

## WHS OP022 Hazardous Chemical Risk Assessment Procedure

### Section 1 - Overview

- (1) This procedure outlines how UNE complies with its legal requirements under the Work Health and Safety Act 2011 and Regulation 2017 to identify hazards and control risks arising from its activities. This procedure ensures that there is a consistent approach to the assessment of risks related to hazardous chemicals across the University.
- (2) This operating procedure specifies the requirements for the completion of risk assessments specifically for hazardous chemicals, through the utilisation of WHS F020 Risk Assessment form, found on UNE [Safety Hub](#).
- (3) The objective is to ensure that where hazards exist that cannot be immediately and permanently eliminated, a risk assessment, in consultation with workers, will allow for the identification of effective controls.

### Section 2 - Scope

- (4) This procedure applies to all activities related to hazardous chemicals undertaken by UNE staff and students. Other workers such as contractors, service operators etc. may comply with their own company's risk management procedure but there must be co-operation and co-ordination between UNE and all other businesses or undertakings that are impacted.
- (5) Workers and students may be invited to participate in the completion of risk assessments and have a responsibility under the WHS Act to ensure they comply with any reasonable procedure or request made by the University in the interests of work health and safety.

### Section 3 - Procedure

- (6) The process of risk assessment should reveal hazards associated with a specific task or activity. These hazards shall be recorded as part of the risk assessment process.
- (7) Consultation in the risk assessment process shall occur where reasonably practicable, with regard to:
  - a. Identification of hazards;
  - b. Assessment of risk from the hazard;
  - c. Control of the hazard according to the hierarchy of controls; and
  - d. Monitoring and review of the hazards and the associated risk assessment.
- (8) [WHS P004 Risk Management Protocol](#) documents the University's Work Health and Safety (WHS) risk management approach. This document details the specific process of conducting a risk assessment using [WHS F020 Risk Assessment form](#).
- (9) Legislation, relevant Codes of Practice, standards, manufacturer's instructions and Safety Data Sheets (SDSs) should be consulted in the preparation of the risk assessment.
- (10) Risk management, including risk assessment/s must be completed:
  - a. Before activities using chemicals commence;
  - b. Before the introduction of new procedures, processes or equipment that use chemicals;
  - c. When procedures or processes or equipment that use chemicals are modified.
- (11) Risk assessments must include assessment of:

- a. The physicochemical properties and stability of the chemical and potential effects on the work environment, personnel or external environmental impacts;
- b. Types and quantities of waste generated and their storage, handling, treatment and disposal methods;
- c. Emergency situations which may arise from the task, procedure or equipment, e.g. from a spill, a fire or an explosion;
- d. The level of risk outside of the normal operating hours of the unit, i.e. during times when the immediate emergency response, e.g. First Aid, is limited; and
- e. Any special first-aid and health monitoring requirements.

(12) Risk assessments must be reviewed periodically, but particularly :

- a. Following an incident; or
- b. When significant changes are made to the task, procedure, or equipment that use chemicals.

### **Priorities for Undertaking Risk Assessments**

(13) Hazardous chemicals already in use will be subject to risk assessment in the following order of priority;

- a. Processes involving chemicals identified as having a high hazard rating (e.g. highly toxic, carcinogenic, highly flammable, dangerously reactive with air or water etc);
- b. The use of chemicals where large numbers of people may be exposed (e.g. undergraduate practical classes, applications to “public” spaces);
- c. The use of chemicals with a lower hazard rating by individuals or small groups;
- d. Chemicals in storage, noting that as a minimum these chemicals should be stored in accordance with relevant Australian Standards together with such additional measures required to prevent worker exposure to the chemical.

### **Risk Assessments Based on Processes**

(14) It is not possible to undertake an assessment of all chemicals in a workplace in a single instance. At the same time, it is also not practical to assess every chemical individually.

(15) If the workplace is divided into work units, tasks or processes, it is then possible to undertake risk assessments of the processes and the group of chemicals utilised in each process.

(16) Generic assessments may be undertaken for a group of processes where the chemicals involved in each process have similar levels of hazard and the processes are essentially the same (e.g. assessment of the distillation of low toxicity organic solvents).

#### **Step 1. Identify Chemicals in the Work Process**

(17) For each process, identify all the substances that are or will be used or produced in the work unit (gases, liquids, solids, mists, fumes). Next, develop a register or work-sheet of the chemicals.

(18) Obtain an SDS for each of the chemicals from Chemwatch, the supplier or equivalent source.

#### **Step 2. Determine if the Chemicals are Hazardous**

(19) In preparing the risk assessment, it will often be necessary to differentiate between the concentrated or pure chemical and the working solutions. Diluted solutions will present a

considerably reduced level of risk and in many cases they may no longer be considered to be hazardous substances. Separate assessments may be required for preparation of working solutions and the use of these solutions.

(20) Use the information from the SDS to determine the hazard (or hazards) of the substance, routes of exposure, recommended control measures and other action to prevent or minimise exposure. The nature of the hazard is unknown, it will be necessary to obtain further information from the manufacturer or supplier.

### **Step 3. Evaluate Potential for Exposure to Chemicals**

(21) One of the most effective ways of evaluating exposure is to undertake a “walk- through” survey of the process. If work with the process has not commenced the “survey” will be a desk top exercise to analyse the potential hazards, likelihood of exposure and proposed controls.

(22) In undertaking this evaluation it is necessary to:

- a. Evaluate all potentially exposed people, including maintenance staff, contractors, cleaners and emergency services;
- b. Consult with workers, e.g. they could describe what happens during such circumstances as equipment breakdown, staff shortages etc.;
- c. Look for the possibility of exposure through evidence of contamination indicated by dust accumulation, odour, visible leaks or spills, stained clothing. Determine if there is any direct contact with the substance (e.g. unprotected hands) or process steps likely to give chemical splashes. Ask for the employee’s experience or symptoms that might be related to chemical exposure.

(23) Consideration of current controls, to evaluate their effectiveness, should include:

- a. Type, effectiveness and level of maintenance of engineering controls such as enclosures and ventilation;
- b. Work practices;
- c. Personal Protective Equipment (PPE);
- d. Training of workers;
- e. Amenities (separate meal and wash facilities);
- f. Storage provisions;
- g. Housekeeping;
- h. Disposal of waste; and
- i. Emergency procedures (e.g. eyewash, shower).

### **Step 4. Evaluation of Risk**

(24) Once the risk factors have been analysed in the context of the technique or procedure being carried out, a risk assessment should be carried out to establish likely hood of exposure to risk.

(25) In order to estimate the level of risk, it is necessary to consider

- a. The nature and severity of the hazard for each chemical;
- b. The likelihood of exposure to persons in the workplace; and
- c. Whether existing controls adequately control exposure, including the probability of the failing.

### **Step 5. Applying the Hierarchy of Controls**

(26) If assessment shows there is a significant risk to health, further actions should be taken to implement appropriate control measures, provide training, and establish emergency procedures and first aid.

(27) The hierarchy of control measures is listed in the order of most to least preferred:

- a. Elimination;
- b. Substitution;
- c. Isolation or enclosure of process;
- d. Engineering methods;
- e. Administrative control; and/or
- f. Personal Protective Equipment (PPE).

(28) It should be noted that a combination of controls is often necessary.

(29) Routine checks, regular maintenance and appropriate supervision is necessary for the effectiveness of controls to be sustained.

### **Sign Off**

(30) All participants included in the completion of the risk assessment shall sign off to indicate their participation and collective agreement on the outcome of the risk assessment.

### **Review of Risk Assessment**

(31) The relevant manager shall review and sign the risk assessment and ensure control measures are reasonably practicable and implemented, specific to the work environment under their control.

### **Records**

(32) A copy of all completed [WHS F020 Risk Assessment Forms](#) shall be Trimmed as per the directions on the form, and a copy kept locally.

### **Authority and Compliance**

(33) The Procedure Administrator, pursuant to the University's Work Health and Safety Rule, makes these procedures.

(34) University Representatives and Students must observe these Procedures in relation to University matters.

(35) These Procedures operate as and from the Effective Date.

(36) Previous Procedures relating to WHS OP013 (Interim) Hazardous Chemicals Procedure are replaced and have no further operation from the Effective Date of this new Procedure.

## **Section 4 - Definitions**

(37) Effective Date means takes effect on the day on which it is published or on such later day as may be specified in the procedure.

(38) Hazard means a situation or thing that has the potential to harm a person, property or the environment.

(39) Hazardous Chemical means any substance, mixture or article that satisfies the criteria for a hazard class in the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

(40) Reasonably Practicable means to ensure health and safety that is, or was at a particular time, reasonably able to be done, taking into account and weighing up all relevant matters including:

- a. The likelihood of the hazard or the risk concerned occurring, and
- b. The degree of harm that might result from the hazard or the risk, and
- c. What the person concerned knows, or ought reasonably to know, about:
  - i. the hazard or the risk, and
  - ii. ways of eliminating or minimising the risk, and
- d. The availability and suitability of ways to eliminate or minimise the risk, and
- e. After assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

(41) Risk means the consequence and likelihood of harm occurring when exposed to the hazard.

(42) Student means an Admitted Student or an Enrolled Student, at the relevant time.

- a. Admitted student means a student who has been admitted to a UNE course of study and who is entitled to enrol in a unit of study or who has completed all of the units in the UNE course of study.
- b. Enrolled student means a student who is enrolled in a unit of study at UNE.

(43) UNE Act means the University of New England Act 1993 No 68 (NSW).

(44) University Representative means a University employee (casual, fixed term and permanent) contractor, agent, appointee, UNE Council member, adjunct, visiting academic and any other person engaged by the University to undertake some activity for or on behalf of the University. It includes corporations and other bodies falling into one or more of these categories.

(45) A Worker, as defined by the WHS Act, is a person that carries out work in any capacity for a person conducting a business or undertaking, including work as:

- a. An employee, or
- b. A contractor or subcontractor, or
- c. An employee of a contractor or subcontractor, or
- d. An employee of a labour hire company who has been assigned to work in the person's business or undertaking, or
- e. An outworker, or
- f. An apprentice or trainee, or
- g. A student gaining work experience, or
- h. A volunteer, or
- i. Person of a prescribed class.