

PART 4.4—LEAD

Division 1—Introductory matters

4.4.1 Application of Part

This Part applies to workplaces where a lead process is undertaken.

Note

Part 4.1 (Hazardous Substances) also imposes duties on employers in relation to labelling and Material Safety Data Sheets.

4.4.2 What is a lead process?

A lead process consists of one or more of the following—

- (a) work that exposes a person to lead dust or lead fumes arising from the manufacture or handling of dry lead compounds;
- (b) work in connection with the manufacture, assembly, handling or repair of, or parts of, batteries containing lead that involves the manipulation of dry lead compounds or the pasting or casting of lead;
- (c) breaking up or dismantling of batteries containing lead, or sorting, packing and handling of plates or other parts containing lead removed or recovered from those batteries;
- (d) spraying with molten lead metal or alloys containing greater than 5% by weight of lead metal;

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- (e) melting or casting of lead alloys containing greater than 5% by weight of lead metal in which the temperature of the molten material exceeds 450°C;
- (f) recovery of lead from its ores, oxides or other compounds by a thermal reduction process;
- (g) dry machine grinding, discing, buffing or cutting by power tools of lead containing greater than 5% by weight of lead metal;
- (h) machine sanding or buffing of surfaces coated with paint containing greater than 1% by dry weight of lead metal;
- (i) a process in which electric arc, oxyacetylene, oxy gas, plasma arc or a flame is applied, for the purposes of welding, cutting or cleaning, to the surface of metal that is coated with lead or paint containing greater

- than 1% by dry weight of lead metal;
- (j) radiator repairs if exposure to lead dust or lead fumes may occur;
- (k) fire assays, if lead is used;
- (l) hand grinding and finishing of lead or alloy containing greater than 50% by weight of lead metal;
- (m) spray painting with lead paint containing greater than 1% by dry weight of elemental lead;
- (n) melting of lead metal or alloy containing greater than 50% by weight of lead metal if the exposed surface area of the molten material is greater than 0·1 square metre and the temperature of the molten material does not exceed 450°C;

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- (o) use of a power tool, including abrasive blasting and high pressure water jets, to remove any surface coated with paint containing greater than 1% by dry weight of lead metal and the handling of waste containing lead resulting from that removal;
- (p) a process that exposes a person to lead dust or lead fumes arising from the manufacture or testing of detonators or other explosives that contain lead;
- (q) a process that exposes a person to lead dust or lead fumes arising from the firing of weapons at an indoor firing range;
- (r) foundry processes involving—
 - (i) the melting or casting of lead alloys containing greater than 1% by weight of lead metal in which the temperature of the molten material exceeds 450°C;
 - or
 - (ii) the dry machine grinding, discing, buffing or cutting by power tools of lead alloys containing greater than 1% by weight of lead metal;
- (s) a process at a workplace determined by the Authority to be a lead process in accordance with regulation 4.4.4.

4.4.3 Females taken to be of reproductive capacity

For the purposes of this Part, a female employee working in a lead process is to be treated as being of reproductive capacity, unless she provides her employer with a written statement advising the contrary.

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4.4.4 Authority may determine lead process

(1) The Authority may determine a process to be a lead process.

(2) The Authority must not determine a process to be a lead process unless the Authority believes the health of employees at a workplace where the process is to be carried out is at risk when blood lead levels of employees or airborne lead levels at the workplace are taken into account.

4.4.5 Medical examinations and biological monitoring

(1) In this Part, a requirement for a medical examination of a person is a requirement for a medical examination of the person to be conducted by a registered medical practitioner to monitor the person's health for the purpose of identifying changes in the person's health status due to occupational exposure to lead.

(2) In this Part, a requirement for biological monitoring of a person is a requirement for biological monitoring that consists of the testing of the venous blood of the person by a pathology service accredited by NATA under the supervision of a registered medical practitioner to determine the amount of lead in the blood corrected to a haematocrit of 0.45 (45%) for males and a haematocrit of 0.42 (42%) for females.

Division 2—Duties of employer

Subdivision 1—Provision of information

4.4.6 Information to job applicants

An employer must provide an applicant who applies for employment with the employer in a lead process with information about the health risks and toxic effects associated with lead

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exposure and the need for, and content of, medical examinations and biological monitoring.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

4.4.7 Information to employees

Before an employee first starts work in a lead process over which an employer has control, the employer must provide the employee with information in relation to the need for, and details of, medical examinations and biological monitoring.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

Subdivision 2—Control of risks associated with lead processes

4.4.8 Control of risk

(1) An employer must eliminate, so far as is reasonably practicable, any risk associated with exposure to lead.

(2) If it is not reasonably practicable for an employer to ensure that a risk associated with exposure to lead is eliminated, the employer must reduce that the risk so far as is reasonably practicable by—

(a) substituting lead with—

(i) a substance that is less hazardous; or

(ii) a less hazardous form of lead; or

(b) isolating employees from the source of exposure to lead; or

(c) using engineering controls to prevent or reduce employee exposure to lead; or

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(d) combining any of the risk control measures in paragraphs (a), (b) and (c).

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

(3) If an employer has complied with subregulations (1) and (2) so far as is reasonably practicable and a risk associated with exposure to lead remains, the employer must, so far as is reasonably practicable, use administrative controls to prevent or minimise exposure to lead.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

(4) If an employer has complied with subregulations (1), (2) and (3) so far as is reasonably practicable and a risk associated with exposure to lead remains, the employer must reduce the risk by providing appropriate personal protective equipment that is suitable for the task to employees at risk.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

4.4.9 Review of risk control measures

(1) An employer must ensure that any measures implemented to control risks to health from exposure to lead are reviewed and, if necessary, revised—

(a) before any significant change is made to the lead process or a system of work that is related to the lead process; or

(b) if an employee has been removed from a

lead-risk job under regulation 4.4.23; or
(c) after any incident occurs to which Part 5 of the Act applies that involves exposure to lead; or

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(d) if, for any other reason, the risk control measures do not adequately control the risks;

or

(e) after receiving a request from a health and safety representative.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

(2) A health and safety representative may make a request under subregulation (1)(e) if the health and safety representative believes on reasonable grounds that—

(a) any of the circumstances referred to in subregulations (1)(a) to (1)(d) exists; or

(b) the employer has failed—

(i) to properly review risk control measures; or

(ii) to take account of any of the circumstances in subregulations (1)(a) to (1)(d) in conducting a review of, or revising, the risk control measures.

4.4.10 Lead exposure standard not to be exceeded

(1) An employer must ensure that an employee is not exposed to an airborne concentration of lead dust, lead mist or lead fumes in that person's breathing zone at a workplace that exceeds 0.15 milligrams per cubic metre calculated as a time weighted average of the atmospheric concentration of lead over an 8 hour working day and a 40 hour working week.

Note

Act compliance—section 21 (see regulation 1.1.7).

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(2) An employer must ensure that monitoring of the airborne concentration of lead dust, lead mist or lead fumes at the employer's workplace is carried out if—

(a) there is uncertainty (based on reasonable grounds) as to whether the lead exposure standard is or may be exceeded; or

(b) the monitoring is necessary to determine whether there is a risk to health.

Note

Act compliance—section 22(1) (see regulation 1.1.7).

4.4.11 Provision of results of monitoring

An employer must provide the results of any monitoring of the airborne concentration of lead dust, lead mist or lead fumes at the employer's workplace as soon as is reasonably practicable to any employee who has been, or may be, exposed to the lead dust, lead mist or lead fumes.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

4.4.12 Containment of lead

An employer must ensure that any contamination by lead is confined, so far as is reasonably practicable, to an area where a lead process is carried out.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

4.4.13 Cleaning methods

(1) An employer must, so far as is reasonably practicable, ensure that an area where a lead process is carried out is kept clean.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

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(2) An employer must, so far as is reasonably practicable, ensure that the methods used to clean in an area where a lead process is carried out—

(a) do not create a risk to the health of people in the immediate vicinity of the area being cleaned; and

(b) do not have the potential to spread the contamination of lead.

Note

Act compliance—sections 21 and 23 (see regulation 1.1.7).

4.4.14 Prohibition on eating, drinking and smoking

(1) An employer must ensure that a person does not eat, drink, chew gum, smoke or carry materials used for smoking in any area where a lead process is carried out.

Penalty: 100 penalty units for a natural person;
500 penalty units for a body corporate.

(2) An employer must provide employees with an eating and drinking area that, so far as is reasonably practicable, cannot be contaminated with lead from any lead process.

Penalty: 100 penalty units for a natural person;
500 penalty units for a body corporate.

4.4.15 Provision of changing and washing facilities

An employer must, so far as is reasonably

practicable, provide and maintain changing and washing facilities for employees so as to—

- (a) minimise secondary lead exposure from contaminated clothing; and
- (b) minimise ingestion of lead; and

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(c) avoid the spread of lead contamination.

Penalty: 100 penalty units for a natural person;

500 penalty units for a body corporate.

4.4.16 Laundering, disposal and removal of protective clothing

(1) An employer must provide for the laundering or disposal of protective clothing and work clothing if it is likely that the clothing is contaminated with lead dust.

Penalty: 100 penalty units for a natural person;

500 penalty units for a body corporate.

(2) The employer must ensure a person does not remove clothing required to be laundered or disposed of under subregulation (1) from the workplace, except to transfer the clothing to a commercial laundry or for disposal.

Penalty: 100 penalty units for a natural person;

500 penalty units for a body corporate.

(3) The employer must ensure that clothing to be laundered or disposed of under subregulation (1), is bagged and labelled to identify the contents.

Penalty: 100 penalty units for a natural person;

500 penalty units for a body corporate.

Subdivision 3—Lead-risk jobs

4.4.17 What is a lead-risk job?

A lead-risk job means a job that involves work in a lead process in which the blood lead level of the employee is reasonably likely to exceed—

(a) 1·45 µmol/L; or

(b) 0·48 µmol/L for female employees of reproductive capacity.

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4.4.18 Identification of lead-risk jobs

(1) An employer must identify a lead process as either—

(a) reasonably likely to lead to blood lead levels of employees greater than those set out in regulation 4.4.17; or

(b) not reasonably likely to lead to blood lead levels of employees greater than those set out

in regulation 4.4.17.

Note

Act compliance—section 21 (see regulation 1.1.7).

(2) For the purposes of subregulation (1), the employer must take into account the following factors—

- (a) past biological monitoring results of employees;
- (b) whether the airborne lead level is greater than half the lead exposure standard;
- (c) the form of lead to be used;
- (d) the specific tasks or processes required to be undertaken with the lead;
- (e) the likely frequency and duration of exposure to lead;
- (f) possible routes of exposure to lead;
- (g) any information regarding incidents, illnesses or diseases associated with the use of lead at the workplace.

(3) For the purpose of identifying a lead process under subregulation (1), an employer must not have regard to the effect of the use of respiratory protection to control exposure to lead.

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(4) If, an employer is unable to identify whether or not a lead process falls within subregulation (1)(a) or (1)(b), that process is to be treated as being likely to lead to blood lead levels of employees greater than those set out in regulation 4.4.17 until the employer establishes otherwise.

4.4.19 Notification and recording of a lead-risk job

(1) If an employer identifies a lead process that is likely to lead to blood lead levels of employees greater than those set out in regulation 4.4.17, the employer must notify the Authority of the identification in writing within 7 days after making that identification.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(2) A notification under subregulation (1) must include a reference to the type of lead process being undertaken.

(3) The employer must retain a copy of the notification under subregulation (1) for the period that the lead process is conducted at the workplace.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(4) The employer must make a copy or record of the

notification readily accessible to an employee who has the potential to be exposed to lead and the employee's relevant health and safety representative for the period that the lead process is conducted at the workplace.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

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4.4.20 Health surveillance before first starting lead-risk job

(1) An employer must arrange for a medical examination for an employee and biological monitoring of an employee before the employee first starts work in a lead-risk job.

Notes

1 Act compliance—section 22(1) (see regulation 1.1.7).

2 See regulation 4.4.5.

(2) An employer must arrange for the biological monitoring of an employee within one month after the employee starts work in a lead-risk job.

Notes

1 Act compliance—section 22(1) (see regulation 1.1.7).

2 See regulation 4.4.5.

(3) In this regulation the duties of an employer in relation to medical examination and biological monitoring extend to an independent contractor.

Note

Act compliance—section 23 (see regulation 1.1.7).

4.4.21 Health surveillance for jobs subsequently identified as lead-risk job

(1) An employer must, as soon as reasonably possible after a job is identified as a lead-risk job, arrange for a registered medical practitioner to conduct a medical examination and biological monitoring of an employee in that job if—

(a) the job was not identified as a lead-risk job at the time the employee started working in that job; and

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(b) after the employee started working in that job, the job is identified as a lead-risk job; and

(c) the employer had not, before the identification of the job as a lead-risk job, provided for a medical examination or biological monitoring of that employee.

Notes

1 Act compliance—section 22(1) (see regulation 1.1.7).

2 See regulation 4.4.5.

(2) In this regulation the duties of an employer in relation to medical examination and biological monitoring extend to an independent contractor.

Note

Act compliance—section 23 (see regulation 1.1.7).

4.4.22 Frequency of biological monitoring

(1) An employer must arrange for biological monitoring under the supervision of a registered medical practitioner of all employees in a leadrisk job at the following intervals—

(a) for females not of reproductive capacity and males—

(i) 6 months after the last biological monitoring if the result of that last monitoring shows a blood lead level

result of less than $1 \cdot 45 \mu\text{mol/L}$; or

(ii) 3 months after the last biological

monitoring if the result of that last monitoring shows a blood lead level of

$1 \cdot 45 \mu\text{mol/L}$ or more but less than

$1 \cdot 93 \mu\text{mol/L}$; or

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(iii) 6 weeks after the last biological monitoring if the result of the last

monitoring shows a blood lead level of

$1 \cdot 93 \mu\text{mol/L}$ or more;

(b) for females of reproductive capacity—

(i) 3 months after the last biological

monitoring if the result of that last monitoring shows a blood lead level of

less than $0 \cdot 48 \mu\text{mol/L}$; or

(ii) 6 weeks after the last biological

monitoring if the result of that last

monitoring shows a blood lead level

result of $0 \cdot 48 \mu\text{mol/L}$ or more.

Notes

1 Act compliance—section 22(1) (see regulation 1.1.7).

2 See regulation 4.4.5.

(2) An employer must increase the frequency of biological monitoring if the employee is carrying out an activity that is likely to significantly change the nature or increase the duration or frequency of the employee's lead exposure.

Note

Act compliance—section 22(1) (see regulation 1.1.7).

(3) The Authority may determine a different frequency for biological monitoring for a workplace or for a class of employees undertaking

a lead-risk job, having regard to—
(a) the nature of the work and likely duration and frequency of exposure; and
(b) the likelihood that the blood lead level of employees will significantly increase.

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(4) If the Authority makes a determination under subregulation (3), and the determination applies to an employer's workplace or employees, the employer must provide the biological monitoring required by subregulation (1) in relation to the workplace or employees at the frequency specified in the determination.

Note

Act compliance—section 22(1) (see regulation 1.1.7).

(5) In this regulation the duties of an employer in relation to biological monitoring extend to an independent contractor.

Note

Act compliance—section 23 (see regulation 1.1.7).

4.4.23 Removal from lead-risk job

(1) An employer must immediately remove an employee from a lead-risk job if—

(a) the results of biological monitoring reveal that the blood lead level of the employee is at or above—

(i) 2·41 $\mu\text{mol/L}$ —for females not of reproductive capacity and males;

(ii) 0·97 $\mu\text{mol/L}$ —for females of reproductive capacity;

(iii) 0·72 $\mu\text{mol/L}$ —for females who are pregnant or breast feeding; or

(b) following a medical examination by a registered medical practitioner, that practitioner is of the opinion that the employee must be removed from that job; or

(c) there is an indication that risk control measures in place have failed and as a result, it is likely that the blood lead level of the

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employee will reach or exceed the removal levels set out in paragraph (a).

Note

Act compliance—section 21 (see regulation 1.1.7).

(2) In this regulation the duties of an employer in relation to removal of an employee from a lead-risk job extend to an independent contractor.

Note

Act compliance—section 23 (see regulation 1.1.7).

4.4.24 Medical examination if removed from lead-risk job

(1) If a person has been removed from a lead-risk job as a result of regulation 4.4.23(1)(a) or 4.4.23(1)(c), the employer must provide for the person to have a medical examination by a registered medical practitioner within 7 days after that removal.

Note

Act compliance—section 22(1) (see regulation 1.1.7).

(2) If a medical examination of a person removed as a result of regulation 4.4.23(1)(c) reveals that the blood lead level of the employee is below the levels set out in regulation 4.4.23(1)(a), and the medical practitioner agrees, the employer may allow the person to return to the lead-risk job.

4.4.25 Return after medical removal

(1) This regulation only applies if an employer expects that an employee will return to a lead-risk job after removal from that job.

(2) An employer must arrange for an employee who has been removed from a lead-risk job in accordance with regulation 4.4.23(1)(a) or 4.4.23(1)(b) to be re-examined by a registered medical practitioner, at a frequency determined by the registered medical practitioner, to determine

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whether the employee is suitable to return to a lead-risk job.

Note

Act compliance—section 22(1) (see regulation 1.1.7).

(3) The employer must ensure that the employee does not return to a lead-risk job until—

(a) the employee's blood lead level is less than—

(i) 1·93 $\mu\text{mol/L}$ —for females not of reproductive capacity and males;

(ii) 0·48 $\mu\text{mol/L}$ —for females of reproductive capacity; and

(b) a registered medical practitioner certifies that the employee is fit to return to the lead-risk job.

Note

Act compliance—section 21 (see regulation 1.1.7).

(4) In this regulation the duties of an employer in relation to an employee return to work after removal from a lead-risk job extend to an independent contractor.

Note

Act compliance—section 23 (see regulation 1.1.7).

4.4.26 Requirements for medical examinations

(1) An employer must provide a registered medical practitioner who is to conduct a medical examination of a person required by this Part with details of—

- (a) the name and address of the employer;
- (b) the name and date of birth of the person to be examined;

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- (c) the lead process the person is engaged in;
- (d) the period the person has been engaged in that process.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(2) The employer must ensure that the registered medical practitioner provides the employer with a report setting out details of—

- (a) the dates of examinations and blood sampling; and
- (b) the results of the biological monitoring and any other tests; and
- (c) the name of any pathology service used.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(3) The employer must ensure that the registered medical practitioner provides the employer with details of any opinion formed by the practitioner after the medical examination as to whether the person examined—

- (a) is suitable on medical grounds to work in a lead-risk job;
- (b) has excessive lead absorption and must not work in a lead-risk job;
- (c) shows symptoms or signs of clinical lead poisoning and is unfit to work;
- (d) is fit to return to work in a lead-risk job;
- (e) is fit to continue work in a lead-risk job.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

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4.4.27 Information to go to Authority

(1) If an employer has removed a person from a leadrisk job in accordance with regulation 4.4.23, the employer must ensure that a copy of the results of the biological monitoring referred to in that regulation is forwarded to the Authority within

48 hours after the employer receives it.
Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(2) If a person—

(a) is removed from a lead-risk job under regulation 4.4.23; and

(b) is not allowed to return to that job under regulation 4.4.24(2)—

the employer must ensure that a copy of the report of the medical examination conducted under regulation 4.4.24 setting out the details required by regulation 4.4.26(2) is forwarded to the Authority within 48 hours after the employer receives it.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

(3) An employer must notify the Authority in writing within 7 days of the name and contact details of the registered medical practitioner the employer has engaged to undertake medical examinations for the purposes of this Part.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

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4.4.28 Records

An employer must retain the report of a medical examination returned to the employer by a registered medical practitioner under this Part, and all the results of biological monitoring of a person provided for by the employer under this Part, for—

(a) a period (not exceeding 30 years) determined by the Authority; or

(b) if no period has been determined by the Authority, 30 years.

Penalty: 60 penalty units for a natural person;
300 penalty units for a body corporate.

Division 3—Employee duties

4.4.29 Eating, drinking, smoking etc.

(1) An employee must not eat, drink, chew gum, smoke or carry materials used for smoking in any area where a lead process is carried out.

Penalty: 100 penalty units.

(2) An employee who has been in any area where a lead process is carried out must remove any lead contaminated clothing and equipment he or she has used before entering an area designated for eating and drinking.

Penalty: 100 penalty units.

(3) An employee who has been in any area where a lead process is carried out must wash his or her hands and face after leaving the area and before eating, drinking or smoking.
Penalty: 100 penalty units.

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