

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Filed with the Secretary of State on January 10, 2014

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs by sections 14 and 24 of 1974 PA 154, MCL 408.1001 to 408.1094, and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, 2008-4, and 2011-4, MCL 330.3101, 445.2001, 445.2011, 445.2025, and 445.2030.**) ~~consumer and industry services by sections 14 and 24 of 1974 PA 154 and Executive Reorganization Orders Nos. 1996-1 and 1996-2, MCL 408.1014, 408.1024, 330.3101, and 445.2001)~~

R 325.70101, R 325.70103, R 325.70107, R 325.70109, R 325.70110, and R 325.70111 of the Michigan Administrative Code are amended, and R 325.70102a is added, and R 325.70113 and R 325.70114 are rescinded, as follows:

PART 431. HAZARDOUS WORK IN LABORATORIES

R 325.70101. Scope; effective date of subrule (2).

Rule 1. (1) These rules set forth the requirements for laboratory use of hazardous chemicals. Subjects to which these rules apply include all of the following:

- (a) Exposure limits.
- (b) Exposure monitoring.
- (c) Written chemical hygiene plan.
- (d) Employee information and training.
- (e) Medical surveillance.
- (f) Hazard identification.
- (g) Use of respiratory protection.
- (h) Recordkeeping.

(2) These rules, where they apply as specified in R 325.70102, supersede all Michigan occupational safety and health act (MIOSHA) occupational health standards that govern the use of specific chemical substances, except as provided in R 325.70104, R 325.70105, and R 325.70108. Also, where they apply, these rules supersede the requirements of the occupational safety and health administration (OSHA) hazard communication standard, being 29 C.F.R. §1910.1200, which is incorporated by section 14a of 1974 PA 154, MCL 408.1014a. This subrule takes effect when an employer has developed and implemented a written chemical hygiene plan as prescribed by R 325.70106.

(3) All occupational health standards that do not deal with a specific chemical substance apply to laboratory operations as do any occupational safety standards administered by the Michigan department of **Licensing and Regulatory Affairs.** ~~consumer and industry services.~~ Such non-chemical substance standards that apply to laboratory operations include all of the following rules, **which are referenced in R 325.70102a:**

- (a) **Occupational Health Standard Part 380** "Occupational Noise Exposure." ~~Part 380., R 325.60101. et seq.~~
- (b) **Occupational Health Standard Part 381** "Ionizing Radiation." ~~Part 381., O.H. 2410 et seq.~~
- (c) **Occupational Health Standard Part 382** "Nonionizing Radiation." ~~Part 382., R 325.60701 et seq.~~
- (d) **Occupational Health Standard Part 520** "Ventilation Control." ~~Part 520., O.H. 3101 et seq.~~
- (e) **Occupational Health Standard Part 490** "Permit-Required Confined Spaces." ~~Part 490., R 325.63001 et seq.~~
- (f) **Occupational Health Standard Part 451** "Respiratory Protection." ~~Part 451., R 325.60051 et seq.~~
- ~~(g) Illumination, Part 478., R 325.47801 et seq.~~
- ~~(g)(h) Occupational Health Standard Part 474 "Sanitation." Part 474., O.H. 4201 et seq.~~
- ~~(h)(i) Occupational Health Standard Part 472 "Medical Services and First Aid." Part 472., R 325.47201. et seq.~~
- ~~(i)(j) Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets." Part 470., R 325.3451 et seq.~~

R 325.70102a. MIOSHA standards referenced in these rules; appendices.

Rule 2a. (1) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via

the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

- (a) Occupational Health Standard Part 380 "Occupational Noise Exposure," R 325.60101 to R 325.60128.
 - (b) Occupational Health Standard Part 381 "Ionizing Radiation," R 325.60601a to R 325.60618.
 - (c) Occupational Health Standard Part 382 "Nonionizing Radiation," R 325.60701 to R 325.60704.
 - (d) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.
 - (e) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
 - (f) Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," R 325.3451 to R 325.3476.
 - (g) Occupational Health Standard Part 472 "Medical Services and First Aid," R 325.47201.
 - (h) Occupational Health Standard Part 474 "Sanitation," R 325.47401 to R 325.47425.
 - (i) Occupational Health Standard Part 490 "Permit-Required Confined Spaces," R 325.63001 to R 325.63049.
 - (j) Occupational Health Standard Part 520 "Ventilation Control," R 325.52001 to R 325.52012.
- (2) Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.

R 325.70103. Definitions.

Rule 3. ~~As used in these rules:~~ (1)(a) "Action level" means a concentration which is designated in established MIOSHA health standards for a specific substance, calculated as an 8-hour, time-weighted average, and which initiates certain required activities, such as exposure monitoring and medical surveillance.

(2)(b) "Chemical hygiene officer" means an employee who is designated by the employer, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the employer's organizational structure.

(3)(c) "Chemical Hygiene Plan" means a written program which is developed and implemented by the employer, which sets forth procedures, equipment, personal protective equipment, and work practices that are capable of protecting employees from the health hazards presented by the hazardous chemicals used in a particular workplace, and which is in compliance with the requirements of R 325.70106.

(4)(d) "Director" means the director of the Michigan department of ~~consumer and industry services~~ **Licensing and Regulatory Affairs** or his or her designee.

(5)(e) "Emergency" means any occurrence, such as equipment failure, the rupture of containers, or the failure of control equipment, that results in an uncontrolled release of a hazardous chemical into the workplace.

(6)(f) "Employee" means a person who is assigned to work in a laboratory workplace and who may be exposed to hazardous chemicals in the course of his or her assignments.

(7)(g) "Hazardous chemical" means a **any chemical which is classified as health hazard or simple asphyxiant in accordance with the Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.70102a.** ~~which there is statistically significant evidence, based on at least 1 study that is conducted in accordance with established scientific principles, that acute or chronic health effects may occur in employees who are exposed to the chemical. These health effects include those that result from exposure to chemicals which are any of the following:~~

(i) ~~Carcinogens.~~

(ii) ~~Toxic or highly toxic agents.~~

(iii) ~~Reproductive toxins.~~

(iv) ~~Irritants.~~

(v) ~~Corrosives.~~

(vi) ~~Sensitizers.~~

(vii) ~~Hepatotoxins.~~

(viii) ~~Nephrotoxins.~~

(ix) ~~Neurotoxins.~~

(x) ~~Agents that act on the hematopoietic systems.~~

(xi) ~~Agents that damage the lungs, skin, eyes, or mucous membranes.~~

~~Appendices A and B of the OSHA hazard communications standard, being 29 C.F.R. §1910.1200 and referenced in R 325.70104(2), provide further guidance in defining the scope of health hazards and determining whether or not a chemical is to be considered hazardous for purposes of these rules.~~

(8) **Health hazard means a chemical that is classified as posing one of the following hazardous effects:**

(a) **Acute toxicity, (any route of exposure).**

(b) **Skin corrosion or irritation.**

(c) **Serious eye damage or eye irritation.**

(d) **Respiratory or skin sensitization.**

(e) **Germ cell mutagenicity.**

(f) **Carcinogenicity.**

(g) Reproductive toxicity.

(h) Specific target organ toxicity, (single or repeated exposure).

(i) Aspiration hazard.

(9) The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.70102a, (definition of "simple asphyxiant").

~~(10)(h)~~ "Laboratory" means a facility where the laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a nonproduction basis.

(11) "Laboratory scale" means work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person. "Laboratory scale" excludes those workplaces whose function is to produce commercial quantities of materials.

~~(12)(i)~~ "Laboratory-type hood" means a work chamber which is used in a laboratory, which is enclosed on 5 sides and has a moveable sash or fixed partial closure on the remaining side, which is constructed and maintained to draw air from the laboratory and prevent or minimize the escape of air contaminants into the laboratory, and which allows chemical manipulations to be conducted in the enclosure without inserting any portion of the employee's body other than hands and arms. The term includes walk-in hoods with adjustable sashes if the sashes are adjusted during use so that the airflow and the exhaust of air contaminants are not compromised and so that employees do not work inside the enclosure during the release of airborne hazardous chemicals.

~~(13)(j)~~ "Laboratory use of hazardous chemicals" means the handling or use of such chemicals in which all of the following conditions are met:

~~(a)(i)~~ Chemical manipulations are carried out on a laboratory scale.

~~(b)(ii)~~ Multiple chemical procedures or chemicals are used.

~~(c)(iii)~~ The procedures that are involved are not part of production process, nor in any way simulate a production process.

~~(d)(iv)~~ Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

~~(14)(k)~~ "Medical consultation" means a consultation that takes place between an employee and a licensed physician to determine what medical examinations or procedures, if any, are appropriate.

(15) "Mutagen" means chemicals that cause permanent changes in the amount or structure of the genetic material in a cell. Chemicals classified as mutagens in accordance with Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.70102a, shall be considered mutagens for purposes of this section.

~~(16)(l)~~ "Physical hazard" means a chemical that is classified as posing one of the following hazardous effects:

(a) Explosive.

(b) Flammable (gases, aerosols, liquids, or solids).

(c) Oxidizer as a (liquid, solid, or gas).

(d) Self-reactive.

(e) Pyrophoric as a (gas, liquid or solid).

(f) Self-heating.

(g) Organic peroxide.

(h) Corrosive to metal.

(i) Gas under pressure.

(j) In contact with water emits flammable gas.

(k) Combustible dust.

(17) The criteria for determining whether a chemical is classified as a physical hazard are in Appendix B of Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.70102a, (definitions of "combustible dust" and "pyrophoric gas"). ~~for which there is scientifically valid evidence that it is any of the following:~~

~~(i) A combustible liquid.~~

~~(ii) A compressed gas.~~

~~(iii) Explosive.~~

~~(iv) Flammable.~~

~~(v) An organic peroxide.~~

~~(vi) An oxidizer.~~

~~(vii) Pyrophoric.~~

~~(viii) Unstable (reactive).~~

~~(ix) Water-reactive.~~

~~These terms are defined in appendix B of these rules.~~

~~(m) "Production" means the manufacturing processes that use hazardous chemicals and result in a product.~~

~~(18)(n)~~ "Protective laboratory practices and equipment" means those laboratory procedures, practices, and equipment that are accepted by laboratory health and safety experts as effective, or that the employer can show to be effective, in minimizing the potential for employee exposure to hazardous chemicals.

(19)(e) "Reproductive toxins" means chemicals that affect the reproductive capabilities, including **adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on the development of the offspring. Chemicals classified as reproductive toxins in accordance with the Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.70102a, shall be considered reproductive toxins for purposes of these rules.** ~~chromosomal damage (mutations) and effects on fetuses (teratogenesis).~~

(20)(p) "Select carcinogen" means any substance that meets 1 or more of the **following** criteria:

(a) It is regulated by MIOSHA as a carcinogen.

(b) It is listed under the category, "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition).

(c) It is listed under Group 1, ("carcinogenic to humans,") by the International Agency for Research on Cancer Monographs (IARC) (latest editions).

(d) It is listed in either Group 2A or 2B by IARC or under the category, "reasonably anticipated to be carcinogens" by NTP, and causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria:

(i) After inhalation exposure of 6–7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m³.

(ii) After repeated skin application of less than 300 (mg/kg of body weight) per week.

(iii) After oral dosages of less than 50 mg/kg of body weight per day. ~~set forth in the definition of select carcinogen in paragraph (b) of OSHA standard 29 C.F.R. §1910.1450, which is adopted herein by reference. The cited provision of 29 C.F.R. §1910.1450 is available from the Michigan Department of Consumer and Industry Services, Standards Division, P.O. Box 30643, Lansing, Michigan 48909, at no cost, or from the U.S. Department of Labor, OSHA, 801 S. Waverly, Suite 306, Lansing, Michigan 48917, at no cost. The cited definition is printed as appendix C to these rules.~~

R 325.70107. Employee information and training.

Rule 7. (1) An employer shall provide employees with information and training to ensure that they are apprised of and understand the hazards of chemicals present in their work areas.

(2) Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and before assignments that involve new exposure situations. Refresher information and training shall be provided by the employer to ensure that an employee is aware of the risks of exposure to hazardous chemicals.

(3) Employees shall be informed of all of the following:

(a) The contents of these rules and appendices, which shall be made available to employees.

(b) The location and availability of the employer's chemical hygiene plan.

(c) The permissible exposure limits for MIOSHA-regulated substances or the recommended exposure limits for other hazardous chemicals if there are no applicable MIOSHA rules.

(d) Signs and symptoms associated with exposures to hazardous chemicals that are used in the laboratory.

(e) The location and availability of known reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory including, **but not limited to, material safety data sheets (SDS) (MSDS)** received from a chemical supplier.

(4) Employee training shall include all of the following:

(a) Methods and observations that may be used to detect the presence or release of a hazardous chemical, such as monitoring conducted by the employer, continuous monitoring devices, and the visual appearance or odor of hazardous chemicals when being released.

(b) The physical and health hazards of chemicals in the work environment.

(c) The measures employees can take to protect themselves from health hazards, including specific procedures that the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

(5) The employee shall be trained about the applicable details of the employer's written chemical hygiene plan.

R 325.70109. Hazard identification.

Rule 9. (1) With respect to labels and ~~material~~ safety data sheets **(SDS) (MSDS)** for hazardous chemicals, both of the following provisions apply:

(a) Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced.

(b) Employers shall maintain any **safety data sheets MSDS** that are received with incoming shipments of hazardous chemicals and ensure that **safety data sheets MSDS** are readily accessible to laboratory employees.

(2) All of the following provisions shall apply to chemical substances that are developed in the laboratory:

(a) If the composition of the chemical substance that is produced exclusively for the laboratory's use is known, an employer shall determine if it is a hazardous chemical. If the chemical is determined to be hazardous, the employer shall provide appropriate training as required by R 325.70107.

(b) If the chemical produced is a by-product of unknown composition, an employer shall assume that the substance is hazardous and shall implement the provisions of R 325.70106.

(c) If the chemical substance is produced for another user outside of a laboratory, an employer shall comply with the **Occupational Health Standard Part 430 "Hazard Communication,"** ~~OSHA hazard communication standard, being 29 C.F.R. §1910.1200, which is~~ as referenced in **R 325.70102a,** ~~R 325.70101,~~ **including the requirements for preparation of safety data sheets and labeling.**

R 325.70110. Use of respiratory protection.

Rule 10. If, after appropriate application of feasible engineering and work practice controls, the use of respirators is necessary to maintain exposure below permissible exposure limits, the employer shall provide, at no cost to the employee, the proper respiratory protection equipment. Respirators shall be selected and used in accordance with the requirements of **Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.70102a.** ~~Part 451., R 325.60051 et seq.~~

R 325.70111. Recordkeeping .

Rule 11. (1) An employer shall establish and maintain, for each employee, an accurate record of any measurements taken to monitor employee exposures and any medical consultation and examinations, including tests or written opinions required by these rules.

(2) An employer shall assure that such records are kept, transferred, and made available in accordance with the provisions of **Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.70102a.,** ~~Part 470., R 325.3451 et seq.,~~ and are protected from unauthorized disclosure.

R 325.70113. **Rescinded.** Appendices

~~Rule 13. Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.~~

R 325.70114. **Rescinded.** Availability of rules and appendices; permission to copy

~~Rule 14. (1) A copy of these rules and appendices are available at no cost from the Michigan Department of Consumer and Industry Services, Standards Division, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) Permission to copy any of these documents in full is granted by the director.~~