

## LEAD (Pb) RISK WORK

### Introduction

The University has a primary duty of care to ensure, so far as is reasonably practicable, that workers and other people are not subjected to risks arising from lead (Pb) exposure. Solid lead, in itself, presents little or no risk to people. However, when lead is processed in a way that produces lead dust, fumes or mist (e.g. sanding or grinding, heating lead or spraying lead-based coatings) it poses a risk to health. Even small amounts of lead and lead compounds can be toxic when ingested or inhaled. Lead has a wide range of biological effects, including on the developing foetus and young children. These effects are directly related to the concentration of lead in the affected organ systems.

UniSA must assess every lead process in our workplaces to determine if it constitutes lead risk work. If we cannot determine if a process includes lead risk work, we should accept that it does until such time as it can be proven otherwise. SafeWork SA can also decide that a process carried out at a workplace is a lead process if they are satisfied that it creates a risk to the health of a worker, having regard to blood lead levels or airborne lead levels in the workplace.

### Legislative Updates

The [Work Health and Safety \(Blood Lead Removal Levels\) Variation Regulations 2019](#) have been approved and come into operation on 1 July 2019, with a two year transitional period for the new blood lead levels. This change reduces the notification levels of the allowable blood lead levels in workplaces, as agreed nationally.

The amendments relate to blood lead levels:

- contained in the definition of 'lead risk work' under regulation 394;
- that determine the frequency that UniSA must arrange biological monitoring of workers who carry out 'lead risk work';
- that mandate a worker's immediate removal from carrying out 'lead risk work'; and
- that determine the threshold at which UniSA may allow a worker to return to 'lead risk work'.

**Lead risk work** means work carried out in a lead process that is likely to cause the blood level of a worker carrying out that work to be more than:

For the period up to and including 30 June 2021

- 10 µg/dL (0.48 µmol/L) for a female of reproductive capacity; or
- 30 µg/dL (1.45 µmol/L) in other cases.

From 1 July 2021

- 5 µg/dL (0.24 µmol/L) for a female of reproductive capacity; or
- 20 µg/dL (0.97 µmol/L) in other cases.

## Assessing the Risks

If you are working with lead and lead compounds at UniSA, you must complete a [WHS 12 Chemical Process Risk Assessment](#) to determine the level of risk and where required, obtain prior approval from the University Chemical Advisory Safety Committee by completing the [WHS 15 Chemical Hazards Application](#). If the risk assessment identifies that lead risk work will be undertaken or there is a potential for lead risk work, notify the University Chemical Safety Officer – [chemsafety@unisa.edu.au](mailto:chemsafety@unisa.edu.au) – prior to the work commencing.

UniSA must notify SafeWork SA of any [lead risk work](#) within 7 days of the risk determination or if a determination is unable to be made. This applies even if the work is short-term, such as abrasive blasting of lead paint from a structure. UniSA must also advise SafeWork SA in writing of any changes to the information provided in this notification, either before or as soon as practicable after becoming aware of the change.

## Health Monitoring

Biological health monitoring for lead is conducted by or under the supervision of a registered medical practitioner, by taking a blood sample and measuring the blood lead level. UniSA must provide biological health monitoring both before (i.e. before the worker first starts using lead), during (i.e. one month after the worker starts using lead and then at the frequency detailed below after the last biological monitoring) and after (i.e. for one month after the last use of lead) any worker starts lead risk work for the person to be carried out at the following times:

- for females not of reproductive capacity and males:
  - if the last monitoring shows a blood lead level of less than 10 µg/dL (0.48 µmol/L) - 6 months after the last biological monitoring of the worker; or
  - if the last monitoring shows a blood lead level of 10 µg/dL (0.48 µmol/L) or more but less than 20 µg/dL (0.97 µmol/L) - 3 months after the last biological monitoring of the worker; or
  - if the last monitoring shows a blood lead level of 20 µg/dL (0.97 µmol/L) or more - 6 weeks after the last biological monitoring of the worker;
- for females of reproductive capacity:
  - if the last monitoring shows a blood lead level of less than 5 µg/dL (0.24 µmol/L) - 3 months after the last biological monitoring of the worker; or
  - if the last monitoring shows a blood lead level of 5 µg/dL (0.24 µmol/L) or more - 6 weeks after the last biological monitoring of the worker.

Health monitoring can be used to help identify whether existing control measures are working effectively or whether more effective control measures should be implemented. Health monitoring must never be used as an alternative to putting in place effective control measures.

## Air Monitoring

UniSA must ensure that a worker is not exposed to concentrations of airborne chemicals above the workplace exposure standard. The workplace exposure standard for inorganic lead (eight hour time-weighted average) is 0.05 mg/m<sup>3</sup>. To comply, UniSA shall monitor workers' exposure to airborne lead if:

- there is uncertainty whether or not the exposure standard has been or may be exceeded; or
- it is necessary to work out whether there is a risk to health.

## How to Avoid Lead Exposure

Some of the ways to avoid exposure to lead include the following:

- Wear protective clothing like overalls, disposable overshoes, hat and gloves;
- Do not use practices that produce dust clouds containing lead (e.g. dry sweeping, using compressed air to clean areas contaminated with lead, using ordinary vacuum cleaners without HEPA filters);
- Wear a particulate respirator designed in accordance with AS/NZS 1716 Respiratory Protective Devices;
- Make sure the respirator fits and seals the face. To seal properly, the face must be cleanly shaven. If you have a beard, you should wear a powered air-purifying respirator fitted with P2 or P3 filters;
- Store the respirator face down, in a sealed container away from the hazard source when not in use and check that the respirator is free of dust inside, all valves are in good condition and correct filters are fitted and in good condition before use;
- Leave the respirator on until the protective clothing has been removed;
- Change laboratory coats, coveralls or overshoes before leaving the work area to avoid contaminating other areas. Do not take lead contaminated clothing home for laundering;
- Do not eat or drink in a lead-risk work area;
- Use nailbrushes to wash hands, and wash face thoroughly before leaving a lead-risk work area;
- Shower and wash hair as soon as possible after finishing work; and
- Have your blood lead levels checked by a registered medical practitioner with experience in health monitoring, if there is a potential for you to be undertaking lead risk work.

## Removing a Worker from Lead Risk Work

UniSA must remove a worker from carrying out lead risk work as a result of health monitoring, arrange for the worker to be medically examined within seven days of removal and notify SafeWork SA if:

- for the period up to and including 30 June 2021, the worker's blood lead level is, or is more than:
  - 50 µg/dL (2.42 µmol/L) for females not of reproductive capacity and males;
  - 20 µg/dL (0.97 µmol/L) for females of reproductive capacity;
  - 15 µg/dL (0.72 µmol/L) for females who are pregnant or breastfeeding;
- from 1 July 2021, the worker's blood lead level is, or is more than:
  - 30 µg/dL (1.45 µmol/L) for females not of reproductive capacity and males;
  - 10 µg/dL (0.48 µmol/L) for females of reproductive capacity;
- the registered medical practitioner who supervised the monitoring recommends that the worker be removed from carrying out the work; and/or
- there is an indication that a risk control measure has failed, and as a result, the worker's blood lead level is likely to reach the point where they would be removed from carrying out lead risk work.

If the medical practitioner supervising the health monitoring recommends it, a worker must also be removed from lead risk work regardless of the blood lead level.

The worker may only return to lead risk work if the medical practitioner is satisfied that the worker is fit to return and the worker's blood lead level is less than:

- 20 µg/dL (0.97 µmol/L) for females not of reproductive capacity and males; or
- 5 µg/dL (0.24 µmol/L) for females of reproductive capacity.

### Record keeping

All records, including notifications to SafeWork SA and health monitoring records, shall be managed in consultation with the University Chemical Safety Officer – [chemsafety@unisa.edu.au](mailto:chemsafety@unisa.edu.au)

If lead risk work is carried out at your workplace, you must:

- keep a copy of the notification UniSA provided to SafeWork SA for the period that the lead risk work is carried out;
- ensure a copy of the notification is readily accessible to a worker who is likely to be exposed to lead, as well as their health and safety representative;
- keep a copy of worker's health monitoring reports for at least 30 years;
- ensure the risk assessment is kept for the period that the lead risk work is carried out, and/or for a period of 2 years after any incidents; and
- keep a copy of air monitoring for a minimum of 30 years and ensure the records are made available to workers who are exposed.

### References

[Work Health and Safety \(Blood Lead Removal Levels\) Variation Regulations 2019](#)

[Work Health and Safety Regulations 2012](#)

[Safe Management of Chemicals Procedure](#)