

# OCCUPATIONAL HEALTH AND SAFETY ACT

Act 85 of 1993.

## LEAD REGULATIONS, 2001

[Updated to 28 February 2002]

GoN R236, G. 23175 (c.i.o 28 February 2002).

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

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#### **1. Definitions**

In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates—

**“approved lead inspection authority”** means an approved inspection authority for the—

- (a) monitoring of lead concentrations in the air; or
- (b) analysis of blood lead or urinary lead concentrations;

**“exposed”** means exposed to lead while at the workplace and **“exposure”** has a corresponding meaning;

**“General Administrative Regulations”** means the General Administrative Regulations published under section 43 of the Act under Government Notice R.1449 of 6 September 1996;

**“health and safety standards”** means the health and safety standards that have been incorporated into these regulations under section 44 of the Act;

**“HSG 173”** means the Monitoring Strategies for Toxic Substances, HSG 173, published by the Health and Safety Executive of the United Kingdom;

**“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 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 per cent of the dry weight of the portion taken for analysis when calculated as lead monoxide;

**“measurement programme”** means a programme according to the monitoring strategy as contemplated in HSG 173 and OESSM;

**“monitoring”** means the planning and carrying out of a measurement programme and the recording of the results thereof;

**“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 for a stress factor in the workplace;

“**OESSM**” means the Occupational Exposure Sampling Strategy Manual, published by the National Institute for Occupational Safety and Health (NIOSH), United States of America: Department of Health, Education and Welfare;

“**provincial director**” means the provincial director as defined in regulation 1 of the General Administrative Regulations;

“**respiratory protective equipment**” means a device which is worn over at least the mouth and nose to prevent the inhalation of air that is not safe and which furthermore conforms to a standard approved by the Minister;

“**respirator zone**” means a respirator zone contemplated in regulation 9(a);

“**SABS 0228**” means the Code of Practice for the Identification and Classification of Dangerous Substances and Goods, SABS 0228, published by the South African Bureau of Standards (SABS);

“**SABS 0229**” means the Code of Practice for Packaging of Dangerous Goods for Road and Rail Transportation in South Africa, SABS 0229, published by the South African Bureau of Standards (SABS);

“**SABS 0400**” means the Code of Practice for the Application of the National Building Regulations, SABS 0400, published by the South African Bureau of Standards (SABS);

“**SABS SM 1164**” means the Standard method for the determination of lead (inorganic and tetra-alkyl) in the workplace air by atomic absorption and spectrophotometry, SABS SM 1164, published by the South African Bureau of Standards (SABS);

“**the Act**” means the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

## **2. Scope of application**

- (1) Subject to subregulation (2), these regulations shall apply to every employer and self-employed person at a workplace where lead is produced, processed, used, handled or stored in a form in which it can be inhaled, ingested or absorbed by any person in that workplace.
- (2) Regulations 4(1), 4(2), 4(3), 4(4), 4(6), 6(2), 7, 8, 10(c), 10(d), 10(f), 11(2)(f) and 12(6) shall not apply in the case of self-employed persons.

## **3. Exposure to airborne lead**

Subject to regulation 12(1), no employer or self-employed person shall require or permit any person to work in an environment in which he or she would be exposed to lead in excess of the prescribed occupational exposure limits.

#### **4. Information and training**

- (1) An employer shall, before any employee is exposed or may be exposed to lead, and after consultation with the health and safety committee established for that section of the workplace, ensure that the employee is adequately and comprehensively informed and trained, on both practical aspects and theoretical knowledge, with regard to—
  - (a) the contents and scope of these Regulations;
  - (b) the potential sources of exposure;
  - (c) the potential health risk caused by exposure to lead, including the health risks to employees' families and others, which could result from taking home lead contaminated equipment and clothing;
  - (d) the measures taken by the employer to protect an employee against any risk from exposure;
  - (e) the precautions to be taken by the employee to protect him- or herself against the health risks associated with the exposure, which precautions include the wearing and use of protective clothing and respiratory protective equipment;
  - (f) the necessity, correct use, maintenance and limitations of protective equipment, facilities and engineering control measures provided;
  - (g) the assessment of exposure, the purpose of air sampling, the necessity of medical surveillance and the long-term benefits of undergoing such surveillance;
  - (h) the occupational exposure limits and their meaning;
  - (i) the importance of good housekeeping in the workplace and personal hygiene;
  - (j) the safe working procedures regarding the use, handling, processing and storage of any material containing lead, including the correct application of control measures to limit the spread of lead outside the work area, and to limit the exposure of workers inside the work area as far as is reasonably practicable;

- (k) the procedures to be followed in the event of spillages or any other similar emergency or situation which could arise by accident;
  - (l) the procedures for reporting and correcting defects likely to result in the release of airborne lead;
  - (m) safe waste disposal;
  - (n) the procedures for record keeping; and
  - (o) all other matters contemplated in regulation 5.
- (2) Refresher training shall be given on matters contemplated in subregulation (1) at least every year or at more frequent intervals that may be recommended by the health and safety committee.
- (3) Training shall be given more frequently than once a year if—
- (a) work methods change;
  - (b) the type of work carried out, changes significantly; or
  - (c) the type of equipment used to control exposure, changes.
- (4) Training shall be provided by somebody who is competent to provide it and has adequate personal practical experience and theoretical knowledge of all aspects of the work being carried out by the employer.
- (5) An employer or a self-employed person shall ensure, as far as is reasonably practicable, that his or her mandatory or any person other than employees who may be affected by lead exposure at the workplace, are given adequate information, instruction and training.
- (6) An employer shall keep a record of any training, both practical and theoretical, that was given to an employee.
- (7) An employer or a self-employed person shall give instructions in writing of the procedures contemplated in subregulation (1)(k) to drivers of vehicles carrying lead or lead containing material that has the potential of causing environmental pollution or bodily absorption.

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

Any person who is or may be exposed to lead in the workplace, shall obey any lawful instruction given by or on behalf of the employer or a self-employed person, regarding—

- (a) the prevention of lead being released into the environment;
- (b) the wearing and use of personal protective equipment;
- (c) the wearing of monitoring equipment to measure personal exposure to airborne lead;
- (d) reporting for medical surveillance as required by regulation 8;
- (e) the notification of pregnancy to the occupational health practitioner;
- (f) the cleaning up and disposal of materials containing lead;
- (g) housekeeping at the workplace, personal hygiene and good environmental and health practices;  
and
- (h) information and training received as contemplated in regulation 4.

## **6. Assessment of potential exposure**

- (1) An employer or a self-employed person shall cause—
  - (a) his or her undertaking to be assessed within six months after the commencement of these regulations and thereafter at intervals not exceeding two years, to determine if any person may be exposed to lead; and
  - (b) the results of the assessment contemplated in paragraph (a) to be recorded as required by regulation 10.
- (2) An employer contemplated in subregulation (1) shall, before causing an assessment to be made, consult with the relevant health and safety representative or relevant health and safety committee and thereafter inform them in writing of the arrangements made for the assessment, give them reasonable time to comment thereon and ensure that the results of the assessment are made available to them for comment.
- (3) When making the assessment contemplated in subregulation (1)(a), the employer or a self-employed person shall take the following into account—
  - (a) The presence of any lead (organic or inorganic) to which a person may be exposed;
  - (b) where the lead may be present, in what physical form it is likely to be and the extent to which a person may be exposed;

- (c) the nature of the work, process and any likely deterioration in, or failure of, any control measures;
  - (d) the details of expected exposures, in particular—
    - (i) whether the expected exposure is above the OEL for lead, so that the appropriate respiratory protective equipment can be selected pending the implementation of engineering control measures;
    - (ii) whether such exposures are intermittent, including the frequency and duration of exposures;
    - (iii) the number of employees exposed and any other person who may be exposed, and their expected exposure values; and
    - (iv) where applicable, results which may be available from any previous monitoring performed at the workplace;
  - (e) the steps to be taken to reduce exposure to the lowest level reasonably practicable and the steps to be taken to reduce the release of airborne lead into the environment;
  - (f) procedures for dealing with emergencies; and
  - (g) procedures for removal of lead waste from the workplace, and the disposal thereof.
- (4) If the assessment or any of its reviews made in accordance with subregulations (1) and (5) indicates that any person may possibly be exposed to lead, the employer or a self-employed person shall ensure that the exposure is adequately controlled as contemplated in regulation 11.
- (5) An employer or a self-employed person shall forthwith review the 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; or
- (iii) the type of equipment used to control exposure,

and subregulations (2) and (3) shall apply.

## **7. Air monitoring**

- (1) Where exposure to airborne lead is in excess of half the OEL for lead, an employer contemplated in regulation 2(1) shall ensure that the measurement programme of the airborne concentrations of lead to which an employee is exposed, is—
  - (a) carried out in accordance with these Regulations;
  - (b) carried out only after the relevant health and safety representative or relevant health and safety committee has been informed thereof and given a reasonable opportunity, as mutually agreed upon, to comment thereon;
  - (c) carried out by—
    - (i) an approved lead inspection authority; or
    - (ii) a person whose ability to do the measurements is verified by an approved lead inspection authority;
  - (d) representative of the exposure of employees to airborne lead in accordance with subregulation (2); and
  - (e) verified in accordance with subregulation (3) if the measurements are carried out by a person contemplated in subregulation (1)(c)(ii).
- (2) In order to comply with the provisions of subregulation (1)(d) an employer shall ensure—
  - (a) that the measurement programme—
    - (i) in the case of a group measurement, makes provision for the selection of the number of persons for a sample to be done as contemplated in chapters 3 and 4 and table A-2 of Technical Appendix A of the OESSM: Provided that in so far as any provision of the OESSM and the HSG 173 is repugnant to a provision of the Occupational Health and Safety Act, 1993, and these Regulations, the provisions of the Act and these Regulations shall apply;



- (ii) in the case of the most exposed employee measurement, if the exposure exceeds the OEL for lead, then any other employee whose exposure could be above the OEL for lead is identified and that measurements representative of typical exposure shall be carried out on every employee identified; and
  - (c) that representative measurements are carried out at least every 12 months: Provided that whenever the OEL for lead is exceeded, regulation 11 shall apply.
- (3) In order to comply with subregulation (1)(e), an employer shall obtain the services of an approved lead inspection authority who shall, at intervals not exceeding 12 months, perform the required verification by—
  - (a) examining the measurement and analysis equipment of the employer;
  - (b) questioning the person contemplated in subregulation (1)(c)(ii) regarding the measurement programme;
  - (c) carrying out together with the person contemplated in subregulation (1)(c)(ii), the measurement programme required by subregulation (2) for any one group; and
  - (d) recording the results of the measurement and investigation as contemplated in subregulations (2) and (3) respectively, as required by regulation 10.

## **8. Medical surveillance**

- (1) An employer shall ensure that an employee is under the medical surveillance of an occupational medicine practitioner if—
  - (a) the employee is exposed to an airborne lead concentration exceeding the OEL;
  - (b) the employee is exposed to tetra-alkyl lead; or
  - (c) an occupational medicine practitioner certifies that the relevant employee should be under medical surveillance.
- (2) In order to comply with subregulation (1), an employer shall ensure that—
  - (a) an initial medical examination comprising of the following is carried out immediately before or within 14 days after a person commences employment—
    - (i) An evaluation of the employee's medical and occupational history;

- (ii) clinical examinations; and
  - (iii) in the case of lead other than tetra-alkyl lead, measurement of the employee's blood lead and haemoglobin concentrations and other relevant biological tests at the discretion of the occupational medicine practitioner: Provided that the measurement of blood lead concentrations shall be repeated during the third and the sixth month after commencement of employment: Provided further that when monitoring of zinc protoporphyrine (ZPP) in blood expressed in  $\mu\text{g}$  ZPP/g haemoglobin is performed at intervals not exceeding two months, only annual blood lead concentration measurements are required;
- (b) subject to the provisions of subregulation (2)(a)(iii), biological monitoring consisting of the following is carried out—
- (i) Measurement of blood lead concentration for employees exposed to lead other than tetra-alkyl lead, at intervals as prescribed in the Table contained in Annexure A to these Regulations: Provided that in the case of female employees who are capable of procreation, all such measurements are carried out at three-monthly intervals;
  - (ii) immediate measurement of urinary lead concentration for employees exposed to tetra-alkyl lead and thereafter at intervals as prescribed in the Table contained in Annexure B to these Regulations;
- (c) clinical examinations and relevant biological tests are carried out at the discretion of the occupational medicine practitioner;
- (d) where the blood lead concentration of an employee exposed to lead other than tetra-alkyl lead, is equal to or greater than  $60 \mu\text{g}/100 \text{ m}\ell$  the test is repeated, and if the result of the repeated test corrected for the haematocrit value, with reference to a standard value of 43 % for men and 38 % for women, is greater than  $60 \mu\text{g}/100 \text{ m}\ell$ , that the employee is certified to be unfit for work in an area where he or she is exposed to lead: Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a blood lead concentration of less than  $60 \mu\text{g} /100 \text{ m}\ell$  to be unfit for work in an area in which he or she is exposed to lead: Provided further that the removal blood lead level of  $60 \mu\text{g}/100 \text{ m}\ell$  may be phased-in by reducing the level from  $80 \mu\text{g}/100 \text{ m}\ell$  to  $75 \mu\text{g}/100 \text{ m}\ell$  with effect from 30 June 2002, and then by a further  $5 \mu\text{g}/100 \text{ m}\ell$  every twelve months thereafter in order to reach  $60 \mu\text{g}/100 \text{ m}\ell$  by 30 June 2005, as depicted in the Table contained in Annexure C to these Regulations;
- (e) where the urinary lead concentration of an employee exposed to tetra-alkyl lead is equal to or greater than  $150 \mu\text{g}/\ell$  the test is repeated, and if the result of the repeated test is greater that

[sic] 150 µg/l that the employee is certified to be unfit for work in an area in which he or she is exposed to lead: Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a urinary lead concentration of less than 150 µg/l to be unfit for work in an area in which he or she is exposed to lead; and

- (f) where the ZPP value in the blood of an employee who is exposed to lead other than tetra-alkyl lead, is equal to or greater than 10 µg ZPP/g haemoglobin, the blood lead shall be measured as contemplated in subregulation 2(d): Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a ZPP value of less than 10 µg/g haemoglobin, but higher than 8 µg ZPP per gram haemoglobin in his or her blood, to be unfit for work in an area in which he or she is exposed to lead.
- (3) An employer shall ensure that no employee certified by the occupational medicine practitioner to be unfit for work in an area which exposes him or her to lead, returns to work until—
- (a) the occupational medicine practitioner certifies in writing that the employee is fit for such work;
  - (b) the employee's blood lead concentration is less than 50 µg/100 ml: Provided that the return blood lead level of 50 µg/100 ml may be phased-in by reducing the level from 70 µg/100 ml to 65 µg/100 ml with effect from 30 June 2002, and then by a further 5 µg/100 ml every twelve months thereafter in order to reach 50 µg/100 ml by 30 June 2005, as depicted in the Table contained in Annexure D to these Regulations;
  - (c) the ZPP value in the blood of the employee is less than 6 µg/g haemoglobin; or
  - (d) the employee's urinary lead concentration is less than 130 µg/l.
- (4) An employer shall ensure that—
- (a) a female employee who is capable of procreation and who carries out work that exposes her to lead, is removed from such work when her blood lead concentration exceeds 40 µg/100 ml or her urinary lead concentration exceeds 75 µg/l, or if she falls pregnant; and
  - (b) the employee contemplated in subregulation (4)(a) is not permitted to return to work that will expose her to lead unless her blood lead concentration is less than 30 µg/100 ml or her urinary lead concentration is less than 65 µg/l or, where the removal was due to pregnancy, the employee is no longer pregnant.
- (5) Where it is found that an employee had to be removed from his or her workplace owing to the provisions of subregulations (2)(d), (2)(e), (2)(f) and (4)(a), the employer shall record and investigate the incident in accordance with regulation 8 of the General Administrative Regulations.

## **9. Respirator zone**

An employer or self-employed person shall ensure that—

- (a) workplace or part of a workplace under his or her control, where the concentration of lead in the air is or may be such that the exposure of persons in that workplace exceeds the OEL without the wearing of respiratory protective equipment, is zoned as a respirator zone;
- (b) a respirator zone is clearly demarcated and identified by notice indicating that the relevant area is a respirator zone and that the respiratory protective equipment and protective clothing contemplated in regulation 12 must be worn;
- (c) no person enters or remains in a respirator zone unless he or she wears the required respiratory protective equipment and protective clothing; and
- (d) the reason why the OEL is exceeded is identified and that action is taken, as soon as is reasonably practicable, by other means than respiratory equipment, in order to lower the airborne lead concentrations so that it does not exceed the OEL for lead.

## **10. Records**

An employer shall—

- (a) keep records of the results of all assessments, air monitoring, medical surveillance reports and maintenance of control measures required by regulations 6, 7 and 8: Provided that personal medical records shall only be made available to an occupational health practitioner;
- (b) subject to paragraph (c), make the records contemplated in paragraph (a), excluding personal medical records, available for inspection by an inspector;
- (c) subject to formal consent in writing of an employee, allow any person to peruse the records of that particular employee;
- (d) make the records of all assessments and air monitoring available for perusal by the relevant health and safety representative or health and safety committee;
- (e) keep all records of assessments and air monitoring for a minimum period of 40 years;
- (f) keep all medical surveillance records for a minimum period of 40 years and if he, she or it ceases activities, hand over or forward by registered post all those records to the relevant provincial director: Provided that those records shall contain at least the following information—

- (i) Surname, forename(s), gender, date of birth, name of spouse or closest relative and, where available, permanent address and postal code;
  - (ii) a record of types of work carried out with lead and, where relevant, its location, the starting and finishing dates and the average duration of exposure expressed in hours per week;
  - (iii) a record of any work with lead prior to this employment; and
  - (iv) dates of medical surveillance reports;
- (g) keep record of the tests and investigations carried out in terms of regulation 14(b) and of any repairs resulting from the relevant tests and investigations, and keep that record for at least three years; and
- (h) keep a record of training given to an employee in terms of regulation 4(6) for as long as the employee remains employed at the workplace in which he or she is being exposed to lead.

## **11. Control of exposure to lead**

- (1) An employer or self-employed person shall ensure that the exposure of a person to lead is either prevented or, where this is not reasonably practicable, adequately controlled: Provided that the control of the exposure shall be regarded as adequate if—
- (a) the level of airborne lead is—
    - (i) at or below the OEL; or
    - (ii) above the OEL but the reason has been identified and action has been taken, as soon is reasonably practicable to lower the airborne level by means other than respiratory protective equipment, so that it does not exceed the OEL for lead; or
  - (b) in the case of exposure to—
    - (i) ingestible lead, the blood lead level is less than 20 µg/100 mL; or
    - (ii) lead alkyls, the urinary lead level is less than 120 µg/l.
- (2) Where reasonably practicable, an employer or a self-employed person shall control a person's exposure to lead by—
- (a) using a substitute for lead or lead-containing material;

- (b) limiting the number of persons who will be exposed or may be exposed;
- (c) limiting the period during which a person will be exposed or may be exposed;
- (d) limiting the amount of lead that may contaminate the working environment;
- (e) introducing the following engineering control measures for the control of exposure—
  - (i) Process separation, automation or enclosure;
  - (ii) the installation of local extraction ventilation systems to processes, equipment or tools for the control of emissions of airborne lead;
  - (iii) the use of wet methods where appropriate;
  - (iv) separate workplaces for different processes;
  - (v) the identification of early corrective action to be taken; and
- (f) introducing appropriate written work procedures that an employee must follow to ensure that—
  - (i) lead is safely handled, used and disposed of;
  - (ii) process machinery, installations, equipment, tools, local extraction and general ventilation systems are safely used and maintained; and
  - (iii) early corrective action regarding the control of lead exposure can be taken.

(3) The employer or self-employed person shall ensure that the release of lead into any environment or water system complies with the provisions of the Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965), the Environment Conservation Act, 1989 (Act 73 of 1989), the National Water Act, 1998 (Act 36 of 1998), and the National Environmental Management Act, 1998 (Act 107 of 1998).

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

- (1) An employer or self-employed person shall—
  - (a) provide all persons who are exposed to concentrations of airborne lead in excess of half the OEL for lead, with suitable protective clothing with no pockets so as to reduce the possibility of contamination and collection of lead dust;

- (b) in the case of tetra-alkyl leads which can be absorbed through the skin, provide the person with suitable lead impermeable protective equipment; and
  - (c) provide a person with suitable respiratory protective equipment to ensure that the person's exposure is adequately controlled as contemplated in regulation 11.
- (2) Where respiratory protective equipment is provided, the employer or self-employed person shall ensure that—
- (a) the relevant equipment is capable of keeping the exposure at or below the OEL for the type of lead;
  - (b) the relevant equipment is correctly selected and properly used;
  - (c) information, instruction, training and supervision that are necessary with regard to the use of the equipment are known to the persons; and
  - (d) the equipment is kept in good condition and efficient working order.
- (3) An employer or self-employed person shall, as far as is reasonably practicable—
- (a) issue no personal protective equipment which has already been used to a person, unless the relevant protection equipment is properly decontaminated and, where appropriate, sterilised;
  - (b) provide separate containers or storage facilities for personal protective equipment when not in use; and
  - (c) ensure that all personal protective equipment not in use is stored only in the place provided.
- (4) An employer or self-employed person shall, as far as is reasonably practicable, ensure that all contaminated personal protective equipment is cleaned and handled in accordance with the following procedures—
- (a) Where the equipment is cleaned on the premises of the employer or self-employed person, care shall 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, the—
    - (i) equipment shall be packed in impermeable containers;
    - (ii) containers shall be tightly sealed and have clear indication thereon that the content thereof is contaminated with lead; and

- (iii) relevant contractor shall be fully informed of the requirements of these Regulations and the precautions to be taken for the handling of the lead contaminated equipment.
- (5) Subject to subregulation (4)(b), an employer or self-employed person shall ensure that no person removes dirty or contaminated personal protective equipment from the premises: Provided that where contaminated personal protective equipment has to be disposed of, it shall be treated as lead waste as contemplated in regulation 17.
- (6) Subject to the provisions of the Facilities Regulations promulgated by Government Notice R.2362 of 5 October 1990, an employer shall, 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 also 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.

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

Every employer or self-employed person shall, 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, when lead is accidentally spilled or airborne lead is accidentally released into the workplace, corrective measures are immediately taken, before any work is continued;
- (b) 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;
- (c) the vacuum-cleaning equipment is regularly serviced and all its external surfaces are kept in a clean state and free from lead dust; and



- (d) 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.

#### **14. Maintenance of control measures**

An employer or self-employed person shall ensure that—

- (a) all control equipment and facilities provided in terms of regulations 11, 12, and 13 are maintained in good working order; and
- (b) examinations and tests of engineering control measures are carried out at intervals not exceeding 24 months by an approved inspection authority approved for such examinations and tests or by a person whose ability to do the measurements and tests is verified by such an approved inspection authority.

#### **15. Prohibitions**

(1) No person shall—

- (a) use compressed air to blow away particles of lead from any surface, or require or permit any other person to use compressed air to blow away particles of lead from any surface; 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 shall not be—

- (a) used for the interior painting of buildings;
- (b) scraped or rubbed down from a surface by a dry process;
- (c) removed by burning; or
- (d) used on furniture.

#### **16. Labelling, packaging, transportation and storage**

An employer or self-employed person shall, in order to avoid the spread of lead, take steps, as far as is reasonably practicable, to ensure that—

- (a) the lead in storage or distributed is properly identified, classified and handled in accordance with SABS 0228;
- (b) a container or a vehicle in which lead is transported is clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229.

#### **17. Disposal of lead waste**

An employer or self-employed person shall as far as is reasonably practicable—

- (a) recycle all lead waste, but not into non-lead production processes;
- (b) ensure that all collected lead waste is placed into containers that will prevent the likelihood of exposure during handling;
- (c) ensure that 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;
- (d) ensure that all lead waste that can cause exposure to lead, is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1989 (Act 73 of 1989) and the National Environmental Management Act, 1998 (Act 107 of 1998), and in such a manner that it does not cause a hazard inside or outside the site concerned;
- (e) ensure that all persons involved in the collection, transport and disposal of lead waste and who may be exposed to that waste, are provided with suitable personal protective equipment; and
- (f) ensure that, in cases where the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor too shall comply with the provisions of these Regulations.

#### **18. 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(a), 17(b), 17(c), 17(e) or 17(f) 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 shall in no case exceed 90 days.

#### **19. Repeal of regulations**

The Lead Regulations published under Government Notice R.586 of 22 March 1991, are hereby repealed.

**20. Short title**

These regulations shall be called the Lead Regulations, 2001.

**ANNEXURE A**  
(Regulation 8(2)(b)(i))

<b>Blood lead <math>\mu\text{g}/100 \text{ m}\ell</math></b>	<b>Maximum intervals between blood lead measurements</b>
Under 20	12 months
20 - 39	6 months
40 - 59	3 months
60 and over	At the discretion of the occupational medicine practitioner;

**ANNEXURE B**  
(Regulation 8(2)(b)(ii))

<b>Urinary lead <math>\mu\text{g}/\text{litre}</math></b>	<b>Maximum intervals between urinary lead measurements</b>
Under 120	6 weeks
120 - 149	1 week
150 and over	At the discretion of the occupational medicine practitioner;

**ANNEXURE C**  
(Regulation 8(d))

<b>Blood lead <math>\mu\text{g} / 100 \text{ m}\ell</math> Removal level</b>	<b>Date effected</b>
75	30 June 2002
70	30 June 2003
65	30 June 2004
60	30 June 2005

**ANNEXURE D**  
(Regulation 8(3)(b))

<b>Blood lead <math>\mu\text{g} / 100 \text{m}\ell</math> Return level</b>	<b>Date effected</b>
65	30 June 2002
60	30 June 2003
55	30 June 2004
50	30 June 2005