

TIP sheet

Lead

T021 – APRIL 2008



RTA minimum requirements

Managers and Supervisors must implement measures to control and/or minimise the health and safety risks associated with molten lead, lead dust and fume in the workplace.

Regarding lead, all RTA worksites shall ensure that:

- Contamination is contained within the lead process work area and there is no contamination of the surrounding environment.
- The process area is kept as clean as possible.
- Compressed air, compressed gas or dry sweeping cleaning methods are not used in the lead process area.
- No one eats, drinks, chews gum, smokes or carries smoking equipment in the lead process area.
- Eating and drinking facilities at the workplace are not contaminated with lead.
- Appropriate PPE is worn in the lead process area.
- Appropriate changing rooms and washing, showering and toilet facilities are provided and maintained in good working order.
- Employees remove contaminated clothing & equipment, & wash their hands & faces before entering eating and drinking facilities.
- Protective clothing that may have been contaminated by lead is effectively laundered.
- Risk Assess lead exposure to personnel and record.
- Measures to control exposure to lead are implemented.
- Written Safe Work Method Statements (SWMS) for all tasks involving significant exposure risk to lead fume & dust are developed.
- Emergency procedures to prevent and contain risks of lead exposure are developed.
- All staff and contractors who may interact with lead are trained in the nature of the hazards involved, the means adopted to control exposure, and emergency procedures in place.
- Appropriate medical surveillance is undertaken on staff that may be at risk of health effects arising from exposure to lead at work.
- Pregnant staff shall not undertake work that is the subject of this TIP Sheet.

There are a number of hazards that potentially pose a risk to the health and safety of employees, the public and others working nearby that are associated with working with lead. The consequences of overexposure can be severe neurological damage and joint and muscle damage.

Lead is absorbed into the body through ingestion, inhalation, through the skin or mucous membrane, or by other means (e.g. injection or open wound).

Lead can also contaminate the environment and affect water sources, grazing stock and other animals, fish and aquatic species.

Risk assessment

Lead is a hazardous substance under the NOHSC classification. The risk assessment of tasks involving working with lead shall comply with the RTA Risk Management Procedure & also include consideration of any potential exposure of other persons and the public by RTA tasks involving lead.

The purpose of a risk assessment is to determine and implement appropriate control measures, induction and training, monitoring and health surveillance.

Control the risk

The most effective method is to eliminate the need to use or work with lead.

If this is not possible, then reduce (minimise) the risk by working down the following hierarchy of control:

1. Substitute for a less harmful substance.
2. Isolate / contain work area. All lead work should be carried out in restricted area. Set up and enforce containment system.
3. Use engineering controls, such as appropriate ventilation systems.
4. Implement administrative controls, such as safe work methods (SWMS), and rotate staff where practical to reduce the exposure time.
5. Use PPE as defined in the risk assessment.

Using more than one of these controls in combination is usually necessary.

Competency based training

Employees working with molten lead, lead fume or lead dust must be trained in ways to control exposure to themselves, others and the environment from lead. Training is to be recorded and include:

- Handling requirements.
- Ventilation and other control devices, and their use.
- PPE use, care, maintenance and storage.
- Refresher training every 2 years.

Health surveillance

RTA must provide biological monitoring of blood lead levels and ongoing health surveillance for workers at significant risk from lead work process.

Such surveillance shall be performed under the supervision of an authorised medical practitioner with the worker removed from lead work if blood lead levels reach 2.41 mmol/L.

Environmental monitoring should also be completed to assess emission control systems and emission monitoring.

Review

Risk Assessments, SWMS, and work procedures must be reviewed & revised when there is evidence that:

- The original assessment is no longer valid or older than 3 years.
- A new lead source is identified.
- Overexposure to lead has occurred.
- New equipment or new work practices involving lead are proposed.

- A significant change is proposed at the place of work, or in work practices or procedures to which the assessment relates.

Record keeping

Lead processes involving the emission of dust or fume must be documented in the hazardous substance register.

Adequate records of any health surveillance and monitoring must also be kept.

Records of employee's health surveillance and monitoring must be kept.

Records of employees who have been removed from lead risk work must be kept for at least 5 years.

The results of any testing must be kept confidential.

WorkCover must be notified of lead risk work at least 60 days before the works begins, unless a shorter notice period has been agreed to by WorkCover.

Housekeeping and personal hygiene

All persons involved in lead work shall:

- Not smoke, eat or drink in a lead work area.
- Not wear contaminated clothing or equipment out of work area.
- Wash hands, face and forearms on leaving lead work area and before smoking, eating or drinking.
- Shower before leaving site.
- Not bring any contaminated equipment or clothing into lunch areas.
- Undertake all 'lead tasks' in a restricted area.
- Store non-work clothes separately from work clothes.

- Wear respiratory protection, disposable overalls, gloves, work boots and head covering when working with lead.

In the event of an emergency

An emergency response plan should be prepared in consultation with the workers at the workplace and emergency service agencies where appropriate. Information to address an emergency response plan can be found in the MSDS.

Personal Protective Equipment

For work involving molten lead, dust or fume, the risk assessment shall identify the PPE required. This can include clothing (overalls, gloves, hats, boot covers, and goggles where half-face respirators are being used. Respiratory equipment with HEPA filters or blast helmet shall also be used.

As with all PPE the correct selection, use, maintenance, repair and cleaning procedures should be adhered to at all times.

References

NSW OHS Act 2000 & OHS Regulation 2001 Part7.6, lead processes and lead risk work, clauses 199-204; Part 6.4, use of hazardous substances; Part 12.3, notification of proposed work.

WorkCover Code of Practice for the Control of Workplace Hazardous Substances (2006).

WorkCover Code of Practice Storage and Handling of Dangerous Goods (2005).

AS/NZS 1216 Class labels for Dangerous Goods.

AS 1470 Health and safety at work – Principles and Practice.

AS/NZS 4681 The Storage and Handling of Class 9 (misc) Dangerous Goods and Articles.

RTA Hazardous Substances Policy 2.13.

RTA Risk Management Policy 2.0

RTA OHS Policy PPE 4.0

Exposure means the absorption or potential absorption by a person of a substance, by ingestion, inhalation, through the skin or mucous membrane, or by other means (e.g. injection or open wound).