

Carcinogens

1 Scheduled Carcinogens

Carcinogens are divided into various classifications of risk. In Australia, only Schedule 1 and 2 carcinogens as nominated by the Safe Work Australia in [National Model Regulation for the Control of Scheduled Carcinogenic Substances](#) [NOHSC: 1011 (1995)] are regulated.

There are other lists of known human carcinogens, in particular the list provided by the National Health and Medical Research Council. This section should be applied to the use of these carcinogens where applicable.

<p>Schedule 1 carcinogenic substances are:</p> <ul style="list-style-type: none"> • 2-Acetylaminofluorene • Aflatoxins • 4-Aminodiphenyl • Benzidine and its salts • Bis(chloromethyl) ether • Chloromethyl methyl ether (technical grade) • 4-Dimethylaminoazobenzene • 2-Naphthylamine and its salts • 4-Nitrodiphenyl 	<p>Schedule 2 carcinogenic substances are:</p> <ul style="list-style-type: none"> • Acrylonitrile (*) • Benzene – when used as a feedstock containing more than 50% benzene by volume (*) • 3,3'-Dichlorobenzidine and its salts • Diethyl sulfite • Dimethyl sulfate • Ethylene dibromide – when used as a fumigant • 4,4'-Methylene bis(2-chloroaniline) • 2-Propiolactone • o-Toluidine and o-Toluidine hydrochloride • Vinyl chloride monomer (*)
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2 Compliance Requirements

To comply with Part 4.2 (Carcinogenic Substances) of the [Occupational Health and Safety Regulations](#), managers must follow the following compliance procedure:

Methodology	Resources / Tools
Step 1: Identify any use or storage of Schedule 1 and Schedule 2 carcinogens.	Scheduled carcinogens
Step 2: Nominate a Chemical Safety Officer to co-ordinate the compliance program.	Management to establish a consultative process for the hazard identification, risk assessment and control process involving HSR and staff using and/or exposed to the chemicals.
Step 3: Ensure carcinogens are on the Register of Hazardous Substances and Dangerous Goods	Refer to Hazardous Substances Guidelines Hazardous Substances (and Dangerous Goods) Register .
Step 4: Obtain Material Safety Data Sheets (MSDS) for all carcinogens	Obtain from supplier or use ChemWatch
Step 5: Assess and document the risk arising from each identified hazardous substance. Work through control measures using the Hierarchy of Control to identify and prioritise control measures The hazard identification, risk assessment and control process should be undertaken in consultation with users of the chemicals and the relevant Health and Safety Representative (HSR)	Refer to Hazardous Substances Guidelines Risk assessments shall include: <ul style="list-style-type: none"> • a review of the current Material Safety Data Sheet • a review of relevant additional information available • a documented assessment of the actual work to be performed with the potential for exposure to that substance
Step 6: Ensure records are kept of purchase, use, and disposal	Carcinogen Log Sheet
Step 7: Provide prominent signs advising that the area where scheduled carcinogens are used is restricted to designated persons	

Methodology	Resources / Tools
Step 8: Label all containers of carcinogens	Containers into which substances have been decanted must be correctly labelled
Step 9: The use of Schedule 1 and 2 carcinogenic substances is only permitted in laboratories after a licence is obtained from WorkSafe Victoria - Hazardous Substances - Scheduled Carcinogens Copies of all documents for licensing must also be sent to the Campus Occupational Health and Safety Officer. <u>Licensing and exposure record keeping is only necessary where the carcinogen is used and does not apply to storage in sealed containers.</u>	To apply for a licence to use a scheduled carcinogenic substance or a notification of use of a scheduled carcinogenic substance, download the application form . (A licence fee is involved). A separate form and detailed supporting information which describes the control measures to be used to prevent exposure to the scheduled carcinogen is required for each substance. Licences are valid only for 5 years
Step 10: Maintain a record of every staff member or student (worker) who works with a scheduled carcinogenic substance	At the completion of the work, the record must be provided to Human Resources Services or Student Administration Recording requirements
Step 11 – Conduct atmospheric monitoring where indicated by the risk assessment:	Standards for Atmospheric Contaminants in the Occupational Environment
Step 12 – Health surveillance may also be required where staff are exposed to certain substances (eg Scheduled Hazardous substances) or under certain workplace conditions	Health surveillance requirements are specific to some materials in the schedules (marked with *). These are given in National Occupational Health and Safety Commission's - Guidelines For Health Surveillance [NOHSC:7039(1995)] Contact the OHS Unit for further information.
Step 13: Arrange any medical testing through their own doctor or through the Division of Student Life (Health Services)	Ensure that medical testing is carried out or a waiver is provided by the staff member or student. Any costs are paid by the local area.
Step 14 - Train staff and supervisors so that they have an appreciation of the hazards involved and why the controls are necessary. Evaluate competency of staff. Ensure refresher and induction training is also provided.	A copy of the training record must be attached to each worker's record. Ensure staff, supervisors, students, contractors can demonstrate competencies with regard to safe work practices
Step 15 – Carry out regular reviews of risk control measures	<ul style="list-style-type: none"> • to monitor implementation • to ensure their effectiveness, • when there are changes to products or procedures, • at least every 5 years.
Step 16: Report to the OHS Unit any known or suspected unauthorised exposures of workers to scheduled carcinogens immediately	
Step 17: Ensure safe work practices are complied with	

3 ChemWatch

The University has a licence for ChemWatch which is a web-based chemical management system. Access is through the link: <http://max.chemwatch.net/integ/>

4 Records

The Faculty/Division must ensure a record is kept of every staff member or student (worker) who works with a scheduled carcinogenic substance at the University's workplace.

The record must contain--

- the worker's full name, staff number or student number, date of birth and current residential address
- the name of each scheduled carcinogenic substance that the worker worked with at the University's workplace
- the period of time over which the worker worked with each of the scheduled carcinogenic substances

When the work ceases with the scheduled carcinogen the Faculty/Division must:

- In the case of a staff member, provide the record to Human Resources Services (HRS) for addition to the staff member's personnel file
- In the case of a student, provide the record to Student Administration (DSA) for addition to the student's file

The records must be retained for 30 years from the date that the worker last worked with a scheduled carcinogenic substance.

HRS/DSA must give to a worker who worked with a carcinogenic substance a written statement at the time of that staff member's termination of employment or student's cessation of studies.

The written statement must contain--

- the name of any scheduled carcinogenic substance that the worker worked with
- the period of time over which the worker worked with the scheduled carcinogenic substance
- details of how and where records kept under regulation 4.2.4 of the [Occupational Health and Safety Regulations](#), may be obtained
- a statement advising the worker to have periodical health assessments and details of the types of tests that are relevant.

5 Training and Induction

The induction, information and training provided must include the following.

- Labelling of containers of carcinogen, information included on each part of the label and why the information is provided.
- How to locate and use an MSDS and the information contained in each part of the MSDS.
- The nature of the hazards and properties of the carcinogen to which staff are or may be exposed including routes of entry into the body and potential health risks.
- Work practises to be followed when using, handling, storing, cleaning up and disposing of carcinogens
- Measures used to control exposure to carcinogens including the correct use and maintenance of these controls.
- Proper use, fitting and maintenance of personal protective equipment (PPE).
- Emergency procedures, including evacuation and special decontamination procedures.
- First aid and incident reporting procedures to be followed in the case of exposure, injury or illness.
- Reasons for air monitoring (if required), type of monitoring used and how to find out the results of monitoring.
- Reasons for health surveillance (if required) and the type of surveillance used.

This training must be provided to staff, students, contractors or volunteers working with or in the proximity of carcinogens.

Refresher training is also required.

6 Safe Work Practices

Extreme care should be taken when handling these chemicals.

General Requirements:

- All persons using highly toxic chemicals should do so only with permission from the laboratory supervisor.
- Procedures for handling and safety should be reviewed by the laboratory supervisor on a regular basis to ensure that updated information is included.

Storage and Transport Requirements

- The chemicals must be stored securely in a segregated area from other general chemicals.
- All carcinogenic / toxic substances should be stored in screw cap containers or ampoules at the appropriate temperature and labelled clearly to indicate their carcinogenic risk. Information on the label should also indicate handling procedures such as wearing gloves and mask.
- During transport these chemicals must be packaged securely and sealed to prevent accidental breakage or damage.

Handling Requirements

- Suitable laboratory equipment must be used, such as centrifuges with containment covers etc.
- Work surfaces must be covered with a protective bench coat that will absorb and trap any spills of toxic or carcinogenic material. This coating must be replaced on a regular basis, and after any spill.
- All experiments involving the creation of dust, vapour or aerosols must be carried out in an appropriate containment facilities. A cytotoxic drug-handling cabinet which complies with AS 2567 should be used in cases where there is a need to maintain the sterility of the product. A standard biological cabinet must not be used as personnel who maintain these cabinets are not trained to handle carcinogenic substances.
- Where animals are being treated with carcinogenic or highly toxic materials, care must be taken that the cages, bedding, water and food waste are handled using personal protective equipment.

Personal Protection:

- All personal protective equipment should be assessed for its suitability for handling carcinogenic and toxic substances, the equipment must be non porous. Rubber, PVC or polyethylene gloves, coats and safety glasses should be worn as a minimum.
- Approved respirators should be made available to staff where required if the process cannot be adequately contained. Other control measures such as isolation of the area while work is being undertaken should also be considered.

Maintenance and Cleaning:

- Cleaning of contaminated equipment and clothing should only be undertaken by a qualified organisation with appropriate procedures for handling such contamination.

Personal Hygiene and Decontamination:

- Always wash hands thoroughly after using carcinogenic materials
- Glassware and equipment should be washed thoroughly in an appropriate chemical cleaner
- Contaminated benches should be wiped down regularly
- Any maintenance work required on equipment that has been in contact with carcinogenic or toxic materials should be conducted only after decontamination has been done

Waste Disposal

- Laboratory supervisors should be aware of Environmental, Health and Safety legislative requirements for the disposal of carcinogenic and highly toxic waste.

- Carcinogenic waste must be disposed of through University contractors, and must be stored prior to disposal in a segregated area to reduce the risk of exposure to staff.
- Waste liquids must be packaged and sealed to prevent leakage or spillage. Appropriate labels denoting the carcinogenic status of the waste must also be affixed to the packages.
- Carcasses and other solid waste should be double bagged and labelled.

Emergency Arrangements

- If a significant spill occurs, the area should be evacuated immediately. Trained personnel only should be called in to clean up the spill.
- The following procedure should be implemented in the case of an exposure to a staff member or student:
 - Report contamination immediately to the laboratory supervisor or laboratory manager
 - Report the incident after medical treatment (if required) has been administered
 - Treat skin or other contact by washing the area with cool water for at least 5 minutes
 - Check the Material Safety Data Sheet for other requirements

7 Supporting Documents

- National Health and Medical Research Council - Guidelines for laboratory personnel working with carcinogenic or highly toxic chemicals, 1990.
- WorkSafe Victoria - [Hazardous Substances - Scheduled Carcinogens](#) (licence to use, notification to use, schedule 1 & 2)
- Safe Work Australia - [Hazardous Substances Information System](#)
- Safe Work Australia - [National Model Regulations for the Control of Scheduled Carcinogenic Substances](#) [NOHSC:1011 (1995)]
- Safe Work Australia - [National Code of Practice for the Control of Scheduled Carcinogenic Substances](#) [NOHSC:2014 (1995)]
- Safe Work Australia – [Hazardous Substances Regulatory Package](#)
- Safe Work Australia – [\(Hazardous Substances\) Exposure Standards](#)

8 Auditing

Health and safety audits and inspections are a normal part regulatory enforcement and internal good practice. In an audit or inspection the following may be referenced:

- Licences
- Records on use of scheduled carcinogens
- Training records
- Risk Assessments