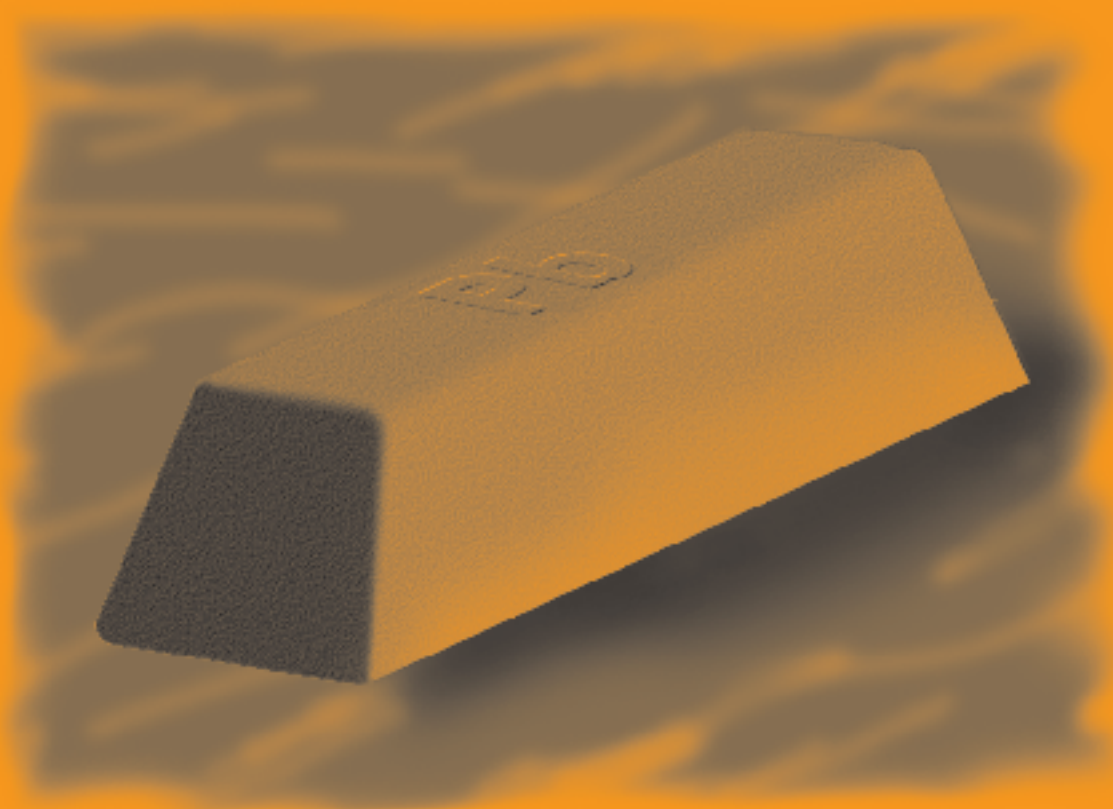


WORKING WITH LEAD AND PRODUCTS CONTAINING LEAD



Introduction

This information is for guidance only and is not to be taken as an expression of the law. It should be read in conjunction with the *Workplace Health and Safety Act 1995*, the *Workplace Health and Safety Regulations 1998* and any other relevant legislation. Copies of the legislation can be purchased from Print Applied Technology: call (03) 6233 3289 or freecall 1800 030 940. It is also available on the Internet at www.thelaw.tas.gov.au

For further guidance, please also refer to:

- *National Standard for the Control of Inorganic Lead at Work* — sets out the requirements that apply to controlling inorganic lead in workplaces (but not inorganic lead compounds). Available at www.ascc.gov.au
- *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work* — provides practical guidance on complying with national standards; can be used to develop specific programs for controlling exposure to lead. Available at www.ascc.gov.au

These are referred to throughout this guide.

This guide was produced by staff from WorkCover Tasmania and Workplace Standards Tasmania.

We welcome your feedback on this guide. Send to: wstinfo@justice.tas.gov.au

Uses of lead and products containing lead

Lead is used in the form of the pure metal, alloys and compounds. Exposure to lead can occur in a variety of industries where lead fumes or dust are generated by means of heating, mechanical working or handling metal or any of its by-products.

Some of the industries and work tasks where exposure to lead may be significant are:

- radiator repair industry
- lead smelting
- lead-acid battery industry, including the recycling of old batteries
- glass and ceramic industries
- printing, publishing and allied industries
- cable making
- vinyl manufacturing
- lead lighting
- painting
- petroleum industry
- assaying.

Other sources of exposure to lead include:

- foil on wine bottle caps
- home smelting lead shot and bullets
- fishing sinkers and lures
- foreign cold medicines
- foreign cosmetics
- shooting ranges.

How does lead poisoning occur?

Lead is a hazardous substance that can build up in your body and cause many health problems (see *What are the effects of lead poisoning?* below).

Lead poisoning is caused by lead dust or the fume of lead or its compounds entering the body.

This occurs most commonly by:

- breathing in lead dust or fume
- swallowing food contaminated by lead
- smoking with lead-contaminated fingers.

A special type of organic lead used in super-grade petrol can be absorbed through the skin if a person cleans the residue sludge from large storage tanks without approved protection and using appropriate work practices.

Most lead is lost from the body through the urine. However, some loss occurs in gastrointestinal secretion, the hair and perspiration.

What are the affects of lead poisoning?

Lead poisoning causes early general symptoms such as headache, tiredness, fatigue and loss of appetite. Sleep disturbances, dyspepsia, constipation and a metallic taste in the mouth may occur. As the poisoning gets worse there may be abdominal discomfort, vomiting, colic, muscle pain and weakness, and mental disturbances. It can also cause anaemia, disorders of the nervous system, hypertension, and decreased fertility.

Lead poisoning in young children can produce permanent brain damage and may cause reduced intelligence and behavioral problems.

Lead poisoning is a particular issue for pregnant women as the lead in the mother's blood affects the developing foetus.

Consult your doctor for more information.

Minimising the absorption of lead and preventing lead poisoning

Lead poisoning can be prevented by following workplace health and safety legislative requirements, and paying particular attention to the work environment, appropriate work practices, cleanliness and health surveillance.

Controlling lead exposure should be achieved through applying the hierarchy of hazard control measures: that is, elimination, substitution, isolation, engineering control measures, adoption of safe work practices, administrative control measures and lastly, suitable, approved personal protective equipment where other effective means of controlling lead exposure are not practicable.

For guidance on working through this hierarchy of control, read *Hazard management: Play it SAFE* (GBo81). For your free copy, call the Helpline on 1300 366 322 or go to www.workcover.tas.gov.au and search for GBo81.

Work environment

- Adopt wet work methods where appropriate, using suitable cleaning regimes as detailed in the National Code of Practice (for example, clean floors and workbenches at least once a day; wash and clean facilities used for eating, drinking, washing and changing at least once a day).
- Install and maintain appropriate ventilation systems and other forms of engineering control if exposure to lead dust or fume is likely to be significant.
- Washing and changing facilities should meet a high standard of personal hygiene. See the National Standard for specific requirements for Schedule 1 and Schedule 2 processes. Arrangements should be made for outside visitors or contractors who may be exposed to lead.

Work practices

- Employers should maintain a register for all lead-containing hazardous substances used in the workplace.
- Employers should provide induction, training and information to each worker likely to be exposed to lead, before starting work and at least annually thereafter.
- Employers should provide regularly reviewed safe work procedures.

Atmospheric monitoring and health surveillance

- Regular atmospheric monitoring of the workplace may be required. If the amount of lead in air is above the exposure standard (0.15 milligrams per cubic metre), exposure will be deemed to be significant and control measures should be reviewed.
- A health surveillance program is required for workers in lead-risk jobs (see below). Employers shall provide biological monitoring (blood lead levels) of a worker who starts work in a lead-risk job within their first month of being engaged; again two months later; and again six months from their start of work in a lead-risk job. Further biological monitoring at six month, three month and six week intervals shall be determined by the latest blood lead levels. See the National Standard for details.
- Employers must maintain a health register of everyone engaged in a lead process.
- A female worker who knows they are pregnant or who is breast feeding should advise their employer as soon as practicable. People under the age of 16 should not be employed in lead processes.
- Carry out the four SAFE steps of hazard management: spot the hazard, assess the risk, fix the problem, and evaluate the results. For more information on this, read *Hazard management: Play it SAFE* (GBo81). For your free copy, call the Helpline on 1300 366 322 or go to www.workcover.tas.gov.au and search for GBo81.

What is a lead-risk job?

A lead-risk job means a work activity or sequence of activities at specified workstations within the workplace, in which the blood lead level of the worker might reasonably be expected to rise, or does rise, above 1.45 micromol per litre (30 micrograms per decilitre) or the removal level as set out in the standard, whichever is the lower.

Personal protective equipment

- Wear properly selected protective clothing, including approved safety glasses or goggles and gloves.
- Use properly selected respiratory protective equipment. Selecting, using and maintaining these should be based upon recommendations in the Australian Standard AS/NZS 1715:1994 *Selection, use and maintenance of respiratory protective devices*.
- Remove contaminated protective clothing and respiratory protective equipment before leaving the work area.
- Protective equipment and clothing should be suitably cleaned and maintained in functional order.

Personal hygiene

- Do not smoke when working with lead/lead products
- Wash your hands thoroughly before eating, drinking or smoking
- Do not eat in lead-contaminated areas.

What happens if my blood lead level is excessive?

Your employer must remove you from a lead-risk job if your blood lead level reaches or exceeds:

- 2.41 micromoles per litre
- 0.97 micromoles per litre for women of reproductive capacity
- 0.72 micromoles per litre for women who are pregnant or breast feeding.

You must also be removed from a lead-risk job when:

- a medical practitioner recommends it
- there is a belief that controls have failed and it is likely that your blood lead level will reach or exceed removal levels.

Your employer must move you to a job that is not a lead-risk job until you can return to your original job; that is, when you have been re-examined by a medical practitioner who certifies you are fit to return to work, and when your blood lead level is less than:

- 1.93 micromoles per litre
- 0.48 micromoles per litre for women of reproductive capacity.

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