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GOVERNMENT NOTICE GOEWERMENTSKENNISGEWING

DEPARTMENT OF LABOUR
DEPARTEMENT VAN ARBEID

No. R. 959

16 August 1999

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

DRAFT AMENDED LEAD REGULATIONS

The Minister of Labour intends, in terms of section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), on the recommendation of the Advisory Council for Occupational Health and Safety, to make the regulations contained in the Schedule.

Interested persons are invited to submit any substantiated comments or representations on the proposed regulations to the Director General of Labour, Private Bag X117, Pretoria, 0001 (for the attention of the Chief Director: Occupational Health and Safety), within 90 days of the date of publication of this notice.

MMS MDLADLANA
MINISTER OF LABOUR

SCHEDULE

DRAFT AMENDED LEAD REGULATIONS, 1999

1. DEFINITIONS

In these Regulations "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any expression to which a meaning has been assigned to in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"action level" means a time-weighted average concentration of a substance in the workplace air that is distinctly below the exposure limit for that substance, and at or above which level certain prescribed preventive measures must be taken;

"action level for lead" means an action level of 0,075 mg of airborne lead, other than for tetra-ethyl lead, per cubic meter of air, and in the case of tetra-ethyl lead it means an action level of 0,05 mg airborne lead per cubic meter of air, measured in accordance with a safety standard incorporated into these regulations under section 44 of the Act;

"annexure" means an annexure to these regulations;

"approved inspection authority" means an inspection authority approved by the chief inspector for-

(a) the monitoring of lead concentrations in the air; or

(b) the analysis of blood lead or urinary lead concentrations;

"construction work" means construction work as defined in regulation 1 of the General Administrative Regulations ;

"EH 42" means Guidance Note EH 42 of the Health and Safety Executive of the United Kingdom: *Monitoring Strategies for Toxic Substances*, 1989 HSE ISBN 0 11885412 7, as revised from time to time;

"exposed" means exposed to lead whilst at the workplace and "exposure" has a corresponding meaning;

"General Administrative Regulations" means the General Administrative Regulations published under Government Notice No. R.1449 of 6 September 1996 in terms of section 43 of the Act;

"health safety standard" means the health safety standards that have been incorporated into these regulations in terms of section 44 of the Act;

"intake" includes inhalation, ingestion and any other means of absorption;

"IOHSA" means the Institute for Occupational Hygienists of South Africa;

"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 safety standards, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five percent of the dry weight of the portion taken for analysis;

"measurement programme" means a programme according to the monitoring strategy as contemplated in EH 42;

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

"OESSM" means the Occupational Exposure Sampling Strategy Manual, published by the National Institute for Occupational Safety and Health (NIOSH), Publication No. 77-173 of 1977, United States of America: Department of Health, Education and Welfare;

"OEL" or "occupational exposure limit" means a limit value set by the Minister for a stress factor in the workplace as revised from time to time by notice in the Government Gazette;

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

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

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations;

"respiratory protective equipment" means a device that is worn over at least the mouth and nose to prevent the inhalation of air that is not safe, and which is of a type, or conforming to a standard, approved by the Minister;

"respirator zone" means an area where the concentration of airborne lead exceeds 0,1 mg of lead per cubic metre of air, without the use of respiratory protective equipment;

"SABS 0228" means the South African Bureau of Standards's Code of Practice for the Identification and Classification of Dangerous Substances and Goods;

"SABS 0229" means the South African Bureau of Standards's Code of Practice for Packaging of Dangerous Goods for Road and Rail Transportation in South Africa;

"SABS 0400" means the South African Bureau of Standards's Code of Practice for the Application of the National Building Regulations;

"SABS SM 1164" means the South African Bureau of Standards's standard method for the determination of lead (inorganic and tetra-alkyl) in the workplace air by atomic absorption and spectrophotometry.

SCOPE OF APPLICATION

- 2.(1) Subject to the provisions of 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) The provisions of these regulations shall not apply to an employer or self-employed person at a workplace where the exposure to lead-
 - (i) is lower than the action level, except where there is a substantial risk that lead could be absorbed or ingested by a person in that workplace; and
 - (ii) is such that no substantial adverse change is likely to occur in the work practice that may lead to an increase in the exposure to lead.

EXPOSURE TO AIRBORNE LEAD

3. Save for the provisions of regulation 12(1), no employer shall require or permit any employee to work in an environment in which he or she would be exposed in excess of the prescribed occupational exposure limits for lead.

INFORMATION AND TRAINING

- 4.(1) An employer shall, before any employee is exposed, 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, both practically and theoretically, with regard to –
 - (a) the contents and scope of these Regulations;
 - (b) the potential sources of exposure;
 - (c) the potential risk to health caused by exposure to lead, including the health risks to employees, families and others that could result from taking home lead-contaminated equipment and clothing, and the dramatically increased risk of lead poisoning in workers who also smoke;
 - (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 himself or herself against the health risks associated with exposure, including 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 action levels 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 exposures off 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;
 - (m) waste disposal;
 - (n) the procedures for record keeping; and
 - (o) all other matters contemplated in regulation 5.
- (2) Refresher training must be given on aspects stipulated in subregulation (1) at least every year or at intervals as may be recommended by the health and safety committee. Training should be given more frequently if-
- (a) working methods change;
 - (b) the type of equipment used to control exposure changes; or
 - (c) the type of work carried out changes significantly.
- (3) The training should be provided by somebody who is competent to provide it and has adequate practical experience and theoretical knowledge of all aspects of the work being carried out by the employer.
- (4) An employer and self-employed person shall ensure as far as is reasonably practicable that their mandatories or any other persons that may be affected by lead exposure at the workplace other than employees are given adequate information, instruction and training.

- (5) The employer shall keep a record of any training that is performed, both practical and theoretical.
- (6) An employer or a self-employed person shall give written instructions of the procedures contemplated in subregulation (1)(j) to the drivers of vehicles carrying the lead or lead-containing material.
- (7) An employer or a self-employed person shall ensure that he himself or she herself or any person who in any manner assists him or her in the carrying out or the conducting of his or her business, has the necessary information and has undergone sufficient training for him or her to identify the potential risk and the precautions that should be taken.

DUTIES OF PERSONS WHO MAY BE EXPOSED

5. Every employee who is exposed shall obey any lawful instruction given by or on behalf of the employer 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 the regulations;
 - (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 environmental and health practices; and
 - (h) information and training as contemplated in regulation 4.

ASSESSMENT OF POTENTIAL EXPOSURE

- 6.(1) An employer or self-employed person shall, after consultation with the relevant health and safety representative or relevant health and safety committee, cause an immediate assessment to be made and thereafter at intervals not exceeding two years, to determine if any employee may be exposed by any route of intake.

- (2) An employer shall inform the relevant health and safety representative or relevant health and safety committee in writing of the arrangements made for the assessment contemplated in subregulation (1), 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, the employer or self-employed person shall keep a record of the assessment and take into account such matters as-
 - (a) the type of lead to which an employee may be exposed;
 - (b) what effects the lead can have on an employee;
 - (c) where the lead may be present and in what physical form it is likely to be;
 - (d) the route of intake by which and the extent to which an employee can be exposed; and
 - (e) the nature of the work, process and any reasonable deterioration in, or failure of, any control measures.
- (4) If the assessment made in accordance with subregulation (3) indicates that any employee may be exposed to lead, the employer shall ensure that monitoring is carried out in accordance with the provisions of regulations 7 and 8 and that the exposure is controlled as contemplated in regulation 11.
- (5) An employer shall review the assessment required by subregulation (1) forthwith if-
 - (a) there is reason to suspect that the previous assessment is no longer valid; or
 - (b) there has been a change in a process involving lead or in the methods, equipment or procedures in the use, handling, control or processing of lead;and the provisions of subregulations (2), (3) and (4) shall apply.

AIR MONITORING

- 7.(1) Where the inhalation of lead is concerned, an employer contemplated in regulation 6(4) shall ensure that the measurement programme of the airborne concentrations of the lead to which an employee is exposed, is-
 - (a) carried out in accordance with the provisions of 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 to comment thereon;
- (c) carried out by:
 - (i) an approved inspection authority; or
 - (ii) a person who is registered with IOHSA and whose ability to do the measurements is verified by an approved inspection authority, in accordance with the provisions of subregulation (3);
- (d) representative of the exposure of employees to the airborne lead in accordance with the provisions of subregulation (2).

(2) In order to comply with the provisions of subregulation (1)(d) an employer shall:

- (a) Ensure that the measurement programme, 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 Technical Appendix A of OESSM: Provided that measurements of exposure shall be done by personal sampling: Provided further that static sampling may be used for checking control measures.

- (b) If the most exposed employee can be identified and the assessment indicates that this employee's exposure will be less than the action level prescribed for lead then-

A level 1-sampling strategy may be used as contemplated in EH42 and described in Chapter 3.1.1 of OESSM.

- (c) When the most exposed employee cannot be identified or the assessment indicates that this employee's exposure may exceed the action limit prescribed for lead then -

At least a level 2 sampling scheme shall be used, as contemplated in EH42 and described in Chapter 3.1.2 of OESSM. Provided that such sample size shall be chosen to ensure that the most exposed employee falls within the top 10% of exposed employees within the group taken at the 95% confidence level:

- (d) Ensure that representative measurements are carried out at least every 12 months: Provided that whenever the OEL that has been prescribed for lead is exceeded, the provisions of regulation 11 shall apply.

- (3) In order to comply with the provisions of subregulation (1)(c)(ii), an employer shall obtain the services of an approved inspection authority who shall, at intervals not exceeding 12 months, do the verification-

- (a) by examining the measurement and analysis equipment of the employer;
- (b) by questioning the person to be verified regarding the measurement programme;
- (c) by carrying out the measurement programme required by subregulation (2) for any one group simultaneously with the person to be verified;
- (d) by entering the results of the measurement and investigation as contemplated in subregulations (2) and (3) respectively, in the record required by regulation 10; and
- (e) by making a statement as to whether the person contemplated in subregulation (1)(c)(ii) is recommended to carry out the measurement programme as required by subregulation (2).

MEDICAL SURVEILLANCE

- 8.(1) Every employer shall ensure that every employee is under the medical surveillance of an occupational medicine practitioner if-
- (a) the employee is employed in a respirator zone;
 - (b) the employee is exposed to tetra-alkyl lead; or
 - (c) the occupational medicine practitioner certifies that the employee should be under medicine surveillance.
- (2) In order to comply with the provisions of subregulation (1), the employer shall ensure that-
- (a) an initial medical examination is carried out immediately before or within 14 days after a person commences employment, which comprises:
 - (i) An evaluation of the employee's medical and occupational history;
 - (ii) clinical examinations;
 - (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 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; and

- (iv) subject to the provisions of subregulation (2)(a)(iii), biological monitoring, which shall consist of measurement of blood lead concentration for employees exposed to lead, other than tetra-alkyl lead, at intervals as prescribed in the Table below are carried out periodically after the expiry of the first six months of employment: Provided that in the case of females who are capable of procreation all such measurements are carried out at three-monthly intervals;

Blood lead $\mu\text{g}/100\text{ ml}$	Maximum intervals between blood lead measurements
Under 20	12 months
20 – 39	6 months
40 – 59	3 months
60 and over	At the discretion of the occupational medicine practitioner;

- (v) in the case of tetra-alkyl lead, immediate measurement of the employee's urinary lead concentration and thereafter at intervals as prescribed in the Table:

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

- (b) clinical examinations and relevant biological tests are carried out at the discretion of the occupational medicine practitioner;
- (c) (i) where the blood lead concentration of an employee is equal to or greater than $60\text{ }\mu\text{g}/100\text{ ml}$, the employer has the test repeated, and if the results of the repeat test corrected for the haematocrit value, with reference to a standard value for men of 43 % and of 38 % for women, is greater than $60\text{ }\mu\text{g}/100\text{ ml}$, that the employee is certified as unfit for work in an area which exposes him or her 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 $60\text{ }\mu\text{g}/100\text{ ml}$ as unfit for work in an area in which he or she is exposed to lead;
- (ii) where the urinary lead concentration of an employee is equal to or greater than $150\text{ }\mu\text{g}/\text{l}$, the employer has the test repeated, and if the results of the repeat test are greater than $150\text{ }\mu\text{g}/\text{l}$, that the employee is certified as unfit for work in an area which exposed him or her 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 as unfit for work in an area in which he or she is exposed to lead; and

- (iii) where the ZPP in blood value of an employee is equal to or greater than 10 µg ZPP/g haemoglobin, the employer has the test repeated, and if the results of the repeat test are the same or higher, than the employee is certified as temporarily unfit for work in an area which exposes him or her to lead: Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a ZPP in blood value of less than 10 µg/g haemoglobin but higher than 8 µg ZPP per gram haemoglobin as unfit for work in an area in which he or she is exposed to lead.

(3) The employer shall ensure that no employee certified by the occupational medicine practitioner as unfit for work in an area which exposes him or her to lead, returns to such work until-

- (i) the occupational medicine practitioner certifies in writing that the employee is fit for such work; and
- (ii) the employee's blood lead concentration is less than 50 µg/100 ml; or
- (iii) the ZPP value is less than 6 µg/g haemoglobin; or
- (iv) the employee's urinary lead concentrations is less than 130 µg/l.

(4) The employer shall ensure that-

- (i) a woman who is capable of procreation and who carries out work that exposes her to lead, is suspended 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 becomes pregnant; and
- (ii) the employee contemplated in subregulation (4)(i) 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.

(5) Where it is found that any employee had to be removed from his or her workplace owing to the provisions of subregulation 2(c)(i), 2(c)(ii), 2(c)(iii) and 4(i), the employer shall record and investigate the incident in accordance with regulation 8 of the General Administrative Regulations.

RESPIRATOR ZONE

9. The employer shall ensure-

- (a) that any 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

employees in that workplace exceeds the OEL without the wearing of respiratory protective equipment, is zoned as a respirator zone;

- (b) that a respirator zone is clearly demarcated and identified by notice indicating that the relevant area is a respirator zone and that respiratory protective equipment as contemplated in regulation 12 must be worn there; and
- (c) that no person enters or remains in a respirator zone unless he or she wears the required respiratory protective equipment.

RECORDS

10. The 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, 8 and 14(b): Provided that personal medical records shall only be made available to an occupational medicine practitioner or an occupational health practitioner;
- (b) subject to the provisions of paragraph (c), make the records contemplated in paragraph (a), excluding personal medical records, available for inspection by an inspector;
- (c) subject to formal written consent of an employee, allow any person to peruse the records with respect to that particular employee;
- (d) make the records of all assessments and air monitoring available for perusal by the relevant health and safety representative or relevant health and safety committee;
- (e) keep all records of assessments and air monitoring for a minimum period of 30 years;
- (f) keep all medical surveillance records for a minimum period of 30 years and if the employer ceases activities, hand over or forward by registered post all these records to the relevant provincial director: Provided that these records shall contain at least the following information:
 - (i) Surname, forenames, sex, 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, with starting and finishing dates and with average duration of exposure in hours per week;
 - (iii) a record of any work with lead prior to this employment; and
 - (iv) dates of medical examinations;

- (g) keep all records of the tests and investigations carried out in terms of regulation 14(b) and of any repairs resulting from these tests and investigations, for at least three years; and
- (h) keep a record of training given to an employees, in terms of regulation 4(5) for as long as the employee remains employed at the workplace in which he or she is being exposed to lead.

CONTROL OF EXPOSURE TO LEAD

- 11.(1) The employer shall ensure that the exposure of an employee 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 the level of exposure is below the OEL or if the relevant area is zoned and the level of exposure is reduced to below the OEL by means of adequate respiratory protective equipment only after the level has been reduced to a level as low as is reasonably practicable by any other means than respiratory protective equipment.
- (2) Where reasonably practicable, the employer shall control the exposure of an employee-
- (a) by using a substitute for lead or lead-containing material;
 - (b) by limiting the number of employees who will be exposed or may be exposed;
 - (c) by limiting the period during which an employee will be exposed or may be exposed;
 - (d) by limiting the amount of lead that may contaminate the working environment;
 - (e) by introducing engineering measures for the control of exposure, including the following:
 - (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; and
 - (v) the ready identification of early corrective action to be taken;

- (f) by introducing appropriate work procedures that an employee must follow where materials are used, processed, handled or stored that could give rise to the exposure of an employee and that shall include written instruction to ensure that-
 - (i) lead is safely handled, used and disposed of;
 - (ii) process machinery, installations, equipment, tools and local extraction and general ventilation systems are safely used and maintained; and
 - (iii) early corrective action regarding the control of lead exposure can be readily taken.
- (3) The employer shall ensure that the release of lead into any environment or water system complies with the provisions of the National Water Act, 1998 (Act No. 36 of 1998), the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965), and the Environment Conservation Act, 1989 (Act No. 73 of 1989).

PERSONAL PROTECTIVE EQUIPMENT AND FACILITIES

- 12(1) If it is not reasonably practicable to ensure that the exposure of an employee is adequately controlled as contemplated in regulation 11(1), the employer shall-
 - (a) in the case of airborne lead, provide the employee with suitable respiratory protective equipment and protective clothing; and
 - (b) in the case of tetra-alkyl leads, which can be absorbed through the skin, provide the employee with suitable lead impermeable protective equipment.
- (2) Where respiratory protective equipment is provided, the employer shall ensure that -
 - (a) the relevant equipment is capable of keeping the exposure to 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 is known to the employees; and
 - (d) the equipment is kept in good condition and efficient working order.
- (3) An employer shall, as far as is reasonably practicable-
 - (a) issue no used personal protective equipment to an employee, unless the relevant protection equipment is properly decontaminated and if necessary 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 therefor.
- (4) An employer 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, 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 -
 - (i) the equipment shall be packed in impermeable containers;
 - (ii) the containers shall be tightly sealed and have clear indication thereon that the contents thereof are contaminated; and
 - (iii) the relevant contractor shall be fully informed of the requirements of these regulations and the precautions to be taken for the handling of the contaminated equipment.
- (5) Subject to the provisions of subregulation (4)(b), an employer 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, an employer shall, where reasonably practicable, provide employees using 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 the "dirty" and "clean" change rooms, respectively, and ensure that the clothing is kept separately in the locker 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.

CLEANLINESS OF PREMISES AND PLANT

13. Every employer 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 taken immediately, 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 1 micrometre in size, or by some other means so that lead dust neither escapes nor is released into the air in such a manner 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 visible lead dust; and
- (d) where the use of vacuum-cleaning equipment is not reasonably practicable, surfaces which are to be cleaned are dampened and that employees undertaking such cleaning wear appropriate protective clothing and respiratory protective equipment.

MAINTENANCE OF CONTROL MEASURES

14. The employer shall ensure-

- (a) that all control equipment and facilities provided in terms of regulations 10, 11, 12 and 13 are maintained in good working order; and
- (b) that thorough 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 who is registered with IOHSA and whose ability to do the measurements and tests is verified by such an approved inspection authority.

PROHIBITIONS

- 15.(1) No person shall 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.
- (2) No person shall smoke, eat, drink or keep food or beverages in a respirator zone or require or permit any other person to smoke, eat, drink or keep food or beverages in such zone.
- (3) 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.

LABELLING, PACKAGING, TRANSPORTATION AND STORAGE

16. An employer shall, in order to avoid the spread of contamination 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 of a vehicle in which lead is transported is clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229.

DISPOSAL OF LEAD WASTE

17. An employer shall as far as is reasonably practicable-
- (a) recycle all lead waste;
 - (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 that 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 is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), in such a manner that it does not cause a hazard inside or outside the site concerned;
 - (e) ensure that all employees occupied in the collection, transport and disposal of lead waste, who may be exposed to that waste, are provided with suitable personal protective equipment; and
 - (f) ensure that if the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor shall also comply with the provisions of these regulations.

OFFENCES AND PENALTIES

18. Any person who contravenes or fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 17 shall be guilty of an offence and liable on conviction to a fine or to 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.

SHORT TITLE

19. These regulations shall be called the Draft Amended Lead Regulations, 1999.

No. R. 959

16 Augustus 1999

WET OP BEROEPSGESONDHEID EN VEILIGHEID, 1993 (WET NO. 85 VAN 1993)**KONSEP GEWYSIGDE LOODREGULASIES**

Die Minister van Arbeid is voornemens om kragtens artikel 43 van die Wet op Beroepsgesondheid en Veiligheid, 1993 (Wet No. 85 van 1993), op aanbeveling van die Adviesraad vir Beroepsgesondheid en Veiligheid, die regulasies in die Bylae vervat, uit te vaardig.

Belanghebbendes word versoek om binne 90 dae na die publikasiedatum van hierdie kennisgewing enige gemotiveerde kommentaar of verhoë in verband met die voorgestelde regulasies in te dien by die Direkteur-generaal van Arbeid, Privaat Sak X117, Pretoria, 0001, (vir die aandag van die Hoofdirekteur: Beroepsgesondheid en Veiligheid).

M M S MDLADLANA
MINISTER VAN ARBEID

BYLAE**KONSEP GEWYSIGDE LOODREGULASIES, 1999****1. WOORDOMSKRYWING**

In hierdie Regulasies beteken "die Wet" die Wet op Beroepsgesondheid en Veiligheid, 1993 (Wet No. 85 van 1993), en het enige uitdrukking waaraan in die Wet 'n betekenis geheg is, daardie betekenis en, tensy uit die samehang anders blyk, beteken –

"aanhangel" 'n aanhangel by hierdie Regulasies;

"aksievlak" 'n tydbeswaarde gemiddelde konsentrasie van 'n substans in die lug van die werkplek wat duidelik onder die blootstellingsdrempel vir daardie substans is en waarby of waarbo sekere voorgeskrewe voorkomingsmaatreëls getref moet word;

"aksievlak vir lood" 'n aksievlak van 0,075 mg luggedraagde lood, uitgesonderd tetra-etiellood, per kubieke meter lug, en in die geval van tetra-etiellood beteken dit 'n aksievlak van 0,05 mg luggedraagde lood per kubieke meter lug, gemeet in ooreenstemming met 'n veiligheidstandaard wat kragtens artikel 44 van die Wet by hierdie Wet ingelyf is;

"Algemene Administratiewe Regulasies" die Algemene Administratiewe Regulasies gepubliseer by Goewermentskennisgewing No.R.1449 van 6 September 1996 kragtens artikel 43 van die Wet;

"asemhalingsbeskermingstoerusting" 'n toestel wat minstens oor die mond en neus gedra word om die inaseming van onveilige lug te verhoed en wat van 'n tipe is, of voldoen aan 'n standaard, wat deur die Minister gestel is;

"BBD" of "beroepsblootstellingsdrempel" 'n drempelwaarde gestel deur die Minister vir 'n stresfaktor in die werkplek, soos van tyd tot tyd hersien, by kennisgewing in die *Staatskoerant*;

"beroepsblootstellingsdrempel vir lood, in die geval van tetra-etiellood", 'n blootstellingsdrempel van 0,10 mg lood per kubieke meter lug, gemeet ooreenkomstig 'n veiligheidstandaard;

"beroepsblootstellingsdrempel vir lood uitgesonderd tetra-etiellood", 'n blootstellingsdrempel van 0,15 mg lood per kubieke meter lug, gemeet ooreenkomstig 'n veiligheidstandaard;

"blootgestel" aan lood blootgestel terwyl by die werkplek en het "blootstelling" 'n ooreenstemmende betekenis;

"EH 42" die Gidsnota *EH 42 of the Health and Safety Executive of the United Kingdom: Monitoring Strategies for Toxic Substances*, 1989 HSE ISBN 0 11885412 7, soos van tyd tot tyd hersien;

"gesondheidsveiligheidsstandaard" die gesondheidsveiligheidsstandaarde wat by hierdie regulasies ingelyf is kragtens artikel 44 van die Wet;

"goedgekeurde inspeksie-owerheid" 'n inspeksie-owerheid wat deur die hoofinspekteur goedgekeur is vir –

- (a) die monitering van loodkonsentrasies in die lug; of
- (b) die ontleding van bloedlood- of urienloodkonsentrasies;

"IBHSA" die Instituut vir Beroepshigiëne van Suid-Afrika;

"inneem" ook inasem, ingestie of enige ander wyse van absorbering;

"konstruksiewerk" konstruksiewerk soos omskryf in regulasie 1 van die Algemene Administratiewe Regulasies;

"lood" lood, loodalloorie en loodverbindings wat op enige wyse deur 'n persoon geabsorbeer kan word;

"loodverf" enige verf, grondverf, pasta, sproei, stopsel, stopverf of ander materiaal wat by verfwerk gebruik word, wat, wanneer dit ooreenkomstig die veiligheidsstandaarde behandel word met 'n waterige oplossing van soutsuur, 'n hoeveelheid oplosbare loodverbindings lewer wat, wanneer dit as loodmonoksied bereken is, vyf persent van die droëgewig van die gedeelte geneem vir analyse, oorskry;

"meetprogram" 'n program ooreenkomstig die moniteringstrategie soos bedoel in EH 42;

"monitering" die beplanning, uitvoer en optekening van 'n meetprogram;

"OESSM" die *Occupational Exposure Sampling Strategy Manual*, gepubliseer deur die National Institute for Occupational Safety and Health (NIOSH), Publikasie No. 77-173 van 1977, United States of America: Department of Health, Education and Welfare;

"provinsiale direkteur" die provinsiale direkteur soos omskryf in regulasie 1 van die *Algemene Administratiewe Regulasies*;

"respiratorsone" 'n gebied waar die konsentrasie luggedraagde lood hoër is as 0,1 mg lood per kubieke meter lug, sonder die gebruik van asemhalingsbeskermingstoerusting;

"SABS 0228" die Suid-Afrikaanse Buro van Standaarde se Gebruikskode vir die Identifikasie en Klassifikasie van Gevaarlike Substansie en Goedere;

"SABS 0229" die Suid-Afrikaanse Buro vir Standaarde se Gebruikskode vir die Verpakking van Gevaarlike Goedere vir Pad- en Spoorvervoer in Suid-Afrika;

"SABS 0400" die Suid-Afrikaanse Buro vir Standaarde se Gebruikskode vir die Toepassing van die Nasionale Bouregulasies;

"SABS SM 1164" die Suid-Afrikaanse Buro vir Standaarde se Standaardmetode vir die bepaling van Lood (Anorganies en Tetra-alkiel) in die werkplek deur atoomabsorpsie en spektrofotometrie.

TOEPASSINGSBESTEK

- 2.(1) Behoudens die bepalings van subregulasie (2), is hierdie regulasies van toepassing op elke werkgewer en persoon in eie diens by 'n werkplek waar lood geproduseer, geprosesseer, gebruik, gehanteer of geberg word in 'n vorm waarin dit ingeasem, geïngesteer of geabsorbeer word deur enige persoon in daardie werkplek.
- (2) Die bepalings van hierdie regulasies is nie van toepassing nie op 'n werkgewer of persoon in eie diens by 'n werkplek waar die blootstelling aan lood –
 - (i) laer is as die aksievlak vir lood buite waar daar 'n wesenlike risiko is dat lood geabsorbeer of geïngesteer kan word deur 'n persoon in daardie werkplek; en
 - (ii) sodanig is dat geen wesenlike nadelige verandering wat tot 'n verhoogde blootstelling aan lood sal lei, waarskynlik in die werkspraktyk sal voorkom nie.

BLOOTSTELLING AAN LUGGEDRAAGDE LOOD

3. Behoudens die bepalings van regulasie 12(1) mag geen werkgewer van 'n werknemer vereis of toelaat dat hy/sy in 'n omgewing werk waarin hy blootgestel sal wees aan meer as die voorgeskrewe beroepsblootstellingsdrempel vir lood nie.

INLIGTING EN OPLEIDING

- 4.(1) 'n Werkgewer moet, voordat 'n werknemer blootgestel word, na oorlegpleging met die gesondheids- en veiligheidskomitee ingestel vir daardie afdeling van die werkplek, verseker dat die werknemer voldoende en volledig ingelig en opgelei is, sowel prakties as teoreties, met betrekking tot –
 - (a) die inhoud en omvang van hierdie Regulasies;
 - (b) die potensiële bron van blootstelling;
 - (c) die potensiële gesondheidsrisiko wat veroorsaak word deur blootstelling aan lood met inbegrip van die gesondheidsrisiko's aan werknemers, gesinne en ander wat kan volg op die huis toe neem van loodgekontamineerde toerusting en klerasie, en die dramatiese verhoogde risiko van loodvergiftiging by werkers wat ook rook;
 - (d) die maatreëls wat getref word deur die werkgewer om 'n werknemer teen enige risiko van blootstelling te beskerm;
 - (e) die voorsorgmaatreëls wat deur die werknemer getref moet word om homself of haarself te beskerm teen die gesondheidsrisiko wat geassosieer word met

blootstelling, met inbegrip van die dra en gebruik van beskermende klere en asemhalingbeskermingstoerusting;

- (f) die noodsaaklikheid, korrekte gebruik, instandhouding en beperkings van beskermende toerusting, fasiliteite en ingenieursbeheermaatreëls wat verskaf word;
 - (g) die evaluering van blootstelling, die doel van lugmonsterneming, die noodsaaklikheid van mediese waarneming en die langtermynvoordele as sodanige mediese waarneming ondergaan word;
 - (h) die beroepsblootstellingsdrempels en aksievlakke en hul betekenis;
 - (i) die belangrikheid van goeie huishouding in die werkplek en persoonlike higiëne;
 - (j) die veilige werkprosedures betreffende die gebruik, hantering, prosessering en opberging van enige materiaal wat lood bevat, met die korrekte toepassing van beheermaatreëls om die verspreiding van lood buitekant die werkgebied te beperk; en om die blootstelling van werkers binne die werkgebied so laag as redelik prakties is te hou;
 - (k) die prosedures wat gevolg moet word in die geval van storting of enige ander soortgelyke noodtoestand of –situasie wat per ongeluk kan ontstaan;
 - (l) prosedures vir die rapportering en korrigerende van defekte;
 - (m) afvalwegdoening;
 - (n) prosedures vir rekordhouding; en
 - (o) alle ander aangeleenthede soos in regulasie 5 bedoel.
- (2) Opknappingsopleiding oor aspekte soos gestipuleer in subregulasie 1 moet minstens elke jaar gegee word of met tussenposes soos deur die gesondheids- en veiligheidskomitee aanbeveel. Opleiding behoort meer dikwels gegee te word indien –
- (a) werkmetodes verander;
 - (b) die tipe toerusting wat gebruik word om blootstellingsveranderinge te beheer, verander; of
 - (c) die tipe werk wat uitgevoer word beduidend verander.
- (3) Die opleiding moet voorsien word deur iemand wat bevoeg is om dit te verskaf en wat voldoende praktiese ondervinding en teoretiese kennis van alle aspekte van die werk het wat deur die werkgewer uitgevoer word.
- (4) 'n Werkgewer en persoon in eie diens moet, sover dit redelikerwys uitvoerbaar is, verseker dat hulle lashebbers of enige ander persone wat deur loodblootstelling by die

werkplek aangetas kan word, buiten werknemers, voldoende inligting, opdragte en opleiding gegee word.

- (5) Die werkgever moet rekord hou van enige opleiding wat uitgevoer word, sowel prakties en teoreties.
- (6) 'n Werkgever of 'n persoon in eie diens persoon moet skriftelike instruksies van die prosedures in subregulasie (1)(j) bedoel, gee aan die drywers van voertuie wat die lood of loodbevattende materiaal vervoer.
- (7) 'n Werkgever of 'n persoon in eie diens moet verseker dat hy of sy self of enige persoon wat op enige wyse hom of haar bystaan in die uitvoering van of die dryf van sy of haar besigheid, die nodige inligting het en voldoende opleiding ondergaan het om die potensiële risiko en die voorsorgmaatreëls wat getref moet word, te identifiseer.

PLIGTE VAN PERSONE WAT BLOOTGESTEL KAN WORD

5. Elke werknemer wat blootgestel word, moet gehoor gee aan enige regmatige instruksie wat deur of namens die werkgever gegee word betreffende –
 - (a) die voorkoming van vrystelling van lood in die omgewing;
 - (b) die dra en gebruik van persoonlike beskermende toerusting;
 - (c) die dra van moniteringstoerusting om persoonlike blootstelling aan luggedraagde lood te meet;
 - (d) aanmelding vir mediese toesig soos vereis deur die regulasies;
 - (e) die aanmelding, by die beroepsgesondheidpraktisyn, van swangerskap;
 - (f) die opruiming van en wegdoening van materiaal wat lood bevat;
 - (g) huishoudelike praktyke by die werkplek, persoonlike higiëne en omgewings- en gesondheidspraktyke; en
 - (h) inligting en opleiding soos bedoel in regulasie 4.

BERAMING VAN POTENSIËLE BLOOTSTELLING

- 6.(1) 'n Werkgever of persoon in eie diens moet na oorlegpleging met die betrokke gesondheids- en veiligheidsverteenwoordiger of die betrokke gesondheids- en veiligheidskomitee, toesien dat 'n onmiddellike beraming gemaak moet word en daarna met tussenposes wat nie twee jaar oorskry nie, om te bepaal of 'n werknemer blootgestel kan word deur enige roete van inname.
- (2) 'n Werkgever moet die betrokke gesondheids- en veiligheidsverteenwoordiger of betrokke gesondheids- of veiligheidskomitee skriftelik verwittig van die reëlins getref vir die beraming in subregulasie (1) bedoel, hulle redelike tyd gee om kommentaar

daaroor te lewer en om te verseker dat die resultate van die beraming aan hulle vir kommentaar beskikbaar gestel word.

- (3) Wanneer die beraming geskied, moet die werkgewer of persoon in eie diens rekord hou van die beraming en sodanige sake in aanmerking neem soos –
- (a) die tipe lood waaraan 'n werknemer blootgestel kan wees;
 - (b) watter uitwerkings die lood op 'n werknemer kan hê;
 - (c) waar die lood aanwesig kan wees en in watter fisiese vorm dit waarskynlik sal wees;
 - (d) die roete van inname waardeur en in watter mate 'n werknemer blootgestel kan wees; en
 - (e) die aard van die werk, proses en enige redelike verswakking in, of onderbreking van, enige beheermaatreëls.
- (4) Indien die beraming wat in oorleg met subregulasie (3) gemaak is, aandui dat enige werknemer aan lood blootgestel kan word, moet die werkgewer verseker dat die monitering uitgevoer word in ooreenstemming met die bepalings van regulasies 7 en 8 en dat die blootstelling beheer word soos in regulasie 11 bedoel.
- (5) 'n Werkgewer moet die beraming wat deur subregulasie (1) vereis word, onverwyld hersien indien –
- (a) daar rede is om te vermoed dat die vorige beraming nie meer geldig is nie; of
 - (b) daar 'n verandering was in die proses waarby lood betrokke is of in die metodes, toerusting of prosedures in die gebruik, hantering, beheer of prosessering van lood;
- en die bepalings van subregulasies (2), (3) en (4) is van toepassing.

LUGMONITERING

- 7.(1) Wat die inaseming van lood betref, moet 'n werkgewer in regulasie 6(4) bedoel, verseker dat die meetprogram van die luggedraagde konsentrasies van die lood waaraan 'n werknemer blootgestel word, –
- (a) uitgevoer word ooreenkomstig die bepalings van hierdie regulasies;
 - (b) uitgevoer word eers nadat die betrokke gesondheids- en veiligheidsverteenwoordiger of betrokke geondheids- en veiligheidskomitee daarvan verwittig is en 'n redelike geleentheid gegee is om daaroor kommentaar te lewer;

- (c) uitgevoer word deur –
- (i) 'n goedgekeurde inspeksie-owerheid; of
 - (ii) 'n persoon wat by IBHSA geregistreer is en wie se vermoë om die metings te doen, geverifieer is deur 'n goedgekeurde inspeksie-owerheid, ooreenkomstig subregulasie (3);
- (d) verteenwoordigend is van die blootstelling van werknemers aan die luggedraagde lood ooreenkomstig subregulasie (2).
- (2) Ten einde te voldoen aan subregulasie (1)(d) moet 'n werkgewer aan die volgende voldoen:
- (a) Daar moet verseker word dat die meetprogram, in die geval van 'n groepsmeting, voorsiening maak vir die selektering van die getal persone vir 'n monster wat gedoen moet word soos in hoofstukke 3 en 4 bedoel en die Tegniese Bylae A van die OESSM: Met dien verstande dat die metings van blootstelling gedoen moet word deur persoonlike monsterneming: Met dien verstande voorts dat statiese monsterneming gebruik kan word vir die nagaan van beheermaatreëls.
 - (b) Indien die beampte wat die hoogste blootstelling gehad het, geïdentifiseer kan word en die beraming aandui dat hierdie werknemer se blootstelling minder sal wees as die aksievlak vir lood voorgeskryf, moet die volgende gedoen word:

'n Vlak 1-monsternemingstrategie kan gebruik word soos bedoel in EH42 en beskryf in Hoofstuk 3.1.1 of OESSM.
 - (c) Wanneer die werknemer met die hoogste blootstelling nie geïdentifiseer kan word nie, of die beraming aandui dat hierdie werknemer se blootstelling die aksievlak voorgeskryf vir lood kan oorskry, moet die volgende gedoen word:

Minstens 'n vlak 2-monsternemingstrategie moet gebruik word, soos bedoel word in EH42 en beskryf in Hoofstuk 3.1.2 van OESSM: Met dien verstande dat sodanige monstergrootte gekies sal word om te verseker dat die werknemer met die hoogste blootstelling in die top 10% van blootgestelde werknemers binne die groep val wat geneem is op die 95%-vertrouensvlak.
 - (d) Daar moet verseker word dat verteenwoordigende metings minstens elke 12 maande uitgevoer word: Met dien verstande dat wanneer die BBD wat vir lood voorgeskryf is, oorskry word, regulasie 11 van toepassing is.
- (3) Ten einde aan die bepalings van subregulasie (1)(c)(ii) te voldoen, moet 'n werkgewer die dienste van 'n goedgekeurde inspeksie-owerheid verkry, wat met tussenposes van nie langer as 12 maande nie, die verifiëring moet doen –
- (a) deur van die meet- en ontledingstoerusting van die werkgewer te ondersoek;

- (b) die persoon wat geverifieer moet word, te ondervra betreffende die meetprogram;
- (c) deur die meetprogram wat vereis word deur subregulasie (2) vir 'n bepaalde groep gelyktydig uit te voer met die persoon wat geverifieer moet word;
- (d) deur die resultate van die metings en ondersoek soos in onderskeidelik in subregulasies (2) en (3) bedoel, aan te teken in die rekord soos in regulasie 10 vereis; en
- (e) deur 'n verklaring te maak hetsy die persoon in subregulasie (1)(c)(ii) bedoel, aanbeveel word om die meetprogram soos by subregulasie (2) vereis, uit te voer.

MEDIESE TOESIG

- 8.(1) Elke werkgever moet verseker dat elke werknemer onder die mediese toesig van 'n beroepsgeneeskundige is indien –
- (a) die werknemer in diens is in 'n respiratorsone;
 - (b) die werknemer blootgestel word aan tetra-alkiel-lood; of
 - (c) die beroepsgeneeskundige sertifiseer dat die werknemer onder mediese toesig moet wees.
- (2) Ten einde aan subregulasie (1) te voldoen, moet die werkgever verseker dat –
- (a) 'n aanvanklike mediese ondersoek uitgevoer word onmiddellik voor of binne 14 dae nadat 'n persoon diens aanvaar, wat die volgende omvat:
 - (i) 'n Evaluering van die werknemer se mediese en beroepsgeskiedenis;
 - (ii) kliniese ondersoeke;
 - (iii) in die geval van lood uitgesonderd tetra-alkiel-lood, die meting van die werknemer se bloedlood- en hemoglobienkonsentrasies en ander relevante biologiese toetse na goeddunke van die beroepsgeneeskundige: Met dien verstande dat die meting van die bloedloodkonsentrasies herhaal moet word gedurende die derde en die sesde maand na diensaanvaarding: Met dien verstande voorts dat wanneer die monitoring van sinkprotoporfien in bloed uitgedruk in $\mu\text{g ZPP/g}$ hemoglobien met tussenposes van nie meer as twee maande uitgevoer word nie, slegs jaarlikse bloedloodkonsentrasiemetings vereis word; en
 - (iv) behoudens subregulasie (2)(a)(iii), biologiese monitoring wat moet bestaan uit die meting van bloedloodkonsentrasie vir werknemers wat aan lood uitgesonderd tetra-alkiel-lood blootgestel word, met tussenposes soos in die Tabel hieronder voorgeskryf, periodiek uitgevoer na die verstryking van

die eerste ses maande diens: Met dien verstande dat in die geval van vroulike werknemers wat tot voorplanting in staat is, al sodanige metings met tussenposes van drie maande uitgevoer word;

Bloedlood $\mu\text{g}/100\text{ ml}$

Maksimum tussenposes tussen bloedloodmetings

Onder 20
20 - 39
40 - 59
60 en oor

12 maande
6 maande
3 maande
Volgens die diskresie van die beroepsgeneeskundige;

- (v) in die geval van tetra-alkiel-lood, onmiddellike meting van die werknemer se urinêre loodkonsentrasie en daarna met tussenposes soos beskryf in die Tabel:

Urienlood $\mu\text{g}/\text{liter}$

Maksimum tussenposes tussen urienloodmetings

Onder 120
120 - 149
150 en oor

6 weke
1 week
Volgens die diskresie van die aangewese beroepsgeneeskundige;

- (b) kliniese ondersoeke en relevante biologiese toetse word uitgevoer volgens die diskresie van die beroepsgeneeskundige;
- (c) (i) waar die bloedloodkonsentrasie van 'n werknemer gelyk is aan of groter is as $60\text{ }\mu\text{g}/100\text{ ml}$, laat die werkgewer die toets herhaal, en as die resultaat van die hertoets nagesien vir die hematokritwaarde, met verwysing na 'n standaardwaarde van 43% vir mans en 38% vir vroue, groter is as $60\text{ }\mu\text{g}/100\text{ ml}$, dat die werknemer as ongeskik vir werk verklaar word in 'n gebied wat hom of haar aan lood blootstel: Met dien verstande dat die beroepsgeneeskundige, indien hy of sy dit nodig ag, 'n werknemer wat 'n bloedloodkonsentrasie van minder as $60\text{ }\mu\text{g}/100\text{ ml}$ het, kan sertifiseer as ongeskik vir werk in 'n gebied wat hom of haar aan lood blootstel;
- (ii) waar die urienloodkonsentrasie van 'n werknemer gelyk is aan of meer is as $150\text{ }\mu\text{g}/\text{l}$, laat die werkgewer die toets herhaal en as die resultaat van die hertoets groter is as $150\text{ }\mu\text{g}/\text{l}$ dat die werknemer gesertifiseer word as ongeskik vir werk in 'n gebied wat hom of haar blootstel aan lood: Met dien verstande dat die beroepsgeneeskundige, indien hy of sy dit nodig ag, kan sertifiseer dat 'n werknemer wat 'n urienloodkonsentrasie van minder as $150\text{ }\mu\text{g}/\text{l}$ het, ongeskik is vir werk in gebied waarin hy of sy aan lood blootgestel is; en

- (iii) waar die ZPP-waarde van 'n werknemer gelyk is aan of groter is as $10 \mu\text{g}$ ZPP/g hemoglobied, moet die werkgewer die toets laat herhaal en indien die resultate van die hertoets dieselfde of hoër is, moet die werknemer verklaar word as tydelik ongeskik vir die werk in 'n gebied wat hom of haar aan lood blootstel. Met dien verstande dat die beroepsgeneeskundige, indien hy of sy dit nodig ag, 'n werknemer wie se bloed 'n ZPP-waarde van minder as $10 \mu\text{g}$ /g hemoglobien het maar hoër as $8 \mu\text{g}$ /ZPP per gram hemoglobien, kan klassifiseer as ongeskik vir werk in 'n gebied wat hom of haar aan lood blootstel.
- (3) Die werkgewer moet verseker dat geen werknemer wat deur die beroepsgeneeskundige as ongeskik vir werk gesertifiseer is in 'n gebied wat hom of haar aan lood blootstel, na sodanige werk terugkeer totdat –
- (i) die beroepsgeneeskundige skriftelik sertifiseer dat die werknemer vir sodanige werk geskik is; en
 - (ii) die werknemer se bloedloodkonsentrasie minder as $50 \mu\text{g}/100 \text{ ml}$ is; of
 - (iii) ZPP-waarde minder as $6 \mu\text{g}/\text{g}$ hemoglobien is; of
 - (iv) die werknemer se urienloodkonsentrasies minder as $130 \mu\text{g}/\text{l}$ is.
- (4) Die werkgewer moet verseker dat –
- (i) 'n vroulike werknemer wat tot voortplanting in staat is en wat werk verrig wat haar aan lood blootstel, van sodanige werk verwyder word wanneer haar bloedloodkonsentrasie $40 \mu\text{g}/100 \text{ ml}$ oorskry of haar urinêre loodkonsentrasie $75 \mu\text{g}/\text{l}$ oorskry, of indien sy swanger word; en
 - (ii) die werknemer in subregulasie (4)(i) bedoel, nie toegelaat word om na die werk wat haar aan lood blootstel terug te keer nie tensy haar bloedloodkonsentrasie minder as $30 \mu\text{g}/100 \text{ ml}$ of haar urienloodkonsentrasie minder as $65 \mu\text{g}/\text{l}$ is.
- (5) Waar daar gevind word dat 'n werknemer van sy of haar werkplek verwyder is as gevolg van die bepalings van subregulasies (2)(c)(i), 2(c)(ii), 2(c)(iii) en (4)(i), moet die werkgewer die voorval ooreenkomstig regulasie 8 van die Algemene Administratiewe Regulasies ondersoek.

RESPIRATORSONE

9. Die werkgewer moet verseker –
- (a) dat 'n werkplek of deel van 'n werkplek onder sy of haar beheer, waar die loodkonsentrasie in die lug sodanig is, of kan wees, dat die blootstelling van werknemers in daardie werkplek die BBD oortref sonder die dra van die asemhalingbeskermingstoerusting, as 'n respiratorsone gesoneer word;

- (b) dat 'n respiratorsone duidelik afgebaken en geïdentifiseer word deur 'n kennisgewing wat aandui dat die betrokke gebied 'n respiratorsone is en dat asemhalingbeskermingstoerusting soos in regulasie 12 bedoel, hier gedra moet word; en
- (c) dat geen persoon 'n respiratorsone binnegaan of daar bly nie tensy hy of sy die vereiste asemhalingbeskermingstoerusting dra.

REKORDS

10. Die werkgewer moet –

- (a) rekord hou van die resultate van alle beramings, lugmonitering, mediese toesigverslae en instandhouding van beheermaatreëls vereis deur regulasies 6,7,8 en 14(b): Met dien verstande dat persoonlike mediese rekords slegs aan 'n beroepsgeneeskundige bekendgemaak mag word of aan 'n beroepsgesondheidsbeampte;
- (b) behoudens paragraaf (c) die rekords in paragraaf (a) bedoel, uitgesonderd persoonlike mediese rekords, beskikbaar maak vir inspeksie deur 'n inspekteur;
- (c) behoudens formele skriftelike toestemming van 'n werknemer, 'n persoon toelaat om insae te hê in die rekords rakende daardie betrokke werknemer;
- (d) die rekords van alle beramings en lugmonitering beskikbaar stel vir insae deur die betrokke gesondheids- en veiligheidsverteenwoordiger of betrokke gesondheids- en veiligheidskomitee;
- (e) alle rekords van beramings en lugmonitering vir 'n minimum tydperk van 30 jaar hou;
- (f) alle mediese toesigrekords vir 'n minimum tydperk van 30 jaar hou en indien die werkgewer werksaamhede staak, moet al daardie rekords oorhandig word of per geregistreerde pos na die betrokke provinsiale direkteur aangestuur word: Met dien verstande dat hierdie rekord minstens die volgende inligting bevat :
 - (i) Die van, voorname, geslag, geboortedatum, naam van eggenoot of naaste familielid en, waar beskikbaar, permanente adres en poskode;
 - (ii) 'n rekord van tipes werk wat met lood uitgevoer word en, waar relevant, die ligging daarvan, met begin- en einddatums en met gemiddelde duur van blootstelling in ure per week;
 - (iii) 'n rekord van enige werk met lood voor hierdie indiensneming; en

- (iv) datums van mediese ondersoeke;
- (g) rekord hou van al die toetse en ondersoeke uitgevoer ingevolge regulasie 14(b) en van enige herstelwerk wat uit hierdie toetse gespruit het en ondersoeke, vir minstens drie jaar; en
- (h) rekord hou van opleiding wat aan 'n werknemer gegee word, soos vereis ingevolge regulasie 4(5) vir so lank as wat die werknemer in diens bly by die werkplek wat daartoe gelei het dat hy of sy aan lood blootgestel is.

BEHEER VAN BLOOTSTELLING AAN LOOD

- 11.(1) Die werkgever moet verseker dat die blootstelling van 'n werknemer óf voorkom word, óf, waar dit nie redelikerwys uitvoerbaar is nie, voldoende beheer word: Met dien verstande dat die beheer van die blootstelling beskou moet word as voldoende indien die vlak van blootstelling laer is as die BBD of indien die betrokke gebied gesoneer is en die vlak van blootstelling verminder is tot onder die BBD deur middel van voldoende asemhalingbeskermingstoerusting slegs nadat die vlak verminder is tot 'n vlak so laag as wat redelikerwys uitvoerbaar is, op ander wyses as asemhalingbeskermingstoerusting.
- (2) Waar redelikerwys uitvoerbaar is, moet die werkgever die blootstelling van 'n werknemer beheer deur –
 - (a) die gebruik van 'n plaasvervanger vir lood of loodbevattende materiaal;
 - (b) die beperking van die getal werknemers wat blootgestel sal word of kan word;
 - (c) die beperking van die tydperk waartydens 'n werknemer blootgestel sal word of kan word;
 - (d) die beperking van die hoeveelheid lood wat die werkomgewing kan besoedel;
 - (e) die instel van ingenieursmaatreëls vir die beheer van blootstelling insluitende die volgende:
 - (i) Skeiding, outomatisering of insluiting van die proses;
 - (ii) die installering van lokale uitsuig- en ventilasiestelsels aan prosesse, toerusting of gereedskap vir die beheer van uitlate van luggedraagde lood;
 - (iii) die gebruik van nat metodes waar toepaslik;
 - (iv) afsonderlike werkplekke vir verskillende prosesse wat uitgevoer moet word; en
 - (v) dat die nodigheid om tot vroeë korrektiewe aksie oorgegaan word, gereedelik geïdentifiseer word;

- (f) deur gepaste werkprosedures wat 'n werknemer moet volg waar materiale gebruik, geprosesseer, gehanteer of geberg word wat aanleiding kan gee tot die blootstelling van 'n werknemer en genoemde prosedures moet skriftelike instruksies insluit om te verseker dat –
 - (i) dat lood veilig gehanteer, gebruik en weggedoen word;
 - (ii) dat prosesmasjinerie, installasies, toerusting, gereedskap en lokale uitsuig- en algemene ventilasiestelsels veilig gebruik en in stand gehou word; en
 - (iii) dat vroeë korrektiewe optrede betreffende die beheer van loodblootstelling betyds geskied.
- (3) Die werkgewer moet verseker dat die vrystelling van lood in 'n omgewing of waterstelsel voldoen aan die Nasionale Waterwet, 1998 (Wet No. 36 van 1998), die Wet op die Voorkoming van Lugbesoedeling, 1965 (Wet No. 45 van 1965), en die Wet op Omgewingsbewaring, 1989 (Wet No. 73 van 1989).

PERSOONLIKE BESKERMINGSTOERUSTING EN FASILITEITE

- 12.(1) Indien dit nie redelikerwys uitvoerbaar is om te verseker dat die blootstelling van 'n werknemer voldoende beheer word soos in regulasie 11(1) bedoel nie, moet die werkgewer –
 - (a) in die geval van luggedraagde lood, die werknemer voorsien van geskikte beskermende toerusting en beskermende klere; en
 - (b) in die geval van tetra-alkiellood, wat deur die vel geabsorbeer kan word, die werknemer voorsien van geskikte loodondeurdringbare beskermende toerusting.
- (2) Waar die asemhalingsbeskermingstoerusting voorsien word, moet die werkgewer verseker –
 - (a) dat die relevante toerusting in staat is om die blootstelling te beheer tot benede die BBD vir die tipe lood;
 - (b) dat die relevante toerusting korrek geselekteer en behoorlik gebruik word;
 - (c) dat inligting, voorskrifte, opleiding en toesig wat nodig is met betrekking tot die gebruik van die toerusting bekend is aan die werknemers; en
 - (d) dat die toerusting in goeie en doeltreffende werkende toestand gehou word.

- (3) 'n Werkgewer moet, sover redelikerwys uitvoerbaar –
- (a) geen gebruikte persoonlike beskermingstoerusting aan 'n werkgewer uitreik nie, tensy die relevante beskermingstoerusting behoorlik gedekontamineer is en indien nodig gesteriliseer is;
 - (b) afsonderlike houers of bergingsfasiliteite voorsien vir persoonlike beskermingstoerusting wanneer dit nie gebruik word nie; en
 - (c) verseker dat alle persoonlike beskermingstoerusting wat nie in gebruik is nie slegs in die plek wat daarvoor voorsien word geberg word.
- (4) 'n Werkgewer moet, sover redelikerwys uitvoerbaar, verseker dat alle gekontaminateerde persoonlike beskermingstoerusting skoongemaak en gehanteer word ooreenkomstig die volgende prosedures:
- (a) Waar die toerusting op die perseel van die werkgewer skoongemaak word, moet sorg gedra word om kontaminasie gedurende hantering, vervoer en skoonmaak te voorkom.
 - (b) Waar die toerusting van die perseel na 'n kontrakteur vir skoonmaakdoeleindes gestuur word moet –
 - (i) die toerusting in ondeurdringbare houers verpak word;
 - (ii) die houers dig verseël en met duidelike aanduidings wees dat die inhoud daarvan gekontamineer is; en
 - (iii) die relevante kontrakteur ten volle ingelig wees oor die vereistes van die regulasies en die voorsorgmaatreëls wat getref moet word vir die hantering van die gekontaminateerde toerusting.
- (5) Behoudens die bepalings van subregulasie 4(b), moet 'n werkgewer verseker dat niemand vuil of gekontaminateerde persoonlike beskermende toerusting verwyder nie: Met dien verstande dat waar gekontaminateerde persoonlike beskermende toerusting weggedoen moet word, dit behandel moet word as loodafval soos in regulasie 17 bedoel.
- (6) Behoudens die bepalings van die Fasiliteite-regulasies, moet 'n werkgewer, waar redelikerwys uitvoerbaar, werknemers wat persoonlike beskermende toerusting gebruik soos in subregulasie (1) bedoel, voorsien van –
- (a) voldoende wasfasiliteite wat gereadik bereikbaar en geleë is in 'n gebied waar die fasiliteite nie gekontamineer sal word nie, ten einde die werknemers in staat te stel om te voldoen aan 'n standaard van persoonlike higiëne wat in ooreenstemming is met die voldoende beheer van blootstelling, en om die verspreiding van lood te voorkom;

- (b) twee afsonderlike sluitkaste wat gemerk is "beskermende klere" en "persoonlike klere", geleë in onderskeidelik die "vuil" en "skoon" kleedkamers en moet verseker dat die klerasie afsonderlik in die betrokke sluitkas gehou word; en
- (c) aparte "skoon" en "vuil" kleedkamers indien die werkgewer in so 'n mate lood gebruik of prosesseer dat die lood die gesondheid van persone buite die werkplek in gevaar kan stel.

SINDELIKHEID VAN PERSEEL EN TOERUSTING

13. Elke werkgewer moet, sover redelikerwys uitvoerbaar, maatreëls tref om te verseker dat –
- (a) alle werkplekke in 'n skoon toestand gehou word en dat dit vry van loodafval is en wanneer lood per ongeluk gestort word en luggedraagde lood per ongeluk in die werkplek vrygestel word, moet korrektiewe maatreëls onmiddellik gevolg word, voordat enige werk voortgesit word;
 - (b) skoonmaak deur stofsuigtoerusting gedoen word met 'n filtreerdoeltreffendheid van ten minste 99 persent vir stofdeeltjies een mikrometer in grootte, of op so 'n ander wyse dat loodstof nóg kan ontsnap nóg in die lug vrygelaat word om enige werkplek of die omgewing te besoedel;
 - (c) die stofsuigtoerusting gereeld versien word en al die eksterne oppervlakke in 'n skoon toestand en vry van sigbare loodstof gehou word; en
 - (d) waar die gebruik van stofsuigtoerusting nie redelikerwys uitvoerbaar is nie, moet oppervlakke wat skoongemaak moet word, natgemaak word en werknemers wat sodanige skoonmaak onderneem, geskikte beskermende klere en asemhaling-beskermingstoerusting dra.

ONDERHOUD VAN BEHEERMAATREËLS

14. Die werknemer moet verseker –
- (a) alle beheertoerusting en fasiliteite waarvoor daar ingevolge regulasies 10, 11, 12 en 13 voorsiening gemaak word, in goeie werkende toestand is; en
 - (b) dat met tussenposes van hoogstens 24 maande deeglike ondersoeke en toetse van ingenieursbeheermaatreëls uitgevoer word deur 'n inspeksie-owerheid wat vir sodanige ondersoeke en toetse goedgekeur is of deur 'n persoon wat by die IOHSA geregistreer is en wie se vermoë om die metings en toetse te doen deur sodanige goedgekeurde inspeksie-owerheid geverifieer is.

VERBODSBEPALINGS

- 15.(1) Niemand mag saamgeperste lug gebruik om looddeeltjies vanaf enige oppervlak te verwyder nie of vereis of toelaat dat enige ander persoon saamgeperste lug gebruik om looddeeltjies van enige oppervlak te verwyder nie.
- (2) Niemand mag rook, eet, drink of kos of drank in 'n loodgebied of respiratorsone inneem of daarin hou nie of van enige ander persoon vereis of hom toelaat om binne sodanige gebied of sone te rook, te eet, te drink of kos of drank daarin te neem of daarin te hou nie.
- (3) Loodverf mag nie –
- (a) vir die binneverf van geboue gebruik word nie;
 - (b) afgeskraap of afgeskuur word van 'n oppervlak deur middel van 'n droë proses nie;
 - (c) afgebrand word nie; of
 - (d) op meubels gebruik word nie.

ETIKETTERING, VERPAKKING, VERVOER EN OPBERGING

16. 'n Werkgewer moet, ten einde die verspreiding van kontaminasie van lood te voorkom, sover redelikerwys uitvoerbaar, stappe doen om te verseker dat –
- (a) die lood wat geberg of versprei word, behoorlik geïdentifiseer, geklassifiseer en gehanteer word in ooreenstemming met SABS 0228;
 - (b) die houer van 'n voertuig waarin lood vervoer word, duidelik geïdentifiseer, geklassifiseer en verpak word in ooreenstemming met SABS 0228 en SABS 0229.

BESKIKKING OOR LOODAFVAL

17. 'n Werkgewer moet sover redelikerwys uitvoerbaar –
- (a) alle loodafval hersikleur;
 - (b) verseker dat alle loodafval geplaas word in houters wat die waarskynlikheid van blootstelling tydens hantering sal voorkom;
 - (c) verseker dat alle voertuie, houters wat hergebruik gaan word en deksels wat met loodafval in aanraking was, na gebruik skoongemaak en gedekontamineer word op so 'n wyse dat sodanige voertuie, houters of deksels nie 'n gevaar veroorsaak binne of buite die betrokke persele nie;

- (d) verseker dat daar oor alle loodafval wat blootstelling kan veroorsaak, beskik word slegs op persele wat spesifiek vir hierdie doel ingevolge die Wet op Omgewingsbewaring, 1989 (Wet No. 73 van 1989), aangewys is en op so 'n wyse dat dit nie 'n gevaar veroorsaak binne of buite die betrokke perseel nie;
- (e) verseker dat alle werkgewers by die versameling, vervoer en beskikking oor loodafval betrokke is en wat aan daardie afval blootgestel kan wees, voorsien word van geskikte persoonlike beskermingstoerusting; en
- (f) verseker dat indien 'n kontrakteur aangestel is om oor die loodafval te beskik, 'n bepaling in die kontrak opgeneem word dat die kontrakteur ook aan die bepalings van hierdie regulasies moet voldoen.

MISDRYWE EN STRAWWE

18. Enigiemand wat 'n bepaling van regulasie 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 of 17 oortree of versuim om daaraan te voldoen, is aan 'n misdryf skuldig en by skuldigbevinding strafbaar met 'n boete of gevangenisstraf vir 'n tydperk van hoogstens ses maande en, in die geval van 'n voortdurende oortreding, met 'n addisionele boete van R200 vir elke dag waarop die misdryf voortduur of addisionele gevangenisstraf van een dag vir elke dag waarop die misdryf voortduur: Met dien verstande dat die tydperk van sodanige addisionele gevangenisstraf in geen geval 90 dae mag oorskry nie.

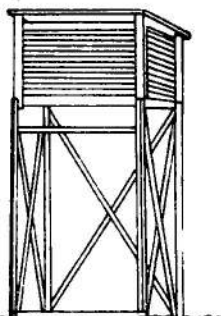
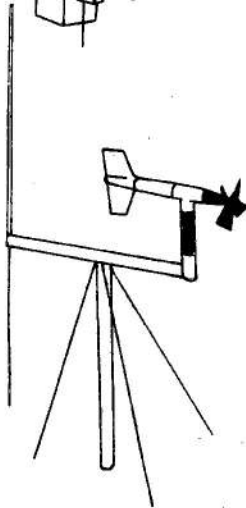
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19. Hierdie regulasies heet die Konsep Gewysigde Loodregulasies, 1999.

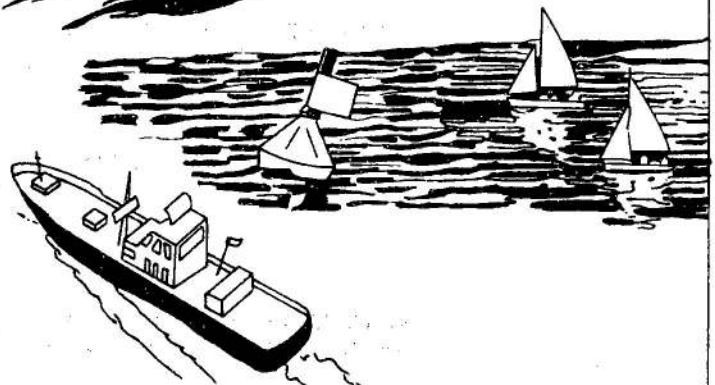
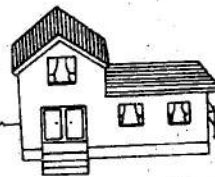
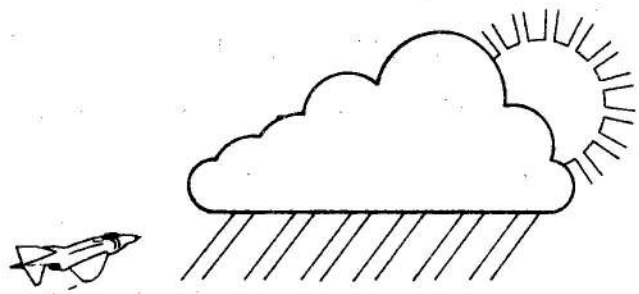
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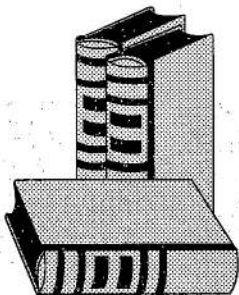
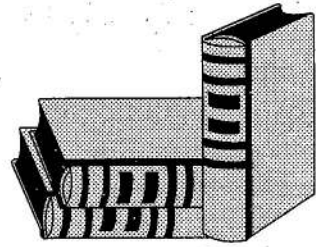
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