

WHS OP036 Hazardous Chemical Health Monitoring Procedure

Section 1 - Overview

(1) The University will conduct health monitoring for all workers exposed to a hazard if there is a significant risk to their health because of that exposure, and there is a recognised means to measure the health effects of that exposure.

Section 2 - Scope

(2) The purpose of this procedure is to provide information on situations where air monitoring or health monitoring could be needed at UNE. This applies to all UNE Workers.

Section 3 - Procedure

(3) Where control of exposure is heavily reliant on PPE, strict work procedures, and work is being undertaken with chemicals of a higher hazard, health surveillance may be required to confirm the effectiveness of controls. Health surveillance will have a more important role where skin absorption is a significant route of exposure.

(4) Health surveillance includes the taking of biological samples (blood, urine or breath) or some form of physiological testing (electrocardiograms, lung function tests etc). The testing is considered invasive and should only be implemented where other measures are not effective in establishing or monitoring the level of exposure.

(5) Health surveillance of chemical users is conducted on a risk basis. Substances for which health surveillance should be provided if the risk assessment shows that the risk of exposure is significant include those stipulated in Schedule 14 of the WHS Regulation 2017 and are listed below.

- a. Acrylonitrile
- b. Arsenic
- c. Benzene
- d. Cadmium
- e. Chromium
- f. Creosote
- g. Crystalline silica
- h. Isocyanates
- i. Mercury
- j. MOCA (4,4'-Methylene bis 2-chloroaniline)
- k. Organophosphate pesticides
- l. Pentachlorophenol (PCP)
- m. Polycyclic aromatic hydrocarbons (PAH)
- n. Thallium
- o. Vinyl Chloride
- p. Lead

(6) Health monitoring should not be used as an alternative to implementation, maintenance and monitoring of control measures. Prevention of ill-health and disease through sound

engineering controls, work practices and the use of Personal Protective Equipment (PPE) is vital. The purpose of health monitoring should thus be seen as a method to ensure that control measures are effective and to provide an opportunity to reinforce specific preventative measures and safe work practices.

Air Monitoring

(7) In order to determine whether health monitoring is required for exposure to chemicals or airborne contaminants it may be necessary to first carry out air monitoring.

(8) No person at the workplace shall be exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for that substance (available [here](#)).

(9) Air monitoring must be carried out:

- a. If it is not certain on reasonable grounds whether the exposure standard is being exceeded or not, or
- b. If it is necessary to determine whether there is a risk to health.

(10) A well-functioning extraction and ventilation system will assist in keeping the airborne concentration of contaminants below exposure standards.

(11) For airborne contaminants, air monitoring may be required. This involves the sampling of workplace atmospheres to establish a quantitative measure of exposure to hazardous chemicals through inhalation. The result is then compared to the workplace exposure standards for airborne contaminants on the Safe Work Australia website [here](#). Monitoring should only be carried out by a Competent Person. The WHS team should be contacted to organise any air monitoring required.

(12) Gas monitoring may also be required if the potential for a hazardous atmosphere could exist, for example if:

- a. Oxygen levels could fall to unsafe levels (e.g. because of an asphyxiant gas leak);
- b. An oxygen leak could increase the risk of a fire;
- c. The concentration of a flammable gas (or vapour, mist or fume) exceeds 5% of the Lower Explosion Limit (LEL) for that gas;
- d. Combustible dust is present in a form and quantity that could ignite;
- e. A toxic gas could be present at levels exceeding the occupational exposure standard.

(13) In all such cases gas monitoring equipment shall be inspected, calibrated and maintained as per manufacturers requirements.

Health Monitoring

(14) Health monitoring is required if:

- a. The worker is carrying out ongoing work using hazardous chemicals listed in Schedule 14 of the WHS Regulation 2017 and there is a significant risk of exposure to the worker's health; OR
- b. The worker is carrying out ongoing work using chemicals other than those referred to in Schedule 14 where there is a significant risk of exposure and:
 - i. Valid techniques are available to detect the effect on the worker's health, or
 - ii. A valid way of determining biological exposure to the hazardous chemical is available and it is uncertain, on reasonable grounds, whether the biological exposure standard is being exceeded.

- (15) Such other chemicals which could be considered in a health monitoring program include:
- a. Chemicals which are known or presumed to be carcinogenic, mutagenic, or toxic to human reproduction;
 - b. Respiratory or skin sensitisers; and/or
 - c. Those with known severe toxic effects.

(16) Health monitoring is only required if there is significant risk of exposure. [WHS F020 Risk Assessment Form](#) should identify the nature and severity of the risk from each chemical used in a process. Other facts such as how the chemical is used, quantities used, work practices and adequacy of existing controls need to be taken into account. Air monitoring may help determine if control measures are effective.

(17) If risks are being controlled in accordance with known control measures including those mentioned on the SDS then the risk is not considered significant and health monitoring is not normally required.

(18) Significant risk could exist if exposure is high, the substance used is highly toxic or if it is reasonably foreseeable that leaks or spills could occur. Wherever the risk is deemed inadequately controlled or it is unknown or uncertain then health monitoring should be conducted.

(19) If it is uncertain whether a chemical should be included in a health monitoring program advice should be sought from an occupational hygienist or occupational physician.

(20) Health monitoring will include a baseline health screening which should be conducted before the worker begins work with a scheduled hazardous chemical. The health screening may involve collection of demographic data, previous work history and medical history. Tests may be required in some cases.

(21) After initial health monitoring, subsequent health monitoring should also be provided in the event of excessive exposure e.g. spills or loss of containment, if the worker has any concerns or symptoms that could relate to the exposure and in some cases upon cessation of work.

Authority and Compliance

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

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

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

(25) 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

(26) Competent Person means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

(27) 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.

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

(29) 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).

(30) 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

(31) 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.

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

(33) 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;
- b. A contractor or subcontractor;
- c. An employee of a contractor or subcontractor;
- d. An employee of a labour hire company who has been assigned to work in the person's business or undertaking;
- e. An outworker;
- f. An apprentice or trainee;
- g. A student gaining work experience;
- h. A volunteer; or
- i. Person of a prescribed class.