiation

Sources of UV radiation include; sunlight, high pressure discharge lamps, low pressure gas discharge lamps, germicidal lamps, xenon or mercury arcs, carbon arcs, plasma torches and electric welding arcs.

6.5.2.2 Categories of UV Range

The UV range is usually divided into three categories:

- a. 200 - 280 UV - C Far uv,
- b. 280 - 320 UV - B Middle uv
- c. 320 - 400 UV - A Near uv.

6.5.2.3 Hazards to be aware of

Hazards to be aware of include:

- maximum sensitivity to acute response in skin occurs between wavelength 290nm to 300nm;
- the eye, the cornea and conjunctiva show maximum sensitivity at a wavelength of about 270nm.

6.5.2.4 Exposure limits

The maximum permissible exposure limits recommended by the *International Radiation Protection Association* are:

- UVA < 10Wm^{-2} (1mWcm^{-2}) for periods greater than 15 minutes;
- Skin: UVB and UVC are dependent upon the spectral distribution but equivalent to a maximum dose of unprotected skin or eye of 30Jm^{-2} (3mJcm^{-2} at 270nm).

6.5.3 Infrared Radiation (IR), Radiant Heat

6.5.3.1 Sources of IR Radiation

Sources of IR Radiation include Infrared lamps, furnaces and heated objects.

6.5.3.2 User-awareness

Users should be aware of the following:

- Hazards from invisible light results from the ability of the eye to focus concentrated light onto very fine points on the retina.
- Cataracts can result from photochemical damage particularly in the blue and ultra violet region of the spectrum.
- Where possible, intense light should be completely enclosed from the observer to block direct rays.
- Viewing windows should be fitted with dark glass, which attenuate prominent wavelengths, visible and invisible.

6.5.4 Radio Frequency Radiation

6.5.4.1 Sources of exposure to Radio Frequency Radiation

Sources of exposure to Radio Frequency Radiation include; AM/FM broadcast transmitters, VHF/UHF TV transmitters, portable communication transceivers, military and civilian radar, communication equipment (mobile phones), RF welders, medical diathermy units and microwave ovens.

6.5.4.2 Hazards

Hazards of high-level exposure to microwave radiation include burns, effects on the eyes (i.e.cataract formation), effects on the gonads, increased temperature causing temporary sterility of the testes and teratogenic effects.

6.5.4.3 Precautions applying to use of lasers

The following precautions apply to the use of lasers:

- training is required for all operators of class three and four lasers;
- power density of the beam should be kept as low as practicable;
- shields should be used to prevent reflections and direct beam from going beyond the area needed;
- reflected beams from shiny objects should be avoided;
- baffles should be placed near lenses or other shiny objects;
- warning signs have to be posted; and
- when not in use the laser beam will be terminated by shutter.

6.5.5 Noise

Audiometric tests should be conducted annually on staff that work in noisy areas.

The principal effects of noise on the ear are temporary or permanent loss of hearing activity, interference with speech communication and disturbance of concentration on tasks.

6.5.6 Ultrasonic radiation

Sources of exposure to ultrasonic radiation include medical diagnosis and therapy, non-destructive testing and ultrasonic cleaning.

General safeguards to consider are:

- shielding the sources, thus protecting individuals from direct or indirect exposure to radiation
- maximising the distance between the source and the operator; and
- minimising the exposure time.

6.6 Sharps Procedures

All sharps have the potential to cause injury through cuts or puncture wounds. In addition, many sharps are contaminated with blood or body fluids, microbiological materials, toxic chemicals or radioactive substances, posing a risk of infection or illness if they penetrate the skin. It is therefore essential to follow safe procedures when using and disposing of sharps.

It is also essential that employees (staff, students, contractors) who use needles and/or have the potential to come into contact with bodily fluids routinely through their work and or study (eg health care professionals, laboratory technicians, animal handlers, etc.) be vaccinated as required by governmental regulations and/or University policies.

Sharps shall be placed into a sharps container as soon as possible after use. To avoid needle stick injuries, needles shall not be re-sheathed, recapped, bent or otherwise manipulated.

6.6.1 Sharps Disposal Procedures

All Schools/Departments that use sharps must have a designated container suitable for the safe storage of sharps.

Collection of full sharps containers and other hazardous waste is arranged through the Departmental Waste Contact Person. For further information, refer to the Hazardous Waste Disposal Guidelines in this Hazardous Substances Policy.

6.6.2 Sharps containers

- need to be rigid, impervious containers, with a tightly fitting lid;
- must be clearly labeled as sharps containers;
- must conform to Australian Standard AS4031-1992 "*Non-reusable containers for the collection of sharp medical items used in health care areas*", or to Australian/New Zealand Standard AS/NZS 4261:1994 "*Reusable containers for the collection of sharp items used in human and animal medical applications*"; and
- must comply with Australian/New Zealand Standard AS/NZS 4478:1997 "*Guide to the reprocessing of reusable containers for the collection of sharp items used in human and animal clinical/medical applications*," if local arrangements have been made for reprocessing.
- must be discarded when full;

6.7 Material Safety Data Sheet

The purpose of a Material Safety Data Sheet is to provide information on the safe handling of Hazardous Substances and Dangerous Goods in the workplace. They are to be made available to any staff member or student who deals with a hazardous substance or who may be affected by a hazardous substance.

Prior to any hazardous substance being used or distributed in the workplace, the manager/supervisor in control of the workplace must ensure that all employees and/or students have read the MSDS and understand the correct procedures for the safe use of the substance, as well as the potential health effects and safety precautions.

Students should only use hazardous substances under the direct supervision of a staff member.

MSDS's shall be stored in a location that is readily accessible to all employees and students who handle or may be exposed to a hazardous substance. In addition, MSDS must be available and readily accessible to Emergency Services and Medical Personnel when required. MSDS may be stored as:

- Hard copy paper form
- Computerized MSDS database (Chemwatch)

NO details on an MSDS may be altered or deleted.

7.0 CONGRUENCE WITH LEGISLATION AND RELATED POLICIES

Occupational Health and Safety Act 2004
Dangerous Goods Act 1985
Dangerous Goods (Storage and Handling) Regulations 2000
Code of Practice for Dangerous Goods 2000
Australian Code for the Transport of Dangerous Goods by Road and Rail
Australian Standard for Storage and Handling 3833
Occupational Health and Safety (Hazardous Substances) Regulations 1999
Code of Practice for Hazardous Substances 2000
Step By Step Guide for Managing Chemicals in The Workplace 2001
Environmental Protection (Prescribed Waste) Regulations 1987
Victoria University's Management License for the Use of Ionising Radiation
Victoria University's Incident Report Form

National Guidelines for the Management of Clinical and related Wastes (published by the National Health and Medical Research Council)
Australian Standard 4031- 1992 Non-reusable containers for the collection of sharp medical items used in health care areas
Australian/New Zealand Standard AS/NZS 4261 - 1994 Reusable containers for the collection of sharp items used in human and animal medical applications
Australian/New Zealand Standard AS/NZS 4478:1997 Guide to the reprocessing of reusable containers for the collection of sharp items used in human and animal clinical/medical applications.
Environmental Protection Act 1970
Environmental Protection (Scheduled Premises and Exemptions) Regulations 1984
Environmental Protection (Prescribed Waste) Regulations 1987
Industrial Waste Management Policy (Waste Minimisation) 1990
Health Radiation Safety Act 1984
Health (Radiation Safety) Regulations 1994
NH&MRC Codes of practice relating to the use and disposal of Ionising Radiation
Standards Australia AS 2344.4 - 8
NH&MRC Codes of practice relating to the use of Non Ionizing Radiation
Standards Australia AS 2344.Part 5 Non Ionizing Radiation
Standards Australia AS AS2772 EMF
Standards Australia AS AS2211 Lasers

8.0 ACKNOWLEDGEMENT

9.0 CONSULTATION

To all University OHS Committees and a 5 week University wide consultation period.

10.0 REVIEW

This policy is to be reviewed within 3 years of its approval.

11.0 ACCOUNTABILITIES

11.1 RESPONSIBILITY

11.1.1 Heads of School/Department

The Head of School/Department (or the Laboratory Manager where appropriate) in each School/Department are responsible for maintaining a safe and healthy environment.

Heads of School/Department should:

- provide information on the nature of hazards, risks and control measures associated with hazardous materials and ensure medical and environmental surveillance programs are in place where appropriate;
- make application for licenses and permits to hold scheduled hazardous substances, where applicable;
- ensure that legal requirements and NHMRC guidelines are met for hazardous and highly toxic substances;
- ensure an authorised person fulfils the duties set out in the *Occupational Health and Safety (Hazardous Substances) Regulations 1999*. (The Regulation);
- minimise the generation of hazardous wastes wherever possible;
- ensure all employees (please refer to definition in section 3) are aware of local safe operating procedures and of the requirements contained therein;
- ensure that all employees attend appropriate education programs to enable them to comply with the requirements of these procedures;
- develop protocols so that all employees generating wastes through teaching/research procedures advise the officer responsible for waste management of waste management issues prior to commencing activities;

- apply appropriate management strategies to general wastes and recyclables;
- ensure that hazardous waste is only removed by licensed contractors and in accordance with the procedures in this policy.
- ensure that sharps procedures are implemented within their area of responsibility;
- provide information and training to employees regarding sharps disposal; and
- provide suitable facilities and resources to ensure the effective implementation of this policy.

11.1.2 Managers and Supervisors

Managers/supervisors should ensure they are familiar with and comply with the provisions of this policy and procedures and comply with all legislative requirements.

Managers and Supervisors should:

- implement the requirements of The Regulations by seeking *Material Safety Data Sheets*, identifying hazardous substances, documenting *Risk Assessments* and implementing appropriate control measures;
- maintain a register of Hazardous Substances for all Hazardous Substances within the area;
- maintain a register of Dangerous Goods for all designated Dangerous Goods within the area; and
- inform, as soon as possible, any person who may have been or could be exposed to a hazardous substance. This must be reported in writing to the OHS Team.
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11.1.3 Staff

Staff must familiarise themselves with and comply with the provisions of this Hazardous Materials Policy and Procedures and comply with all legislative requirements.

Staff should:

- ensure they are aware of and adhere to this policy and procedures;
- attend any training courses arranged for them; and
- ensure that only qualified, trained and competent staff carry out work with hazardous substances.

11.1.4 Students

Students must:

- ensure that they are aware of, and adhere to this policy and procedures;
- attend any training courses arranged for them; and
- adhere to safe procedures when using and disposing of sharps so as not to adversely affect their own health or that of others.

11.1.5 People and Culture OHS Team

The People and Culture OHS Team is responsible for the following:

- provide professional support through coordination, advice and policy development.

11.2 IMPLEMENTATION PLAN

Maintain a current copy of the policy on the Victoria University Central Policy Register On-Line and on the People and Culture OHS Intranet site.

Considered integral to the implementation of the OHS Improvement Plan (OHSIP).

This policy forms a part of the OHS Management System (OHSMS)

11.3 TRAINING PLAN

11.3.1 Waste Training and Education

All staff and students should receive education in the requirements for safe handling and transport of all hazardous wastes and the use/wearing of appropriate PPE when handling and/or transporting hazardous wastes.

PPE includes:

- eye protection;
- protective clothing, gown, laboratory (lab.) coat, overalls;
- safety footwear (boots preferred);
- gloves; and
- face mask or respiratory protection for vapour/fumes where required, fitted with appropriate canisters for potential vapour/fumes. In some instances independent air respiratory equipment will be required.

11.3.2 Training and Education – Ionising Radiation

Staff who may come into contact with radiation require training; the nature of which depends on their exposure to the hazards associated with their duties.

The training should include:

- the safe storage and handling of equipment or source;
- emergency procedures;
- PPE to be used;
- first aid; and
- spill response.

11.3.3 Training and licensing – Non Ionising Radiation

Managers and Laser Safety Officers should ensure that adequate training, and licensing (if applicable), is provided to all staff who may use the equipment or source of non-ionising radiation and/or be exposed to the hazards associated with it in their duties.

The training should include:

- the safe storage and handling of equipment;
- emergency procedures;
- PPE to be used;
- first aid; and
- ensuring that training records are kept.

11.4 COMPLIANCE

Managers and Laser Safety Officers should ensure that people that use equipment that emits Non-Ionising Electro-Magnetic Radiation are aware of and follow the regulatory requirements for use.

Regulatory requirements include:

- adopting safe work practices;
- complying with all responsibilities entrusted to them by the University; and
- obtaining plant hazard assessment where necessary.

11.5 EFFECTIVENESS OF THIS POLICY

Mandatory compliance met.

12.0 POLICY ADVISOR

The General Manager, Workplace Environment and Culture should be able to provide advice about a policy's operation in practice and be able to provide specific advice on related queries.

13.0 FORMS

[Risk Assessment Form for Hazardous Materials](#)
[Biological and Chemical Waste Disposal Form](#)
Audit Checklist

14.0 ASSOCIATED PROCEDURES

Guidelines for the Storage of Dangerous Goods
Guidelines for the Transport of Dangerous Good

15.0 APPENDICES

PROCEDURES

TITLE: Storage of Hazardous Substances and Dangerous Goods

DATE APPROVED: 29 August 2006

RESPONSIBLE MANAGER: General Manager, OHS

1.0 PURPOSE

The objective of this policy is to inform staff, students, contractors and visitors working on or visiting the University's premises, of:

- The proper storage of Hazardous Substances and Dangerous Goods in laboratories, teaching facilities and TAFE workshops.
- Guidelines for managing risks associated with the storage of Hazardous Substances and Dangerous Goods;
- Guidelines for placarding stores, rooms and buildings.

2.0 BACKGROUND

What is the difference between 'Hazardous Substances' and 'Dangerous Goods'? There are three broad categories for chemicals used. These are classified according to the nature of risks associated with each category.

The first and most dangerous category, as the name suggests is Dangerous Goods. These are classified on the basis of their *immediate* physical or chemical effects, such as fire, explosion, corrosion and poisoning, affecting property, the environment or people.

The next category of chemical is that of Hazardous Substances. These are classified only on the basis of health effects (whether they are immediate or long term). Hazardous substances and Dangerous Goods are covered by separate legislation, each focusing on controlling the different risks described above. Since many hazardous substances are also classified as Dangerous Goods, the requirements of both pieces of legislation will apply in these cases.

The third category of chemicals is those that are deemed relatively safe for daily contact, such as soaps, household detergents and some food additives.

3.0 DEFINITIONS SPECIFIC TO THE PROCEDURE

Dangerous Goods, Hazardous Substances, Material Safety Data Sheets, Minor Storage, MSDS, Occupational Health and Safety, OH&S, Placarding, Risk, Safety, Segregation, Signage, Storage

2.0 REVIEW TIMELINE FOR PROCEDURES

Procedure to be reviewed to accommodate any changes in relevant legislation, otherwise no later than March 3rd 2009.

3.0 PROCEDURES ADVISOR

Occupational Health & Safety Coordinator, Ph: 9919 4818

4.0 THE PROCEDURES

4.1 Material Safety Data Sheet (MSDS)

Prior to any Hazardous Substance or Dangerous Good being used or distributed in the workplace, the manager/supervisor in control of the workplace must ensure that all employees and/or students have read the MSDS and understand the correct procedures for its safe use, as well as the potential health effects and safety precautions.

MSDS's must be stored in a location that is readily accessible to all employees and students who handle or may be exposed to a Hazardous Substance. In addition, MSDS's must be available and readily accessible to Emergency Services and Medical Personnel when required. MSDS's may be stored as paper copies or as computerised MSDS databases.

4.2 Risk Management - Storage

Users of hazardous materials must assess whether the storage of a Hazardous Substance and Dangerous Goods in your workplace poses a risk to health or property before the substance is brought into the workplace for the first time.

The Dangerous Goods 2000 and Hazardous Substances 1999 Regulations require the control of risks associated with the storage and handling of Dangerous Goods at a premises. To do this effectively users of hazardous materials must identify the hazards that contribute to the risks and assess the likelihood of those hazards causing injury or damage to property.

4.3 Risk Assessment - Storage

Review the MSDS for each of the Dangerous Goods kept in each store; and document the following broad types of risk associated with the Dangerous Goods in storage:

- i. Fire and explosion risks associated with the storage and handling of flammable gases (Class 2.1 or Subsidiary Risk 2.1), flammable liquids (Class 3 or Subsidiary Risk 3), Dangerous Goods of Class 4.1, 4.2 and 4.3 or Subsidiary Risk 4.1, 4.2 and 4.3, and combustible liquids;
- ii. Fire risks that may result from the storage and handling of oxidizing agents of Class 5.1 or Subsidiary Risk 5.1 or organic peroxides of Class 5.2;
- iii. The toxic risks associated with Dangerous Goods of Class 6.1 or Subsidiary Risk 6.1; and
- iv. The corrosive risks associated with Dangerous Goods of Class 8 or Subsidiary Risk 8.

4.4 Storage Guidelines

These guidelines for the storage of Hazardous Substances and Dangerous Goods are based on broad types of risks, and cannot take into account every possible situation. As such, these guidelines are advisory and must be supported by individual risk assessments.

For simplification, the storage of Dangerous Goods and Hazardous Substances at Victoria University has been classified into two risk categories;

- Minor Storage (Low Risk) and
- Major Storage (High Risk)

4.4.1 Minor Storage

This Section specifies the criteria for 'minor storage' of packaged Dangerous Goods of mixed classes and the requirements for such storage. See Table 1.

Table 1.

Description	Quantity, Kg or L
Total Quantity of all Hazardous Substances and Dangerous Goods in a mixed class minor storage	25

The underlying concept of Minor Storage is that quantities below a certain level are so small, or are so scattered and separated, that they present a very low risk, add little to a building's fire load and are generally unlikely to play a significant part in spreading a fire from place to place. The firefighting facilities required under normal building regulations are expected to cope adequately.

Workplace safety regulations and guidelines apply even to quantities defined as 'minor storage'. Hazard Investigation and Risk Assessment, must be conducted to ensure the safe storage of minor quantities of chemicals in each cupboard and room.

- i. Under bench storage cabinets may be used for the minor storage of packaged Dangerous Goods of Classes 3, 4.1, 4.3, 5, 6.1 and 8.
- ii. Where more than one type of Dangerous Goods is kept in a cabinet, they shall be compatible. See Appendix 2.
- iii. If the compatibility of the goods being kept cannot be fully identified from the available technical information, each class shall be kept in a separate cabinet.
- iv. Each minor storage cupboard should be labeled to identify its contents.
- v. A facility could have a number of minor storages and these guidelines would be applicable to each storage.
- vi. The total amount of Dangerous Goods kept shall not exceed one minor store per 500m² of floor or ground area. This is approximately a room measuring 22.5m by 22.5m.
- vii. Where the floor or ground area exceeds 500m², minor stores shall be at least 10m apart. Any arrangement, which results in an undue concentration of minor stores, should be avoided.
- viii. Dangerous Goods requiring special storage conditions (e.g. temperature control) shall not be kept in a minor store.

4.4.1.1 Minor Storage Risk Control

To control risk associated with the storage of Hazardous Substances and Dangerous Goods, implement the following measures:

- i. Consider substituting the Dangerous Goods with other goods that have a lower risk associated with their storage and handling.
- ii. Ensure the quantity of Dangerous Goods kept at any one time is the minimum necessary for the operation of the premises.
- iii. The storage shall be away from any heating or ignition sources.
- iv. Packages shall be kept closed when not in use. Packages should only be opened in a well-ventilated area, and, if their contents are flammable, away from any potential ignition sources.
- v. Appropriate spillage-retention measures shall be provided where packages are opened for the transfer of their contents.
- vi. Dangerous Goods shall not be stored or handled where they could hinder escape from a building in the event of fire.
- vii. Persons who handle any Dangerous Goods shall be fully informed of the hazards involved.
- viii. Packages shall be kept in such a manner as to avoid spillage. Any spills or leaks shall be cleaned up immediately and disposed of in accordance with the Dangerous Goods and Hazardous Substances Procedures. Contaminated, spilled or leaked material shall not be returned to its original packaging, except for disposal where it is known that this will not increase the risk.
- ix. Stores shall be kept clear of combustible matter and refuse.
- x. Any materials that are incompatible, or might react dangerously if mixed, shall be segregated so that the possibility of reaction is minimised.
- xi. Packages shall be kept on surfaces that are resistant to attack by their contents if spilt.
- xii. Packages shall be stored in such a manner that leaks cannot affect other substances in the store. Liquids should not be stored above powders and solids. Liquids in glass bottles should be stored at lower levels.
- xiii. Personnel involved in product transfer or clean-up operations must wear appropriate personal protective equipment.

- xiv. A fire extinguisher of suitable type shall be installed in each store. It shall be located so that it is immediately accessible in an emergency, along an exit route.
- xv. A supply of water shall be available at a nearby location, for personal hygiene.

4.4.2 Major Storage

As a guide, a major storage of Hazardous Substances and Dangerous Goods is one that approaches or exceeds the placarding limit for Dangerous Goods. See Dangerous Goods (Storage and Handling) Regulations Schedule 2, Appendix 1.

4.4.2.1 Major Storage Risk Controls

Risks associated with major quantities of Dangerous Goods and Hazardous Substances must be controlled using the Hierarchy of control to reduce the risks.

Elimination: Eliminate the use of the substance by using a physical process instead of a chemical process

Substitution: Use a safer substance or a safer form of the substance.

Isolation

- Segregate non compatible chemicals
- Separate people or property from the substance by distance or barriers.
- Only keep on hand enough chemicals for use during a week, store the excess in an approved Dangerous Goods cupboard (flame proof, explosion proof, acid resistant etc).
- Store major quantities in specially designed external Dangerous Goods stores.

Engineering

- Use physical controls (such as plant/equipment) that eliminate or reduce the generation of substances; suppress or contain substances; or limit the area of contamination in the event of spills and leaks.
- Use bunding to contain spillage
- Prevent any potential flow of spillage from reaching any protected place, watercourse or boundary by such means as the use of natural ground slope or the provision of a diversion channel, curb or bund.

Administration

- Secure each compressed gas cylinder around the body of the bottle to prevent falling.
- Use safe work practices including good housekeeping.
- Display appropriate placarding and signage.
- Reduce the amount of goods/products stored and used.
- Ensure safe interim storage of wastes/products (e.g. labeled properly in suitable containers stored away from people, the environment, incompatible chemicals, ignition sources etc.)
- Keep the ground around the storage area clear of combustible vegetation and refuse by at least 3 m.
- Clean up spills immediately (includes provision of suitable aids and equipment)
- Provide suitable washing facilities
- Provide First Aid facilities
- Instruct employees on how to use substances/equipment safely
- Lock the store at all times.

Personal protective equipment (PPE)

- Provide protective clothing and equipment for employees, supervisors and visitors.
- Ensure PPE, appropriate to the goods being handled, is worn when people are handling Dangerous Goods and Hazardous Substances.
- Periodically check and maintain any PPE provided.

4.5 Segregation/Compatibility

Packages of Dangerous Goods shall be located within the store in a way that minimizes the likelihood of dangerous interaction.

Dangerous Goods shall be segregated from incompatible substances, substances with which they may react dangerously and other Dangerous Goods in accordance with the following requirements. See Appendix 2

- i. Where the substances being kept are incompatible, they shall be kept in separate compounds or be segregated by a distance of at least 3 m; except when both substances are solids, this distance may be reduced to 1 m.
- ii. Where the substances being kept may react dangerously, they shall be segregated by at least 5 m; and not be kept within the same compound, or in compounds that share a common drainage system.
- iii. Goods that are required to be kept in separate compounds shall be prevented from falling, leaking or spilling into another compound.
- iv. Incompatible goods should not be stored together on shelves. This applies to both horizontal and vertical storage on shelving. See Appendix 2
- v. To assist housekeeping, packages should not be kept on the floor. Packages shall be stored in such a manner that leaks cannot affect other substances in the store.
- vi. Liquids should not be stored above powders and solids. Liquids in glass bottles should be stored at lower levels.

4.5.1 Storage of Non-Dangerous Goods in segregation spaces

Non-Dangerous Goods may be kept in segregated spaces, provided that they are non-combustible and will not react dangerously with any of the Dangerous Goods being kept. Non-Dangerous Goods that are combustible may be kept, provided that;

- They do not react dangerously with any of the Dangerous Goods being kept;
- That a hazard assessment, including an assessment of additional fire load, has been carried out; and
- Any necessary additional fire protection is provided.

4.6 Placarding

Dangerous Goods warning signs, otherwise known as Placards, provide visual warning of the hazards associated with the Dangerous Goods at each facility and campus.

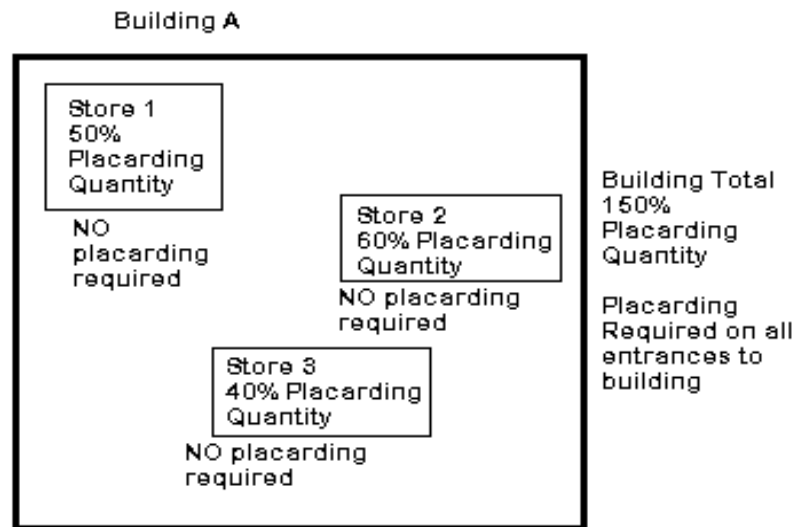


If the quantity of Dangerous Goods stored in an area you are responsible for, exceeds the quantity specified in the column headed "Placarding Quantity" in Schedule 2 of the Dangerous Goods (Storage and Handling) Regulations, you must ensure that your premises are placarded. See Appendix 1.

Placarding is an indicator of risk, and the placarding of a storeroom containing minor quantities can be misleading for emergency services. Placards must be kept legible and unobstructed.

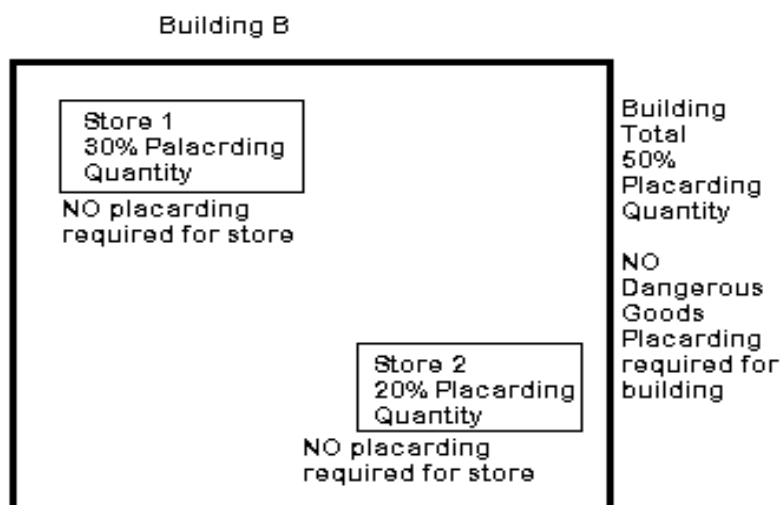
A store room, laboratory, workshop or classroom with minor quantities of Dangerous Goods below the Placarding Quantity in Schedule of the Dangerous Goods Regulations, must not be signed.

In Example 1 below, three store rooms contain Dangerous Goods in minor quantities, below the placarding quantity and therefore they do not require any Dangerous Goods signage. However, the total exceeds the Placarding Quantity, therefore every entrance to the building must be placarded with the appropriate sign. Also, a 'HAZCHEM' Outer Warning Placard is required because the quantity of Dangerous Goods stored or handled at the premises exceeds the "Placarding Quantity" in Schedule 2 of the regulations. See Appendix 1.



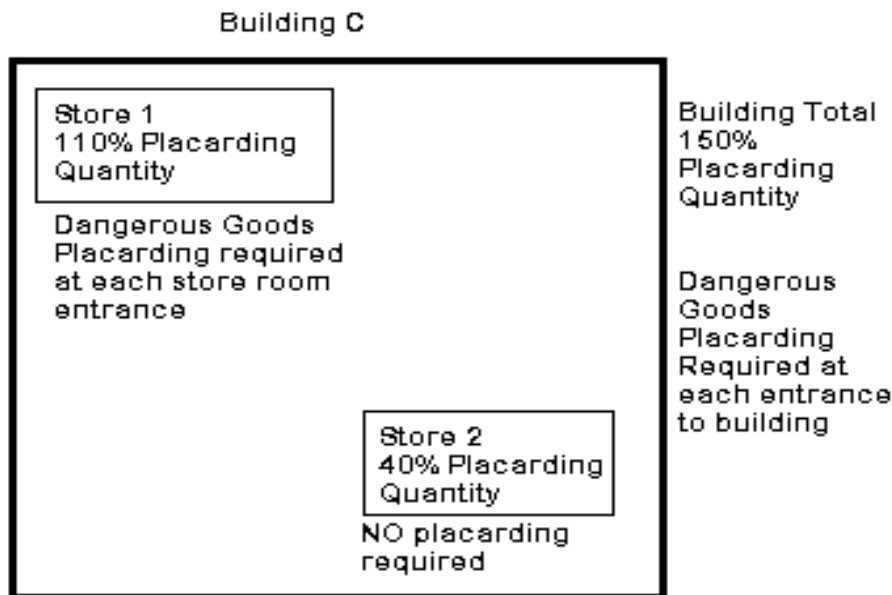
Example 1. Three storerooms are under placarding quantity, therefore signage not required for store rooms. However Building total exceeds placarding quantity, therefore building must be signed.

In Example 2, the quantity of Dangerous Goods stored in the whole building or facility is only 50% of the placarding total, therefore no placarding is required on either of the stores or building. There is no requirement for a HAZCHEM outer warning placard at the main entrance, because the quantity of Dangerous Goods stored or handled at the premises does not exceed the "Placarding Quantity" in Schedule 2 of the regulations.



Example 2. Two store rooms under placarding quantity, therefore do not require signage. Building total is under placarding quantity, therefore building does not need signage.

In Example 3, Dangerous Goods placarding is required only on store room 1, but not on store room 2. Since the total quantity of Dangerous Goods in the building or facility, exceeds the Placarding Quantity, placarding is required for the building, and a HAZCHEM outer warning placard is required at the main entrance.



Example 3. Store 1 exceeds placarding quantity, therefore requires signage. Store 2 does not require signage. Building total exceeds placarding quantity, therefore building requires signage.

4.7 Hazchem Outer Warning Placard

A HAZCHEM, outer Warning Placard (as below) must be displayed at the main road entrances to each campus.



If the premise consists of a building set back from the street, such that placarding at the street entrance would be neither effective nor practical and there is no main road entrance; then Outer Warning Placards should be displayed at each entrance to the building that may be used by the emergency services.

4.8 Registers

A register provides a central listing of all Hazardous Substances and Dangerous Goods, which are used in the workplace. The register is a list or inventory containing information about the chemical, its name, class, supplier and quantity.

4.9 Storage of Waste

Any installation in which Dangerous Goods are kept or handled shall be provided with facilities for the storage of wastes and items contaminated with Dangerous Goods. Wastes that still meet the definition of Dangerous Goods must, pending their disposal, be kept in accordance with all of the relevant requirements of this Policy and the relevant Standard.

4.10 Transfer of Dangerous Goods

Where Dangerous Goods need to be transferred (by decanting, dispensing and/or filling) into or from a container, or moved from place to place in a storage area, ensure that:

- Spill containment is provided that can hold at least the quantity of the largest container;
- The container being filled and any transfer equipment is earthed, if there is a likelihood of static electricity being generated and risk from ignition of flammable vapours during the transfer;
- The transfer is done in a manner that reduces the generation of any vapours and avoids splashing or spillage of the Dangerous Goods;
- The area is free of ignition sources;
- The area is free of obstructions with sufficient room to enable the transfer to be carried out and to hold containers and associated equipment;
- Any decontamination materials or clean-up equipment is kept close by;
- Where Dangerous Goods are to be transferred into containers at the premises, the container is suitable and cannot be damaged by the Dangerous Goods.

4.11 Heat and Ignition Sources

Avoid sources of heat and ignition.

- Keep ignition sources away from flammable or combustible Dangerous Goods (Dangerous Goods class or subsidiary risk of 2.1, 3, 4.1, 4.2, 4.3 or combustible liquids). Naked flames from direct fired heaters and any flames associated with maintenance work should be kept at least 5 metres from the goods.
- Store Dangerous Goods away from sources of heat (for example, heating appliances).
- Where Dangerous Goods being stored or handled can generate flammable or explosive atmospheres, use electrical equipment that is intrinsically safe or flameproof.

4.12 Spill control and clean-up

Prevent any potential flow of Dangerous Goods to other parts of the premises that could create a risk or reach any watercourse or the property boundary.

Possible means are bunding, provision of channels, utilising the slope of the land and the use of portable Spill Kits.

Where spill containment is required, it should have a sufficient capacity to contain the Dangerous Goods spillage.

PROCEDURES

TITLE: Transport of Minor Quantities of Hazardous Materials

DATE APPROVED 29 August 2006

RESPONSIBLE MANAGER: General Manager OHS

1.0 PURPOSE

The main purpose of this procedure is to reduce, as far as practicable, risk arising from employees of the University transporting minor quantities of Hazardous Materials by public road.

2.0 BACKGROUND

At Victoria University, there is a regular need to transfer minor quantities of Hazardous Material, from one campus to another, yet there are no guidelines to safely carry out this task.

Presently, the Dangerous Goods (Storage and Handling) Regulations 2000, Australian Dangerous Goods Code Sixth Edition (ADG Code) and the Draft Australian Dangerous Goods Code Seventh Edition (ADG Code), all focus on bulk quantities of Dangerous Goods.

There is no prescriptive legislation that governs the transportation of minor quantities.

3.0 DEFINITIONS

Hazardous Materials means Dangerous Goods, Hazardous Substances, Radio Active Materials, Contaminated, Biomedical Waste, Chemical Waste.

Minor Quantities mean less than 25% of the Placarding Quantity in Schedule 2 of the Dangerous Goods (Storage and Handling) Regulations 2000, and/or any quantity not exceeding 25Kg.

Spill Kit means part of an emergency kit which is of a suitable size to prevent all of the liquid hazardous materials from escaping into drains, sewers or natural watercourses.

3.0 REVIEW TIMELINE FOR PROCEDURES

This procedure will be reviewed in three years.

4.0 PROCEDURES ADVISOR

Victoria University Occupational Health & Safety Coordinator, Ex: 4818

5.0 POLICY

This policy applies to the transport of minor quantities of Hazardous Materials by from one campus to another by public road where:

- The goods are packaged hazardous materials;
- The aggregate quantity of the Dangerous Goods in the load is less than 25% of a placard limit;
- The total gross mass of the package does not exceed 25 kg;
- The hazardous materials are being transported by a representative of the University; and
- The hazardous materials are being transported by road, during the course of University activities.

The owner, or person in charge of the hazardous materials, must ensure that any risk associated with the transfer and transport of hazardous materials from one campus to another, is eliminated or, if it is not practicable to eliminate the risk, is reduced so far as is practicable.

In controlling risk the person in charge must consider the following risk factors;

- Control spills and leaks,
- Minimise static electricity, and
- Control vapour generation.

A person driving a vehicle, transporting a load of Dangerous Goods by road must ensure the following;

- That the driver has an appropriate driver's license,
- All road rules and speed limits are obeyed,
- The vehicle is fitted with appropriate safety equipment in relation to the hazardous materials to be transported,
- Hazardous Materials are transported only in the boot of the vehicle.
- Mobile phones are not used whilst driving, and
- The driver has not consumed any drugs or alcohol.

The driver of the vehicle must not have matches or a cigarette lighter in his or her possession, or smoke in the vehicle. The driver must also do everything practicable to ensure that anyone else in the vehicle does not have matches or a cigarette lighter in his or her possession or smoke in the vehicle.

6.0 THE PROCEDURES

6.1 Hazard Identification

Hazard identification involves examining the labels of each substance to be transported for warnings in the form of risk or safety phrases and the MSDS for a statement of the substance's hazardous nature. From this review it may be clear that a substance is or is not hazardous, or there may be insufficient information.

6.2 Risk Assessment

The purpose of risk assessment is to evaluate the health and safety risks to employees, the public and the environment arising from the transportation of Dangerous Goods and Hazardous Substances, from one workplace store to another.

Risk assessments should be recorded and include the following:

- a review of the information from the label, the MSDS, and any other sources
- an assessment of exposures based on the methods of use, observed or likely emissions, observed or likely exposures and a comparison of control measures specified in the MSDS with those in the workplace
- a review of the toxicity of the substance for all routes of entry and of any synergistic effects in relation to other substances
- the potential for an environmental spill, explosion or release of the substance
- an assessment of existing control measures and implementation of additional controls where indicated until the risk is eliminated or reduced to an acceptable level.

6.3 Risk Control

Control of hazardous substances should be achieved through the progressive application of the following hierarchy of control measures:

- Elimination of the need to transport from one workplace to another
- Substitution
- Isolation of the hazardous materials in the boot of the car and wind the windows down to control emission of hazardous vapours.
- Engineering controls, including specially designed transport containers, to contain or minimise the escape of Hazardous Substances and Dangerous Goods

- Adoption of safe work practices which minimise exposure to Hazardous Substances, such as not smoking in the car and driving with the window open to reduce fume buildup.
- Using suitable approved personal protective equipment (PPE) where other effective means of controlling the hazard are not possible, or fully effective.

6.4 Incompatible Goods

Dangerous Goods that are incompatible must not be transported in the same vehicle.

Consideration must be given to other goods that are incompatible with the Dangerous Goods.

- Transfer equipment, for use in the transport of Dangerous Goods, is ***incompatible*** with the goods if the equipment is constructed of material that, when the goods are brought into contact with the equipment, is likely to interact with the goods and increase risk because of the interaction.
- Dangerous Goods that are transported with other Dangerous Goods and are likely to be mixed or otherwise brought into contact during an incident (such as a car accident), resulting in an increased risk because of this interaction, must not be transported together.

6.5 Emergencies

If a vehicle transporting Dangerous Goods by road is involved in an incident resulting in a dangerous situation, the driver must do all of the following:

- Immediately report it to the police or fire services
- Immediately report it to the Victoria University Occupational Health & Safety Team
- Provide reasonable assistance as required by an authorised officer or officer of the emergency services to deal with the situation.

The driver should also take all safe and practicable steps including all of the following:

- Prevent other vehicles, other Dangerous Goods and any source of ignition from coming within 15 metres of the vehicle involved or, a greater distance if there has been an escape of flammable Dangerous Goods.
- Warn any person in the vicinity who may be at risk.
- Use the spill kit to prevent or minimise the escape of the Dangerous Goods and their entry into drains, sewers or natural watercourses.

6.6 Vehicle Safety Standards

The owner of a vehicle must not use or permit their vehicle to be used to transport Dangerous Goods unless it is all of the following:

- Suitable for transporting the hazardous materials,
- Roadworthy,
- Free from any defect that is likely to create a risk in transporting the hazardous materials,
- Clean and tidy,
- The vehicle is equipped with emergency equipment such as an appropriate fire extinguisher and spill kit,
- Free from any other Dangerous Goods that are incompatible with the Dangerous Goods to be transported,
- All heavy items of safety equipment (e.g. self-contained breathing apparatus) must be secured to prevent them causing injury to the driver in the event of an accident.
- The safety equipment is able to be carried in the cabin of the vehicle and be in an easily accessible location.

6.7 Personal Protective and Safety Equipment

Protective clothing and equipment must be carried on a vehicle transporting Dangerous Goods when identified as necessary through the risk assessment. Such equipment may include:

- SCBA or Re-breathing apparatus

- Gas tight goggles or full face shield as appropriate
- Chemically resistant gloves or gauntlets
- Thermally insulated gloves or gauntlets
- Chemically resistant suit or coveralls
- Chemically resistant boots
- Eye wash kit

6.8 Portable Transport Container

All hazardous materials, including Dangerous Goods and Hazardous Substances, must be packed into a Portable Transport Container, which resembles a box with a securely closing lid.

All packages of hazardous materials must be securely placed inside the portable transport container and must be prevented from moving about. In this case packages, refers to individual packages of hazardous materials, usually in jars, bottles or boxes. These packages of hazardous materials must also fit completely within the portable transport container and the lid able to be securely closed.

The portable transport container must be located in the boot of the car or rear of the station wagon, and be securely fastened to floor to prevent tipping over and spillage.

6.8.1 Construction

The materials used in the construction of the portable transport containers and their lids which are in direct contact with Dangerous Goods shall not be affected or weakened by the hazardous materials, and shall not cause a dangerous effect (e.g. catalysing a reaction or reacting with the hazardous materials). The design shall include a securely closing lid, which is secured by a positive fastening device that is unable to be opened unintentionally or by pressure which may arise within the container.

Packages of hazardous materials must be prevented from moving around in the portable transport container and must be prevented from knocking into each other. One option is to have adaptable dividers inside the portable transport container.

Any tie-down attachments on the container shall be designed such that, under normal and accident conditions of transport, the forces on those attachments shall not impair the container's integrity.

6.8.2 Plastic Containers

The container shall be manufactured from suitable plastic material and be of adequate strength in relation to its capacity and intended use. The container shall be adequately resistant to ageing and to degradation caused either by the substance contained or by ultra-violet radiation.

Solid plastic containers shall have closure devices made of a suitable material of adequate strength and be designed such that the the box does not open unintentionally.

6.8.3 Steel or Aluminium Containers

The strength of the metal and the construction of the container shall be appropriate to the capacity of the box and to its intended use.

If a double seamed metal liner is used, steps shall be taken to prevent the ingress of substances - particularly explosives - into the recesses of the seams.

6.8.4 Leakproofness

The leakproofness of a portable transport container shall be confirmed on all design types of containers intended to contain liquids.

6.8.5 Drop test

As there is the potential that any portable transport container may be dropped whilst being carried, any type of portable transport container used must withstand being dropped from at least one(1) metre. The portable transport container must remain intact with the lid securely closed.

6.9 Marking/Signage

If Dangerous Goods and hazardous substances are transferred into a portable container for transport, the user must ensure that—

- The container into which the Dangerous Goods are transferred is clearly labelled with the word HAZCHEM.
- The Boot of the vehicle is labeled with the work HAZCHEM. This could be applied using a magnetic label.



HAZCHEM

6.10 Parking

The driver of a vehicle transporting a load of Dangerous Goods by road must not park the vehicle or leave it standing in a public or private place. To minimize risk, the intention must be to transport the Dangerous Goods from one storage location to another in the minimum of time.

5.0 FORMS

Risk Assessment Form for Hazardous Materials

6.0 CONGRUENCE WITH LEGISLATION AND RELATED POLICIES














- Hazardous Materials Policy
- Dangerous Goods (Storage and Handling) Regulations 2000
- Australian Dangerous Goods Code Sixth Edition (ADG Code)
- Draft Australian Dangerous Goods Code Seventh Edition (ADG Code)
- Queensland Transport Operation (Road Use Management Dangerous Goods) Regulation 1998

6.0 APPENDICES

[Appendix 1: Quantities of Dangerous Goods Table](#)

[Appendix 2: Compatibility of Dangerous Goods Table](#)

APPENDIX 1: QUANTITIES OF DANGEROUS GOODS

Dangerous Goods (Storage and Handling) Regulations 2000		Schedule 2			
Dangerous Goods Class (Examples)		Packing Group	Placarding Quantity	Manifest Quantity	Fire Protection Quantity
Class 2.1, Flammable Gas (LPG, Acetylene)		N/A	500 L	5000 L	5000 L
Class 2.2, Subsidiary risk 5.1, Oxidizing Gas (Oxygen)		N/A	2000 L	10,000 L	20,000 L
Other Class 2.2 (Nitrogen)		N/A	5000 L	10,000 L	20,000 L
Class 2.3, Toxic Gas (Chlorine)		N/A	50 L	500 L	2000 L
Class 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1 or 8 (Methanol, Acetone, Nitric Acid)		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
Class 9, Miscellaneous Dangerous Goods		II	1000 L	10,000 L	20,000 L
		III	5000 L	10,000 L	20,000 L
C1 Combustible Liquid (Diesel Fuel)		N/A	1000 L	10,000 L	20,000 L

"The current official version of this policy is maintained on the Victoria University Central Policy Register and downloading and printing of this policy will produce an uncontrolled copy which may not be current."

APPENDIX 2: COMPATIBILITY OF DANGEROUS GOODS

Appendix removed 9/1/2014 and will be replaced with updated table within forthcoming procedures.

Please seek advice from the OHS team on compatibility.

PEOPLE AND CULTURE: HR70

RISK ASSESSMENT FORM FOR HAZARDOUS MATERIALS



RISK ASSESSMENT	PRODUCT NAME		
Hazardous Substance? <input type="checkbox"/> YES <input type="checkbox"/> NO	Assessor(s):		Date: / /
Scheduled Poison? <input type="checkbox"/> YES <input type="checkbox"/> NO	Form:		
Dangerous Goods Class (e.g. 3.2): . .	Active Ingredient:		
	Risk & Health Effects:		

PROCESS/JOB DESCRIPTION	
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TASK	ROUTES	CONTROLS ALREADY IN PLACE	RISKS TO HEALTH?		ACTION (HIERARCHY OF CONTROL) ELIMINATION, SUBSTITUTION, ISOLATION, ENGINEERING AND PPE
			YES / NO NOT SURE?	DESCRIPTION	
Storage	Fire				
	Explosion				
	Corrosion				
	Spontaneous Combustion				
	Other				

PEOPLE AND CULTURE: HR70
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			YES / NO NOT SURE?	DESCRIPTION	
Task 1	Inhalation				
	Skin				
	Eye				
	Ingestion				
	Injection				
Task 2	Inhalation				
	Skin				
	Eye				
	Ingestion				
	Injection				
Spill Control	As Above				