

**DEPARTMENT OF EMPLOYMENT AND LABOUR****NO. R. 4437****1 March 2024**

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

**DRAFT LEAD REGULATION**

I, Thembelani W Nxesi, Minister of Employment and Labour hereby give notice that I intend, in terms of section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and after consultation with the Advisory Council for Occupational Health and Safety, to make regulations in the Schedule.

Interested persons who wish to comment on the draft regulations are invited to do so in writing within 90 days from the date of publication of this notice, in the prescribed format. All representations and comments must be sent to the Director-General of the Department of Employment and Labour.

By hand: The Department of Employment and Labour – attention: E Lourens  
Laboria House, 215 Francis Baard Street  
Pretoria, CBD

By post: The Director General  
The Department of Employment and Labour – attention: E Lourens  
Private Bag X117, Pretoria 0001.

By email: [DraftComments.OHH@labour.gov.za](mailto:DraftComments.OHH@labour.gov.za)



**MR TW NXESI, MP**  
**MINISTER OF EMPLOYMENT AND LABOUR**

DATE: 23/01/2024

Kindly provide inputs, corrections and / or comments in writing on the proposed Draft Lead Regulations in the following format.

|  |   |  |             |               |       |
|--|---|--|-------------|---------------|-------|
| Name and Surname:  |   | E-Mail:  |             | Phone number: |       |
| Company name (where applicable)  |   |  |             |               |       |
| Government   | Industry  | Union  | Consultancy | Private       | Other |
| 1  | Regulation and/or Sub regulation from draft, referring to | Comment/Input/Correction/Proposal<br>Plus Motivation |             |               |       |
|  |   |  |             |               |       |
| Will the proposal have an impact on any other regulation? If so, which regulation and what will be the impact? |   |  |             |               |       |
| 2  | Regulation and/or Sub regulation from draft, referring to | Comment/Input/Correction/Proposal<br>Plus Motivation |             |               |       |
|  |   |  |             |               |       |
| Will the proposal have an impact on any other regulation? If so, which regulation and what will the impact be? |   |  |             |               |       |
| 3  | Regulation and/or Sub regulation from draft, referring to | Comment/Input/Correction/Proposal<br>Plus Motivation |             |               |       |
|  |   |  |             |               |       |
| Will the proposal have an impact on any other regulation? If so, which regulation and what will the impact be? |   |  |             |               |       |
| General Comments:  |   |  |             |               |       |

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Provide inputs to the Department of Employment and Labour by e-mailing this completed document to: [DraftComments.OHH@labour.gov.za](mailto:DraftComments.OHH@labour.gov.za)

**Draft Lead Regulation,**

1. **Definitions**
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3. **Classification of lead and lead containing products**
4. **Identification of lead and lead work**
5. **Lead risk assessment**
6. **Information, instruction, supervision and training**
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20. **Repeal of regulations**
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**Annexure A****Annexure B****1. Definitions.-**

**In these regulations any word or expression to which a meaning has been assigned in the Act must have the meaning so assigned and, unless the context otherwise indicates–**

**“action level”** means blood lead concentrations that exceed the levels provided in Table 1 of Annexure B;

**“action level for airborne lead”** means the airborne concentration of lead exceeding 50% of the OEL;

**“competent person”** means a person in relation to this regulation, who; has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications specifically including appropriate content on lead, lead work or related tasks; Provided that, where appropriate qualifications and training are registered in terms of the National Qualifications Framework Act, 2008 (Act No. 67 of 2008), those qualifications and that training must be regarded as the required qualifications and training;

and is familiar with the Act and the regulations, made under the act, applicable to the scope of work performed;

**“chief director, provincial operations”** means the chief director, provincial operations as defined in the General Administrative Regulations;

**“exposed”** means contact through any route of entry whilst at the workplace to lead, quantified as the amount of lead available at the exchange boundaries of the worker and available for absorption and includes potential, accidental or possible exposure;

**“General Administrative Regulations”** means the General Administrative Regulations published under section 43 of the Act under Government Notice No. R.1449 of 6 September 1996;

**“intake”** includes inhalation, ingestion and any other means of absorption;

**“lead”** means lead, lead alloys and lead compounds that can be absorbed in any way by any person;

**“lead containing product”** “means any product used, handled or stored in a form in which it can be inhaled, ingested or absorbed;

**“lead paint”** means any paint, primer, paste, spray, stopping, filling or other material used in painting, which, when treated in accordance with the health and safety standards, yields to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding five percent of the dry weight of the portion taken for analysis when calculated as lead monoxide;

**“lead work”** means;

- (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 and radiators containing lead that involves the manipulation of dry lead compounds, or pasting or casting lead,
- (c) dismantling batteries containing lead for recycling,
- (d) melting, casting or spraying lead metal or alloys,
- (e) recovering lead from its ores, oxides or other compounds by thermal reduction processes,
- (f) mechanical abrasion of metal plant, machinery or products, containing lead or lead alloys or the abrasion of any surface painted with lead containing paint,
- (g) electric arc, oxyacetylene, plasma arc or a flame that is applied to the surface of metal coated with lead or paint containing lead,
- (h) confirmatory laboratory tests for lead, lead compounds or lead alloys,
- (i) spray painting with lead containing paint,
- (j) manufacture, test or use of detonators, ammunition or other explosives that contain lead,
- (k) lead and lead alloy foundry processes,
- (l) work where lead is produced, processed, used, handled or stored in a form in which it can be inhaled, ingested or absorbed.

**"medical certificate of fitness"** means a written statement issued by an occupational health practitioner, in which an employee's medical fitness to perform a function is expressed;

**"medical screening"** means the systematic application of tests or inquiry to identify employees at risk of a specific disorder caused by exposures in the workplace, identifying potential health effects before employees exhibits symptoms;

**"monitoring"** means the planning, carrying out and recording of the results of a measurement programme;

**"occupational exposure limit for lead, in the case of tetra-ethyl lead"** means an exposure limit of 0,10 mg lead per cubic metre of air, measured in accordance with a health and safety standard;

**"occupational exposure limit for lead, other than for tetra-ethyl lead"** means an exposure limit of 0,15 mg lead per cubic metre of air, measured in accordance with a health and safety standard;

**"OEL" or "occupational exposure limit"** means a limit value set by the Minister, which represents the airborne concentration for lead at an 8-hour Time-weighted Average;

**"respiratory protective equipment"** means a type of personal protective equipment, which is a device used as form of control, including respirators which filter the air to remove harmful hazardous chemical agents, and breathing apparatus which supply clean air for employees to breathe and conforms to the technical requirements to obtain CE or NIOSH marking and have fulfilled the requirements of the SANS 10338 Homologation of Respiratory Equipment;

**"respirator zone"** means an area where a respirator is used during normal operations, in which the concentration of airborne lead exceeds the OEL;

**"return to lead work"** means blood or urinary lead concentrations as provided in Table 1 and Table 2 of Annexure B, at which employees may resume lead work;

**"SEG or Similar exposure group"** means one or more employees having the same general exposure profile, because of the similarity and frequency of the tasks performed, the materials and processes with which they work, the controls in place as well as the similarity of the way they perform tasks;

**"significant exposure to lead"** means employees who are or may be exposed to airborne lead concentrations exceeding 50% of the occupational exposure limit and where there is a substantial risk of exposure through other exposure routes;

**"suspension level"** means blood and urinary lead concentrations as provided in Table 1 and 2 of Annexure B, at which employees are temporarily removed from lead work to reduce exposure;

**"tetra-alkyl lead"** means tetra-ethyl lead or tetra-methyl lead;

**“the Act”** means the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) as amended;

**“vulnerable employees”** means an employee who is at a higher risk of injury, disease or complications caused by exposure to lead.

## 2. Scope of application

- (1) Subject to subregulation (2), these regulations must apply to every employer and self-employed person at a workplace where lead work takes place and lead can be inhaled, ingested or absorbed by any person in that workplace.
- (2) Regulations 5(1), 5(2), 5(3), 5(4), 5(5), 8, 9, 11(1)(a)(i),(ii), (iii) and (iv), 12(4)(a), 12 (4)(d) and 13(6), 13(7) must not apply in the case of self-employed persons.

## 3. Classification of lead and lead containing products

The manufacturer or importer of lead or lead containing products must, before it is supplied to a workplace, use the compulsory classification according to Annexure A and review the classification should a change in composition be made.

## 4. Identification of lead and lead work

- (1) An employer or self-employed person must, as far as is reasonably practicable, ensure the identification, by a competent person of-
  - (a) all lead work;
  - (b) all lead and lead containing products;
- (2) An employer or self-employed person must enter into an inventory, all lead and lead containing products as contemplated in subregulation 1(b) and maintain the inventory up to date.
- (3) The inventory must include-
  - (a) a list of lead products used, handled or stored;
  - (b) all lead work processes;
  - (c) the current SDS for each; and
  - (d) the work area where lead is used or lead work conducted.
- (4) The employer must ensure that the inventory is readily accessible to-
  - (a) an employee involved in lead work; and
  - (b) anyone else who is likely to be affected by lead at the workplace.

## 5. Lead risk assessment

- (1) An employer or self-employed person must, where lead work is conducted, cause a documented risk assessment to be carried out immediately by a competent person and thereafter at intervals not exceeding 24 months;
- (2) When making the risk assessment contemplated in subregulation (1), the employer or a self-employed person must take the following into account-

- (a) the presence of any, organic or inorganic lead to which a person may be exposed;
  - (b) where the lead may be present and physical form;
  - (c) the extent to which a person may be exposed;
  - (d) the number of employees exposed and any other person who may be exposed;
  - (e) the nature of the work, process and any likely deterioration in, or failure of, any control measures;
  - (f) description of the task as well as level, duration, intermittency and frequency of the exposure;
  - (g) the potential routes of intake;
  - (h) implementation of recommendations contained in the previous risk assessment;
  - (i) where available, historical results of exposure monitoring;
  - (j) information provided by the manufacturer or importer or supplier of the lead or lead containing products;
  - (k) the hazardous properties of lead, including the health class and categories, which are contained in any relevant SDS that is GHS compliant;
  - (l) the health effects;
  - (m) the health risk to vulnerable employees, reproductively able, pregnant and lactating women;
  - (n) the OEL for lead;
  - (o) activities such as maintenance where there is a potential for exposure;
  - (p) the effectiveness of preventive and control measures, including the experience of employees regarding the effectiveness of controls;
  - (q) the steps recommended to be taken to control exposures, in accordance with regulation 12, aligned with the hierarchy of control;
  - (r) records of adverse medical surveillance outcomes;
  - (s) whether the expected exposure is above the action level for lead, so that the appropriate respiratory protective equipment can be selected pending the implementation of engineering control measures;
  - (t) procedures for removal of lead waste from the workplace and the disposal thereof;
  - (u) procedures for dealing with spills and emergencies;
  - (v) the steps to be taken to reduce the release of airborne lead into the environment; and
  - (w) such additional information as may be needed to complete the lead risk assessment.
- (3) An employer or a self-employed person must forthwith review the lead risk assessment required by subregulation (1) if—
- (a) there is reason to believe that the previous assessment is no longer valid;
  - (b) control measures are no longer efficient;
  - (c) technological or scientific advances allow for more efficient control methods; or
  - (d) there has been a significant change in—
    - (i) work methods;
    - (ii) the type of work carried out;
    - (iii) the type of equipment used to control exposure; or
    - (iv) when blood-lead or airborne lead concentrations are likely to exceed the action levels.

- (4) If the assessment or any reviews made in accordance with subregulations (1) and (3), indicate that any person may be exposed to lead, the employer or self-employed person must ensure that the exposure is adequately controlled as contemplated in regulation 12.

## 6. Information, instruction, supervision and training

- (1) An employer who undertakes lead work must inform the relevant health and safety representatives or health and safety committee established for that workplace of the-
- (a) intention to conduct-
    - (i) a lead risk assessment contemplated in regulation 5;
    - (ii) exposure monitoring contemplated in regulation 8;
    - (iii) medical screening and surveillance contemplated in regulation 9; and
    - (iv) training contemplated in sub-regulation (2).
  - (b) the documented outcomes of-
    - (i) the lead risk assessment contemplated in regulation 5;
    - (ii) exposure monitoring contemplated in regulation 8; and
    - (iii) medical screening and surveillance contemplated in regulation 9;
- (2) An employer must provide information, instruction, supervision and training to any employee exposed to lead.
- (3) Information, instruction and training contemplated in subregulation 2 must be provided prior to exposure of the employee to lead.
- (4) The information and training contemplated in subregulation 2 must include-
- (a) The contents and scope of these regulations including but not limited to-
    - (i) OELs of lead; and
    - (ii) duties of persons who are likely to be exposed to lead, as contemplated in regulation 7;
    - (iii) prohibitions, as contemplated in regulation 16;
  - (b) details of the lead to which the employee is likely to be exposed at the workplace including-
    - (i) where it can be found;
    - (ii) information on the potential risk to health and safety; and
    - (iii) the outcome of exposure assessment;
  - (c) how to access the relevant SDSs and the information that each part of an SDS provides;
  - (d) the information that each part of the label on containers provides and why the information is being provided;
  - (e) the work practices and procedures to be followed in the use, handling, storage, transportation, spill clean-up, disposal, emergency situations, good housekeeping and personal hygiene;
  - (f) the necessity of personal exposure monitoring, biological monitoring and medical screening and surveillance;
  - (g) the health risk to vulnerable employees, reproductively able, pregnant and lactating women;
  - (h) the need for personal protective equipment including respiratory protective equipment as well as the correct use, storage and maintenance; and



- (i) the necessity, correct use, maintenance and potential of safety equipment, facilities and engineering control measures provided.
- (5) An employer must –
  - (a) provide refresher training annually;
  - (b) provide information on access to risk the assessment, exposure monitoring records and personal medical records;
  - (c) give written instructions of the procedures to be followed in the event of spillages, leakages or any similar emergency situation, to the drivers of vehicles transporting lead; and
  - (d) agree in writing to the arrangements and procedures to ensure compliance by the mandatory to information and training requirements, as contemplated in section 37(2) of the Act.
- (6) An employer or self-employed person must ensure, as far as is reasonably practicable, persons other than employees who may be affected by lead exposure at the workplace are informed, supervised and instructed.

#### **7. Duties of persons who may be exposed**

- (1) Any person who is or may be exposed, must obey a lawful instruction given by or on behalf of the employer or a self-employed person, regarding-
  - (a) the prevention of lead from being released in an uncontrolled manner;
  - (b) the correct use of personal protective equipment, respiratory protective equipment and protective clothing;
  - (c) co-operation with the employer in determining personal exposure, which may include the wearing of monitoring equipment to measure personal exposure;
  - (d) the reporting for exposure monitoring, medical screening and surveillance and biological monitoring as required by these regulations;
  - (e) the cleaning up and disposal of materials contaminated by lead;
  - (f) housekeeping at the workplace, personal hygiene, environmental and health practices; and
  - (g) information, instruction, supervision and training.
- (2) Every employee must-
  - (a) make full and proper use of any control measure or facility provided in accordance with these regulations;
  - (b) inspect, use, wear, store and dispose of the equipment in accordance with any information, training or lawful instruction provided by the employer;
  - (c) not intentionally misuse or damage any equipment;
  - (d) immediately inform the employer of any damage to, defect in, need to clean or decontaminate, or replace any of the equipment of which the employee becomes aware;
  - (e) remove contaminated personal protective equipment on leaving the working area and keep it apart from uncontaminated clothing and equipment; and
  - (f) ensure personal protective equipment is returned after use and safely stored if not disposed.

## 8. Exposure monitoring

- (1) Based on the lead risk assessment for an SEG carried out in accordance with regulation 5, the employer must ensure that exposure monitoring is conducted-
  - (a) for air monitoring of lead-
    - (i) if the risk assessment indicates potential exposure of the action level for airborne lead;
    - (ii) at least every 24 months; and
    - (iii) by an approved inspection authority
  - (b) for biological exposure monitoring of lead-
    - (i) if the risk assessment indicates potential exposure is likely to result in blood lead concentrations exceeding the relevant action levels for lead;
    - (ii) if air monitoring results contemplated in subregulation (1)(a) exceed 50% of the OEL;
    - (iii) if air monitoring alone is unlikely to reflect total uptake through all exposure routes;
    - (iv) if the health risk assessment identifies any vulnerable employees, reproductively able, pregnant, and lactating women, that may be exposed to lead; and
    - (v) when recommended by an occupational medicine practitioner.
- (2) The results of air monitoring carried out in terms of subregulation (1) must be used to determine-
  - (a) the need for implementation of controls, in terms of regulation 12;
  - (b) validation of respirator protection factor selection, in terms of regulation 14(4); and
  - (c) whether to conduct medical screening and medical surveillance, in terms of regulation 9.
- (3) Every employer must ensure biological exposure monitoring of lead other than tetra-alkyl lead, are include in baseline measurements of blood lead which shall be repeated during the third and the sixth month after commencement of employment and thereafter at the relevant intervals provided in Table 1 of Annexure B.
- (4) Where the blood lead concentration of an employee exposed to lead exceeds the suspension levels provided in Table 1 of Annexure B, every employer must ensure the test is repeated, and if the result of the repeated test continues to exceed the suspension level, then the employee must be temporarily suspended from lead work until the blood lead levels are equal to or less than the relevant return to work level.
- (5) Where the blood lead concentration of an employee exposed to lead is equal to or exceeds the relevant action levels provided in Table 1 of Annexure B, the employer must-
  - (a) review the effectiveness of control measures;
  - (b) investigate the reason for increased levels;
  - (c) consider whether there are any observable patterns in the employee's biological exposure levels and how these may be related to work practices;
  - (d) develop an action plan with appropriate corrective actions based on the recommendations in the lead risk assessment and exposure monitoring report; and
  - (e) enter the results of the exposure monitoring, contemplated in subregulation (1), into the records required by regulation 11.

- (6) Every employer must ensure biological exposure monitoring of tetra-alkyl lead, include a baseline measurement of total urinary lead at the commencement of employment and thereafter at the relevant intervals provided in Table 2 of Annexure B.
- (7) Where the total urinary lead concentration of an employee exposed to tetra-alkyl lead exceeds the relevant suspension levels provided in Table 2 of Annexure B, the test is repeated, and if the result of the repeated test continues to exceed the suspension level, then the employee must be temporarily suspended from lead work until the total urinary lead levels are equal to or less than the relevant return to work level.

## 9. Medical screening and surveillance

- (1) Where significant exposure risk is identified in the risk assessment or exposure monitoring, the employer must obtain the opinion of an occupational medicine practitioner to determine whether medical screening is necessary and in forming the opinion, the occupational medicine practitioner must consider-
  - (a) if the risk assessment indicates significant exposure risk, including consideration of all routes of intake;
  - (b) if the results of exposure monitoring identify exposures exceeding the action level for airborne lead or the relevant action level for blood lead; and
  - (c) the exposure of vulnerable employees.
- (2) An employer must establish, implement and maintain a documented system of medical surveillance, which is overseen by an occupational medicine practitioner, if the lead risk assessment indicates significant exposure as contemplated in subregulation 1 (a), (b) and (c).
- (3) Where the need for medical surveillance has been determined by the occupational medicine practitioner, as contemplated in subregulation (2), the medical screening must include-
  - (a) an evaluation of the employee's medical, occupational and exposure history;
  - (b) the appropriate clinical examination and medical tests to identify signs and symptoms associated with the ill health effects of lead exposure and lead poisoning;
  - (c) the intervals at which medical screening must be repeated.
- (4) The employer must ensure that medical screening contemplated in subregulation (3) is carried out by an occupational health practitioner-
  - (a) immediately before or within 14 days after a person commences employment as is practicable; and
  - (b) periodically as recommended by the occupational medicine practitioner, but not exceeding 12 months.
- (5) After the initial or periodic medical screening evaluation, the occupational medicine practitioner must notify the employer in writing by means of a medical certificate of fitness, and inform the employee accordingly, if-
  - (a) the employee has a medical condition which;
    - (i) prevents the wearing of personal protective equipment, where the employee's job requires the wearing of respiratory protective equipment or any other personal protective equipment; or
    - (ii) is likely to be aggravated by the exposures at that workplace;

- (b) the medical screening evaluation identified an adverse health effect caused by exposure to lead at that workplace.
- (6) With respect to the medical certificate of fitness contemplated in subregulation (5), the certificate must indicate-
  - (a) recommendations related to the employee's fitness to perform the inherent requirements of the job, or the presence of an occupational disease, without including confidential medical information;
  - (b) if any restrictions or conditions apply to any specified duties performed by the employee;
  - (c) the period for which any restrictions or conditions, as applicable, should be applied and as far as is reasonably practicable-
    - (i) accommodate the conditions or restrictions recommended; and
    - (ii) only permit an employee who has been medically certified for restricted duties to return to normal duties if the employee has been certified fit for those duties by an occupational medicine practitioner.
- (7) The documented system of medical surveillance contemplated in subregulation (2) should as far as reasonably practicable include-
  - (a) an analysis of the screening results over time, to look for abnormal trends in health status, potentially resulting from adverse effects of exposure to lead; and
  - (b) using the results of subregulation (1) (b) to identify the need for targeted exposure prevention in the workplace.
- (8) The employer must investigate and report the occupational disease contemplated in subregulation (6)(a) in compliance with regulation 8 of the General Administrative Regulations, and section 25 of the Occupational Health and Safety Act, 85 of 1993.
- (9) An employee may appeal any finding of an occupational medical practitioner stipulated in the medical certificate of fitness to the chief inspector, in writing within 60 days of receiving the certificate;
- (10) The employer must-
  - (a) ensure that the employee provides written informed consent for inclusion in the medical screening;
  - (b) ensure that the employee provides written informed consent for inclusion in the surveillance programme.
- (11) The employer must ensure that exit medical screening is carried out by an occupational health practitioner on termination of an employee's service.
- (12) An employee may appeal any finding provided by the occupational medical practitioner stipulated in the medical certificate of fitness, to the chief inspector, in writing within 60 days of receiving the certificate.

## 10. Respirator zone

- (1) An employer or self-employed person must ensure that a respirator zone or temporary respirator zone is declared for any workplace or part of a workplace where the concentration of lead in air exceeds or is likely to exceed the OEL.
- (2) A temporary respirator zone may be declared during abnormal operations, including when engineering controls are;
  - (a) rendered ineffective due to a temporary breakdown;

- (b) being installed or repaired; or
  - (c) ineffective to control exposures in an emergency situation.
- (3) The employer must ensure that the respirator zone or temporary respirator zone is clearly demarcated and identified by notice indicating that the relevant area is a respirator zone.
- (4) The employer must ensure that no person enters or remains in a respirator zone or temporary respirator zone, unless they are wearing the required respiratory protective equipment and other personal protective equipment as contemplated in regulation 13.
- (5) The reason for an exceedance of the OEL is identified and that action is taken, as soon as is reasonably practicable, by means other than respiratory protective equipment, to lower the airborne concentrations of lead to below the OEL.

## 11. Records

- (1) An employer or self-employed person must-
- (a) keep written or electronic records of-
    - (i) lead risk assessments;
    - (ii) lead exposure monitoring;
    - (iii) medical screening and medical surveillance reports;
    - (iv) training and refresher information and training records;
    - (v) maintenance of control measures; and
    - (vi) reported occupational diseases;
  - (b) keep records for a minimum period of 40-years;
  - (c) make the records available to-
    - (i) the relevant health and safety representative, health and safety committee or to an inspector;
    - (ii) any person, provided the records contemplated in regulation 9, are subject to formal written consent of the employee;
- (2) If an employer or self-employer person ceases activities, the employer or self-employer person must inform the relevant chief director: provincial operations of -
- (a) where the records listed in sub-regulation 1 (a) will be kept; and
  - (b) how those records will be accessed, when required.

## 12. Control of exposure

- (1) An employer or self-employed person must prevent exposure to lead or, where this is not reasonably practicable, control exposure: Provided that the control of the exposure shall be regarded as adequate if the results of exposure monitoring are at or below the OEL for airborne lead and the relevant action level for blood lead.
- (2) Where reasonably practicable, an employer or a self-employed person must control an employee's exposure to lead at the workplace by—
- (a) the elimination of lead;
  - (b) using a substitute for lead or lead-containing material;
  - (c) the design and use of engineering controls, including-
    - (i) the control of exposure at source of lead;
    - (ii) process separation, automation or enclosure;

- (iii) the installation of local extraction ventilation systems to processes, equipment or tools for the control of emissions of airborne lead;
  - (iv) the use of wet methods where appropriate;
  - (v) separate workplaces for different processes;
  - (vi) the identification of early corrective action to be taken;
- (3) An employer or a self-employed person must introduce appropriate written work procedures that an employee must follow to ensure that—
- (a) lead is safely handled, used and disposed of;
  - (b) process machinery, installations, equipment, tools, local extraction and general ventilation systems are safely used and maintained; and
  - (c) early corrective action regarding the control of lead exposure can be taken.
- (4) An employer or a self-employed person must use administrative controls for lead at the workplace, including-
- (a) limiting the number of persons who may be exposed;
  - (b) limiting the period during which a person may be exposed;
  - (c) arrangements for the safe handling, storage and transport of lead and waste containing lead;
  - (d) safe work procedures to minimise risk of exposure;
  - (e) minimising the quantity of lead kept at the workplace;
  - (f) personal hygiene and good housekeeping;
  - (g) provision of information, instruction, supervision and training.
- (5) Personal protective equipment must be provided in accordance with regulation 13.
- (6) When developing control measures ensure that-
- (a) all relevant routes of exposure are considered including inhalation, skin absorption and ingestion;
  - (b) the introduction of control measures does not add other unintended health or safety risks.
- (7) The employer or self-employed person must ensure that the release of lead into any environment or water system complies with the provisions of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965), the Environment Conservation Act, 1989 (Act No. 73 of 1989), the National Water Act, 1998 (Act No. 36 of 1998), and the National Environmental Management Act, 1998 (Act No. 107 of 1998).

### **13. Personal protective equipment and facilities**

- (1) An employer or self-employed person must provide –
- (a) all persons who are exposed to concentrations of airborne lead, in excess of the action level for lead, with suitable respiratory protective equipment and protective clothing;
  - (b) suitable lead impermeable protective clothing and respiratory protective equipment for types of lead which can be absorbed through the skin.
- (2) Protective clothing and respiratory protective equipment must-
- (a) be capable of adequately controlling exposure to lead;
  - (b) be appropriately selected for the work concerned and the conditions at the workplace where exposure to lead may occur;

- (c) cover all parts of the employees' own clothing and, as far as is reasonably practicable, effectively resist penetration by lead in the form of dust, fume or tetra-alkyl lead;
  - (d) be without pockets and designed to avoid, as far as is reasonably practicable, the collection, trapping and retention of lead dust and materials contaminated with lead;
  - (e) unless disposable, be made from a material which can be easily cleaned and decontaminated;
  - (f) take into account the state of health of the employees who are required to wear it;
  - (g) fit the wearer correctly, and;
  - (h) when not in use or during breaks, be stored in a manner that prevents lead contamination or the spread of lead.
- (3) The protective clothing and respiratory protective equipment contemplated in subregulation 2 must be-
- (a) readily available to employees who require the protective clothing and respiratory protective equipment;
  - (b) properly used or worn by the employees, by enforcing its use through providing adequate instruction, training and supervision.
- (4) When providing respiratory protective equipment ensure the equipment is appropriate for-
- (a) controlling the exposure to below the OEL for lead;
  - (b) achieving a good seal to the face;
  - (c) the size and fit for the employee who has to use it;
  - (d) the type of work to be done;
  - (e) the physical effort required to do the work;
  - (f) the length of time it will have to be worn;
  - (g) the requirements in relation to the work for visibility, comfort and employee communication; and
  - (h) compatibility with any other personal protective equipment that may be needed.
- (5) The employee must ensure that personal protective equipment is-
- (a) kept clean, decontaminated and sanitised after use;
  - (b) examined at suitable intervals and if found to be defective, make repairs before further use or be replaced; and
  - (c) when not in use during breaks, respiratory protective equipment must only be stored in a designated, readily accessible, clean container preventing lead contamination of the respiratory protective equipment.
- (6) An employer must provide storage and washing facilities to be used by employees to maintain personal hygiene standards during work and before taking breaks.
- (7) An employer must as far as is reasonably practicable, ensure that all contaminated personal protective equipment is cleaned and handled in accordance with the following-
- (a) where the equipment is cleaned on the premises of an employer, care must be taken to prevent contamination during handling, transport and cleaning;
  - (b) where the equipment is sent off the premises to a contractor for cleaning purposes-

- (i) the equipment must be packed in impermeable containers, be tightly sealed and have a clear indication that the contents thereof are contaminated; and
  - (ii) the relevant contractor must be fully informed of the requirements of these regulations and the precautions to be taken for the handling of lead contaminated equipment.
- (8) Subject to the provisions of subregulation (7)(b) an employer must ensure that no person removes dirty or contaminated personal protective equipment from the premises: Provided that where contaminated personal protective equipment is to be disposed of, it must be treated as hazardous waste.
- (9) Subject to the provisions of the Facilities Regulations promulgated by Government Notice No. R. 2362 of 5 October 1990, an employer must, where reasonably practicable, provide employees who use personal protective equipment, as contemplated in subregulation (1), with-
- (a) adequate washing facilities which are readily accessible and located in an area where the facilities will not become contaminated, in order to enable the employees to meet a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of lead;
  - (b) two separate lockers labelled “protective clothing” and “personal clothing” respectively, located in both the “dirty” and “clean” change rooms, and ensure that the clothing is kept separately in the lockers concerned; and
  - (c) separate “clean” and “dirty” change rooms if the employer uses or processes lead to the extent that the lead could endanger the health of persons outside the workplace.

#### **14. Cleanliness of premises and plant**

- (1) An employer or self-employed person must, as far as is reasonably practicable, take steps to ensure that-
- (a) all workplaces are kept in a clean state and free of lead waste and,
  - (b) when lead is accidentally spilled or airborne lead is accidentally released into the workplace, corrective measures are immediately taken, before any work is continued;
  - (c) cleaning is carried out by vacuum-cleaning equipment with a filtration efficiency of at least 99 per cent for particles of one micrometre in size, or by some other means so that lead dust neither escapes nor is released into the air to such an extent that it contaminates any workplace or the environment;
  - (d) the vacuum-cleaning equipment is regularly serviced and all its external surfaces are kept in a clean state and free from lead dust; and
  - (e) where the use of vacuum-cleaning equipment is impracticable, surfaces which are to be cleaned are dampened and that persons undertaking such cleaning wear appropriate protective clothing and respiratory protective equipment.

#### **15. Maintenance, examination and testing of control measures**

- (1) An employer or self-employed person must ensure that—
- (a) reasonable steps are taken, enforcing proper use and application of control measures;



- (b) all control equipment and facilities provided in terms of regulations 12, 13, and 14 are maintained in good working order and clean condition;
  - (c) inspection, examination and testing of engineering control measures are carried out at specified intervals by a competent person and findings are recorded; and
  - (d) written instructions are established, which specify the nature of inspections, tests and maintenance to be performed on the ventilation system.
- (2) Where ventilation controls as a form of engineering control, are provided, the employer must ensure that-
- (a) testing of the ventilation system is carried out at least once every 24 months by an approved inspection authority, who must record in writing the findings;
  - (b) test by an approved inspections authority should be repeated after any changes to control ventilation in the workplace were made; and
  - (c) written reports by the approved inspections authority should clearly indicate findings and specify recommendations for corrective actions to ensure exposure remains below the OEL for lead.

## 16. Prohibitions

- (1) No person shall-
- (a) use compressed air to blow away particles of lead from any surface or person, or require or permit any other person to use compressed air to blow away particles of lead from any surface or person; or
  - (b) smoke, eat, drink or keep food or beverages in an area not specifically designated for it or require or permit any other person to smoke, eat, drink or keep food or beverages in such area.
- (2) Lead paint may not be—
- (a) used for painting the interior of buildings;
  - (b) used on furniture;
  - (c) scraped or rubbed down from a surface through any dry process;
  - (d) removed by burning; or
  - (e) recycled into non-lead production processes.

## 17. Labelling of lead

An employer must-

- (1) ensure that all lead used, handled or stored at the workplace is identified and correctly labelled;
- (2) ensure that a container labelled for lead is used only for the use, handling or storage of lead;
- (3) ensure that when lead is transferred or decanted at the workplace, from its original container into a destination container, the destination container is correctly labelled for lead.

## 18. Disposal of lead waste

An employer or self-employed person must as far as is reasonably practicable ensure that—

- (1) all lead waste is classified and disposed of as waste in terms of the following legislation, as updated from time to time-
  - (a) National Environmental Management: Waste Act, 2008, (Act no 59 of 2008),

- (b) Waste classification and management regulations, 2013;
  - (c) National norms and standards for the assessment of waste for landfill disposal, 2013;
  - (d) National norms and standards for disposal of waste to landfill, 2013;
- (2) contaminated disposable PPE is disposed of as lead contaminated waste;
  - (3) all collected lead waste is placed into containers that will prevent exposure during handling;
  - (4) all vehicles, re-usable containers and covers which have been in contact with lead waste, are cleaned and decontaminated after use, in such a way that such vehicles, containers or covers, do not cause a hazard inside or outside the premises concerned;
  - (5) all persons involved in the collection, transport and disposal of lead waste and who may be exposed to that waste, are provided with suitable information, training and personal protective equipment; and
  - (6) in cases where the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor must comply with the provisions of these regulations.

#### **19. Offences and penalties**

Any person who contravenes or fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11(1), 11(2), 12, 13, 14, 15, 16, 17 and 18 shall be guilty of an offence and liable on conviction to a fine or imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment must in no case exceed 90 days.

#### **20. Repeal of regulations**

The Lead Regulations published under Government Notice No. R. 236 of 28 February 2002, are repealed 18 months after the date of promulgation of these regulations.

#### **21. Short title**

These regulations shall be called the Lead Regulations, **XXXX**;

## Annexure A

## Compulsory GHS classification for:

## Lead (CAS: 7439-92-1);

- Respiratory. Category 1A
- Lactation.
- Aquatic Acute 1
- Aquatic Chronic 1

## Tetraethyl lead (CAS: 78-00-2);

- Acute Toxicity. Category 1
- Acute Toxicity. 1
- Acute Toxicity. 1
- Respiratory. Category 1A
- Specific target organ toxicity (STOT) Category 2
- Aquatic Acute 1
- Aquatic Chronic 1

## Tetramethyl lead (CAS: 75-74-1);

- Flammable. Liquid. Category 3
- Acute Toxicity. 2
- Acute Toxicity. 1
- Acute Toxicity. 4
- Respiratory. Category 1A
- Specific target organ toxicity (STOT) RE 2
- Specific target organ toxicity (STOT) RE 2
- Aquatic Acute 1
- Aquatic Chronic 1

## Annexure B

Table 1: Frequency of blood lead level screening: Blood lead levels

| Employee                     | Action Level<br>ug/100<br>ml | Suspension<br>Levels<br>ug/100ml | Return to<br>Lead Work<br>Levels<br>ug/100ml | Medical Screening<br>and Surveillance<br>levels ug/100ml | Frequency of Biomonitoring<br>(months) |     |     |     |
|------------------------------|------------------------------|----------------------------------|--|--|--|-----|-----|-----|
|                              |                              |                                  |  |  | 12                                     | 6   | 3   | OMP |
| General                      | 20                           | 40                               | 30   | 20   | <20                                    | <30 | <40 | ≥40 |
| Vulnerable                   | 15                           | OMP                              | OMP  | 15   | OMP                                    | OMP | OMP | OMP |
| Reproductively<br>able       | 10                           | 20                               | 15   | 10   | <10                                    | <15 | <20 | ≥20 |
| Pregnant and/or<br>lactating | -                            | >5                               | <5   | All  | -                                      | -   | All | All |

**Notes:** OMP denotes: frequency determined by an Occupational Medicine Practitioner.

**Table 2: Frequency of total urinary lead levels in creatinine monitoring**

| Employee                   | Action Level<br>$\mu\text{gPb/g}$                            | Suspension Levels<br>$\mu\text{gPb/g}$ | Return to Lead Work Levels<br>$\mu\text{gPb/g}$ | Medical Screening and Surveillance levels<br>$\mu\text{gPb/g}$ | Frequency of Biomonitoring (weeks) |          |      |
|----------------------------|--|--|---|--|------------------------------------|----------|------|
|                            |  |  |   |  | 6                                  | 1        | OMP  |
| General                    | N/A  | 110                                    | 80  | 20   | <95                                | 95 - 109 | >110 |
| Vulnerable                 | N/A  | 110                                    | 80  | All  | <95                                | 95 - 109 | >110 |
| Reproductively able        | N/A  | 25                                     | 15  | All  | <20                                | 20 - 24  | >25  |
| Pregnant and /or lactating | Prohibited from undertaking lead work involving organic lead |  |   |  |                                    |          |      |

**Note:** OMP denotes; frequency determined by an Occupational Medicine Practitioner.