

2023 CHP Template Updates

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<https://ehs.mit.edu/chemical-safety-program/chemical-hvigiene/>

P. 10 Part I

4.1 Basic Requirements

New Wording

A. A copy of the OSHA Laboratory Standard and its Appendices. The Laboratory Standard can be accessed on the OSHA website via <http://www.osha.gov> and searching under the regulation number “1910.1450” and Appendix 10.1.

Old Wording

A. A copy of the OSHA Laboratory Standard and its Appendices. The Laboratory Standard can be accessed on the OSHA website via <http://www.osha.gov> and searching under the regulation number “1910.1450”.

P. 11 and 12 Part I

4.2 Chemical Safety Information Sources

New Wording

Safety Data Sheets - Appendix 10.3 contains a summary of information about the new “Safety Data Sheet” sections and section content.

Global Harmonization Pictogram and Labels - Appendix 10.4 contains information about the new pictograms and their meaning.

Old Wording

Safety Data Sheets - Appendix 10.2 contains a summary of information about the new “Safety Data Sheet” sections and section content.

Global Harmonization Pictogram and Labels - Appendix 10.3 contains information about the new pictograms and their meaning.

P. 12 Part I

4.3 Guidance and resources for COVID-19 response

New Wording

Removed.

Old Wording

The Institute is actively monitoring the COVID-19 situation and working with MIT researchers to ensure the safety of the MIT community while minimizing the impact on MIT’s vibrant research enterprise. In response to COVID-19, the Institute has developed policies, guidance and resources, with the safety and security of our personnel being the most important guiding principle. The policies, guidance and resources may be developed, updated, or revoked as COVID-19 situation evolves. Find the latest Institute COVID-19 related information at: <https://now.mit.edu/>

P. 31 Part II

3.2.12. Take additional precautions for using appliances in laboratories. New

New Wording

Non-lab grade or household equipment such as vacuum cleaners, microwaves and fans may not be compatible with chemicals and processes in laboratories. Consult EHS or the EHS Coordinators prior to using such equipment with chemicals.

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P. 34 Part II

3.5 Special Precautions for Work with Hydrofluoric Acid

New Wording

Hydrofluoric acid wastes must be collected in polyethylene (plastic) containers no greater than 5 gallons/20Liters. For processes requiring containers larger than 5 gallons/20Liters, reach out to the EHS Office for guidance. Do not collect hydrofluoric acid wastes in glass or metal containers. Concentrations of the wastes must be stated on the red tag, with the 'Corrosive' and 'Toxic' hazards selected. Some hydrofluoric acid wastes may be discharged to the sink with neutralization but requires EHS process review and approval first.

P. 52 Part IV

4.1 Appendix III-A – Lab Specific SOP Template

New Wording

This template form is available at: <https://ehs.mit.edu/chemical-safety-program/chemical-hygiene/>

STANDARD OPERATING PROCEDURE (SOP) TEMPLATE

For Hazardous Materials and Operations

Old Wording

This template form is available at: <https://ehs.mit.edu/chemical-safety-program/chemical-hygiene/>

Please mark an 'X' in the gray boxes where appropriate to indicate selection.

P. 57 Part IV

2.2 Department, Laboratory, or Center-Based Prior Approvals

New Wording

Researchers must obtain prior approval from the DLC EHS Coordinator and or the DLC EHS Committee before purchasing any of the 41 chemicals (see Part IV **Appendix 10.2**) with low threshold reporting quantities from the Department of Homeland Security (DHS) larger list of chemicals of interest (COI).

Old Wording

This Researchers must obtain prior approval from the DLC EHS Coordinator and or the DLC EHS Committee before purchasing any of the 41 chemicals (see Part IV Appendix 10.1) with low threshold reporting quantities from the Department of Homeland Security (DHS) larger list of chemicals of interest (COI).

P. 63 Part IV

7. OSHA HAZARD COMMUNICATION STANDARD (HAZCOM)

New Wording

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Based on OSHA requirements, chemical manufacturers must include the GHS labeling and SDS format for their products, see **Appendix 10.3**. These unique communication tools help lab members to understand the type of hazards quickly. The GHS labels include hazard pictograms, which are image conveying specific information about the hazards of a chemical, and a signal word, either “Danger” or “Warning.” They have standardized language about hazards and precautions, emergency information, and contact information of the manufacturer or distributor.

Nine pictograms are designated for hazard categories under the OSHA. See **Appendix 10.4**.

Old Wording

Based on OSHA requirements, chemical manufacturers must include the GHS labeling and SDS format for their products, see Appendix 10.2 p. 64. These unique communication tools help lab members to understand the type of hazards quickly. The GHS labels include hazard pictograms, which are image conveying specific information about the hazards of a chemical, and a signal word, either “Danger” or “Warning.” They have standardized language about hazards and precautions, emergency information, and contact information of the manufacturer or distributor.

Nine pictograms are designated for hazard categories under the OSHA. See Appendix 10.3.

P. 66 Part IV APPENDIX

New Wording

10.1 OSHA Lab Standard 29 CFR 1910.1450

10.2 DHS List 41 Chemicals With Low Threshold Reporting Quantities That Require Prior Approval From The DLC EHS Coordinator or DLC EHS Committee Before Purchasing

10.3 Hazard Communication Safety Data Sheets – New Format

10.4 Hazard Communication Standard Pictogram

Old Wording

10.1 DHS List 41 Chemicals With Low Threshold Reporting Quantities That Require Prior Approval From The DLC EHS Coordinator or DLC EHS Committee Before Purchasing

10.2 Hazard Communication Safety Data Sheets – New Format

10.3 Hazard Communication Standard Pictogram

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<https://ehs.mit.edu/chemical-safety-program/chemical-hygiene/>

4.2 Appendix III-A – Lab Specific SOP Template

Standard Operating Procedure (SOP) Template For Hazardous Materials and Operations

Overview	
Title	
Author(s)	
DLC/Research Group	
Lab (Room Number)	
Experimental Objective	
Type of Hazard(s)	<input type="checkbox"/> Chemical <input type="checkbox"/> Biological <input type="checkbox"/> Radiation <input type="checkbox"/> Process/Equipment <input type="checkbox"/> Other (explain):

Preparation		
Training required for researchers <i>Please check the EHS Training Requirements for researchers performing the procedure described in this document</i>		
Core EHS Training Requirements		
<input type="checkbox"/> General Chemical Hygiene (100) <input type="checkbox"/> Lab Specific Chemical Hygiene (110) <input type="checkbox"/> Signature of Chemical Hygiene Plan (111)	<input type="checkbox"/> Bloodborne Pathogen Training (200) <input type="checkbox"/> General Biosafety for Researchers (260) <input type="checkbox"/> Managing Hazardous Waste (501)	
DLC or Process Specific		
<input type="checkbox"/> Laser Safety (371, 376)	<input type="checkbox"/> Lab Laser Specific (375)	
<input type="checkbox"/> Radiation Safety (300, 302)	<input type="checkbox"/> Other (please specify)	
Material List (please remove the rows that do not apply to this procedure) <i>(*) Chemical hazards include but not limited to: Peroxide former, flammable, corrosive, sensitizer, carcinogen, teratogen/mutagen, biological toxin, pyrophoric, water-reactive, shock-sensitive, unstable, penetrates the skin. Check the SDS, section 2.</i>		
Type of Material	Name	Hazards

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<https://ehs.mit.edu/chemical-safety-program/chemical-hygiene/>

Chemicals (*)		
Biological Materials		
Radioactive Materials		

Steps to prepare the work space and equipment: *Please describe step by step what is necessary to prepare the space and the equipment. includes key steps such as making sure there is sufficient space to do the work, removing incompatibles from the area, and making sure fume hoods and other equipment is functional.*

Specific Needs *(please remove the rows that do not apply to this procedure)*

Glassware/Plastic Ware	
Equipment <i>(include special hazards for each piece of equipment)</i>	
Spill Kit Material <i>(must have appropriate spill cleaning material before starting to work)</i>	
Working alone <i>(does it need PI approval?)</i>	

Procedure

Enumerate and outline the steps to be followed in performing the procedure and the required precautions to avoid harm. The steps should be detailed and should include prohibited activities and cautionary statements where applicable (add/delete rows if necessary).

Steps	Hazards	Precautions

Personal Protective Equipment (PPE)

Note: Standard PPE as listed in Part II of the Department Chemical Hygiene Plan should always be worn in the lab (or as required in the CHP). () FR-CR: flame resistant-chemical resistant*

Eye & Face Protection

Goggles
 Safety Glasses
 Face Shield
 Other *(list)*

Protective Clothing

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Always wear clothing that fully covered your skin and sturdy, closed-toe shoes			
<input type="checkbox"/> Poly-cotton lab coat	<input type="checkbox"/> Flame resistant coat	<input type="checkbox"/> FR-CR coat (*)	<input type="checkbox"/> Other (list)
Gloves			
<input type="checkbox"/> Butyl	<input type="checkbox"/> Neoprene	<input type="checkbox"/> Latex	<input type="checkbox"/> Silver shield of 4H
<input type="checkbox"/> PVC	<input type="checkbox"/> Kevlar	<input type="checkbox"/> Nitrile – double glove	<input type="checkbox"/> Hybrid Gloves
<input type="checkbox"/> Other (list)			
Special Equipment			
<input type="checkbox"/> Respirator (if checked, contact EHS Office for additional assistance, unless already in the program)			

Special Precautions	
<input type="checkbox"/> Medical Surveillance (list)	
<input type="checkbox"/> Temperature/Pressure Sensitive (explain)	
<input type="checkbox"/> Primary Containment (ex., BSC, fume hood, glove box)	
<input type="checkbox"/> Placarding and Signage (ex., PHS signage, hazard labels)	
<input type="checkbox"/> Storage (list the chemical storage conditions)	
<input type="checkbox"/> Other (list)	

Clean Up
<p>List steps needed to do as part of the cleanup procedure.</p> <ul style="list-style-type: none">• Clean work area – what needs to be done to clean the workspace and equipment in preparation for the next person• If any materials will be stored following the procedure, document the appropriate storage locations and methods (ex. Type of storage cabinet, requirement for vented caps, etc.)• Potential waste produced during the experiment and procedures for proper disposal.

Emergency Response

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Outline emergency procedures based on the types of incidents that may occur. Examples include the following. Contact the EHS Coordinator if guidance is needed on the appropriate types of responses. Major and/or minor spill, Skin/eye/respiratory exposure, Sharps injury, Fire/explosion, Gas or cryogen release, Non-ionizing, radiation exposures (lasers, UV light, etc.), Loss of utilities (including proper shutdown procedures)

Supporting Documents

Use this section to provide links to useful documents, such as previous publications related to the experiments, SDSs, equipment manuals, or safety information related to the work.

Revisions

This document has been reviewed by (check all applicable)

<input type="checkbox"/> PI	<input type="checkbox"/> CHO/EHS Coordinator	<input type="checkbox"/> EHS
Name and Signature:		
Date:		

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APPENDIX 10.1 OSHA Lab Standard 29 CFR 1910.1450

Occupational exposure to hazardous chemicals in laboratories

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450>

1910.1450(a)

Scope and application.

1910.1450(a)(1)

This section shall apply to all employers engaged in the laboratory use of hazardous chemicals as defined below.

1910.1450(a)(2)

Where this section applies, it shall supersede, for laboratories, the requirements of all other OSHA health standards in 29 CFR part 1910, subpart Z, except as follows:

1910.1450(a)(2)(i)

For any OSHA health standard, only the requirement to limit employee exposure to the specific permissible exposure limit shall apply for laboratories, unless that particular standard states otherwise or unless the conditions of paragraph (a)(2)(iii) of this section apply.

1910.1450(a)(2)(ii)

Prohibition of eye and skin contact where specified by any OSHA health standard shall be observed.

1910.1450(a)(2)(iii)

Where the action level (or in the absence of an action level, the permissible exposure limit) is routinely exceeded for an OSHA regulated substance with exposure monitoring and medical surveillance requirements paragraphs (d) and (g)(1)(ii) of this section shall apply.

1910.1450(a)(3)

This section shall not apply to:

1910.1450(a)(3)(i)

Uses of hazardous chemicals which do not meet the definition of laboratory use, and in such cases, the employer shall comply with the relevant standard in 29 CFR part 1910, subpart Z, even if such use occurs in a laboratory.

1910.1450(a)(3)(ii)

Laboratory uses of hazardous chemicals which provide no potential for employee exposure. Examples of such conditions might include:

1910.1450(a)(3)(ii)(A)

Procedures using chemically-impregnated test media such as Dip-and-Read tests where a reagent strip is dipped into the specimen to be tested and the results are interpreted by comparing the color reaction to a color chart supplied by the manufacturer of the test strip; and

1910.1450(a)(3)(ii)(B)

Commercially prepared kits such as those used in performing pregnancy tests in which all of the reagents needed to conduct the test are contained in the kit.

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1910.1450(b)

Definitions -

Action level means a concentration designated in 29 CFR part 1910 for a specific substance, calculated as an eight (8)-hour time-weighted average, which initiates certain required activities such as exposure monitoring and medical surveillance.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Carcinogen (see select carcinogen).

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.

Chemical Hygiene Plan means a written program developed and implemented by the employer which sets forth procedures, equipment, personal protective equipment and work practices that

(i) are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular workplace and

(ii) meets the requirements of paragraph (e) of this section.

Designated area means an area which may be used for work with "select carcinogens," reproductive toxins or substances which have a high degree of acute toxicity. A designated area may be the entire laboratory, an area of a laboratory or a device such as a laboratory hood.

Emergency means any occurrence such as, but not limited to, equipment failure, rupture of containers or failure of control equipment which results in an uncontrolled release of a hazardous chemical into the workplace.

Employee means an individual employed in a laboratory workplace who may be exposed to hazardous chemicals in the course of his or her assignments.

Hazardous chemical means any chemical which is classified as health hazard or simple asphyxiant in accordance with the Hazard Communication Standard (§ 1910.1200).

Health hazard means a chemical that is classified as posing one of the following hazardous effects: Acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); aspiration hazard. The criteria for determining whether a chemical is classified as

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a health hazard are detailed in appendix A of the Hazard Communication Standard (§ 1910.1200) and § 1910.1200(c) (definition of "simple asphyxiant").

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 non-production basis.

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.

Laboratory-type hood means a device located in a laboratory, enclosure on five sides with a moveable sash or fixed partial enclosed on the remaining side; constructed and maintained to draw air from the laboratory and to prevent or minimize the escape of air contaminants into the laboratory; and allows chemical manipulations to be conducted in the enclosure without insertion of any portion of the employee's body other than hands and arms.

Walk-in hoods with adjustable sashes meet the above definition provided that the sashes are adjusted during use so that the airflow and the exhaust of air contaminants are not compromised and employees do not work inside the enclosure during the release of airborne hazardous chemicals.

Laboratory use of hazardous chemicals means handling or use of such chemicals in which all of the following conditions are met:

- (i) Chemical manipulations are carried out on a "laboratory scale;"
- (ii) Multiple chemical procedures or chemicals are used;
- (iii) The procedures involved are not part of a production process, nor in any way simulate a production process; and
- (iv) "Protective laboratory practices and equipment" are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

Medical consultation means a consultation which takes place between an employee and a licensed physician for the purpose of determining what medical examinations or procedures, if any, are appropriate in cases where a significant exposure to a hazardous chemical may have taken place.

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 the Hazard Communication Standard (§ 1910.1200) shall be considered mutagens for purposes of this section.

Physical hazard means a chemical that is classified as posing one of the following hazardous effects: Explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid,

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solid, or gas); self reactive; pyrophoric (gas, liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; in contact with water emits flammable gas; or combustible dust. The criteria for determining whether a chemical is classified as a physical hazard are in appendix B of the Hazard Communication Standard (§ 1910.1200) and § 1910.1200(c) (definitions of "combustible dust" and "pyrophoric gas").

Protective laboratory practices and equipment means those laboratory procedures, practices and equipment 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.

Reproductive toxins mean 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 Hazard Communication Standard (§ 1910.1200) shall be considered reproductive toxins for purposes of this section.

Select carcinogen means any substance which meets one of the following criteria:

- (i) It is regulated by OSHA as a carcinogen; or
- (ii) 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); or
- (iii) It is listed under Group 1 ("carcinogenic to humans") by the International Agency for Research on Cancer Monographs (IARC) (latest editions); or
- (iv) 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:
 - (A) 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;
 - (B) After repeated skin application of less than 300 (mg/kg of body weight) per week; or
 - (C) After oral dosages of less than 50 mg/kg of body weight per day.

1910.1450(c)

Permissible exposure limits. For laboratory uses of OSHA regulated substances, the employer shall assure that laboratory employees' exposures to such substances do not exceed the permissible exposure limits specified in 29 CFR part 1910, subpart Z.

1910.1450(d)

Employee exposure determination -

1910.1450(d)(1)

Initial monitoring. The employer shall measure the employee's exposure to any substance regulated by a standard which requires monitoring if there is reason to believe that exposure

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levels for that substance routinely exceed the action level (or in the absence of an action level, the PEL).

1910.1450(d)(2)

Periodic monitoring. If the initial monitoring prescribed by paragraph (d)(1) of this section discloses employee exposure over the action level (or in the absence of an action level, the PEL), the employer shall immediately comply with the exposure monitoring provisions of the relevant standard.

1910.1450(d)(3)

Termination of monitoring. Monitoring may be terminated in accordance with the relevant standard.

1910.1450(d)(4)

Employee notification of monitoring results. The employer shall, within 15 working days after the receipt of any monitoring results, notify the employee of these results in writing either individually or by posting results in an appropriate location that is accessible to employees.

1910.1450(e)

Chemical hygiene plan - General. (Appendix A of this section is non-mandatory but provides guidance to assist employers in the development of the Chemical Hygiene Plan).

1910.1450(e)(1)

Where hazardous chemicals as defined by this standard are used in the workplace, the employer shall develop and carry out the provisions of a written Chemical Hygiene Plan which is:

1910.1450(e)(1)(i)

Capable of protecting employees from health hazards associated with hazardous chemicals in that laboratory and

1910.1450(e)(1)(ii)

Capable of keeping exposures below the limits specified in paragraph (c) of this section.

1910.1450(e)(2)

The Chemical Hygiene Plan shall be readily available to employees, employee representatives and, upon request, to the Assistant Secretary.

1910.1450(e)(3)

The Chemical Hygiene Plan shall include each of the following elements and shall indicate specific measures that the employer will take to ensure laboratory employee protection;

1910.1450(e)(3)(i)

Standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals;

1910.1450(e)(3)(ii)

Criteria that the employer will use to determine and implement control measures to reduce employee exposure to hazardous chemicals including engineering controls, the use of personal protective equipment and hygiene practices; particular attention shall be

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given to the selection of control measures for chemicals that are known to be extremely hazardous;

1910.1450(e)(3)(iii)

A requirement that fume hoods and other protective equipment are functioning properly and specific measures that shall be taken to ensure proper and adequate performance of such equipment;

1910.1450(e)(3)(iv)

Provisions for employee information and training as prescribed in paragraph (f) of this section;

1910.1450(e)(3)(v)

The circumstances under which a particular laboratory operation, procedure or activity shall require prior approval from the employer or the employer's designee before implementation;

1910.1450(e)(3)(vi)

Provisions for medical consultation and medical examinations in accordance with paragraph (g) of this section;

1910.1450(e)(3)(vii)

Designation of personnel responsible for implementation of the Chemical Hygiene Plan including the assignment of a Chemical Hygiene Officer, and, if appropriate, establishment of a Chemical Hygiene Committee; and

1910.1450(e)(3)(viii)

Provisions for additional employee protection for work with particularly hazardous substances. These include "select carcinogens," reproductive toxins and substances which have a high degree of acute toxicity. Specific consideration shall be given to the following provisions which shall be included where appropriate:

1910.1450(e)(3)(viii)(A)

Establishment of a designated area;

1910.1450(e)(3)(viii)(B)

Use of containment devices such as fume hoods or glove boxes;

1910.1450(e)(3)(viii)(C)

Procedures for safe removal of contaminated waste; and

1910.1450(e)(3)(viii)(D)

Decontamination procedures.

1910.1450(e)(4)

The employer shall review and evaluate the effectiveness of the Chemical Hygiene Plan at least annually and update it as necessary.

1910.1450(f)

Employee information and training.

1910.1450(f)(1)

The employer shall provide employees with information and training to ensure that they are apprised of the hazards of chemicals present in their work area.

1910.1450(f)(2)

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Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. The frequency of refresher information and training shall be determined by the employer.

1910.1450(f)(3)

Information. Employees shall be informed of:

1910.1450(f)(3)(i)

The contents of this standard and its appendices which shall be made available to employees;

1910.1450(f)(3)(ii)

The location and availability of the employer's Chemical Hygiene Plan;

1910.1450(f)(3)(iii)

The permissible exposure limits for OSHA regulated substances or recommended exposure limits for other hazardous chemicals where there is no applicable OSHA standard;

1910.1450(f)(3)(iv)

Signs and symptoms associated with exposures to hazardous chemicals used in the laboratory; and

1910.1450(f)(3)(v)

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, safety data sheets received from the chemical supplier.

1910.1450(f)(4)

Training.

1910.1450(f)(4)(i)

Employee training shall include:

1910.1450(f)(4)(i)(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, visual appearance or odor of hazardous chemicals when being released, etc.);

1910.1450(f)(4)(i)(B)

The physical and health hazards of chemicals in the work area; and

1910.1450(f)(4)(i)(C)

The measures employees can take to protect themselves from these hazards, including specific procedures 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.

1910.1450(f)(4)(ii)

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The employee shall be trained on the applicable details of the employer's written Chemical Hygiene Plan.

1910.1450(g)

Medical consultation and medical examinations.

1910.1450(g)(1)

The employer shall provide all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, under the following circumstances:

1910.1450(g)(1)(i)

Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory, the employee shall be provided an opportunity to receive an appropriate medical examination.

1910.1450(g)(1)(ii)

Where exposure monitoring reveals an exposure level routinely above the action level (or in the absence of an action level, the PEL) for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance shall be established for the affected employee as prescribed by the particular standard.

1910.1450(g)(1)(iii)

Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous exposure, the affected employee shall be provided an opportunity for a medical consultation. Such consultation shall be for the purpose of determining the need for a medical examination.

1910.1450(g)(2)

All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

1910.1450(g)(3)

Information provided to the physician. The employer shall provide the following information to the physician:

1910.1450(g)(3)(i)

The identity of the hazardous chemical(s) to which the employee may have been exposed;

1910.1450(g)(3)(ii)

A description of the conditions under which the exposure occurred including quantitative exposure data, if available; and

1910.1450(g)(3)(iii)

A description of the signs and symptoms of exposure that the employee is experiencing, if any.

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1910.1450(g)(4)

Physician's written opinion.

1910.1450(g)(4)(i)

For examination or consultation required under this standard, the employer shall obtain a written opinion from the examining physician which shall include the following:

1910.1450(g)(4)(i)(A)

Any recommendation for further medical follow-up;

1910.1450(g)(4)(i)(B)

The results of the medical examination and any associated tests;

1910.1450(g)(4)(i)(C)

Any medical condition which may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace; and

1910.1450(g)(4)(i)(D)

A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

1910.1450(g)(4)(ii)

The written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure.

1910.1450(h)

Hazard identification.

1910.1450(h)(1)

With respect to labels and safety data sheets:

1910.1450(h)(1)(i)

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

1910.1450(h)(1)(ii)

Employers shall maintain any safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible to laboratory employees.

1910.1450(h)(2)

The following provisions shall apply to chemical substances developed in the laboratory:

1910.1450(h)(2)(i)

If the composition of the chemical substance which is produced exclusively for the laboratory's use is known, the employer shall determine if it is a hazardous chemical as defined in paragraph (b) of this section. If the chemical is determined to be hazardous, the employer shall provide appropriate training as required under paragraph (f) of this section.

1910.1450(h)(2)(ii)

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<https://ehs.mit.edu/chemical-safety-program/chemical-hygiene/>

If the chemical produced is a byproduct whose composition is not known, the employer shall assume that the substance is hazardous and shall implement paragraph (e) of this section.

1910.1450(h)(2)(iii)

If the chemical substance is produced for another user outside of the laboratory, the employer shall comply with the Hazard Communication Standard (29 CFR 1910.1200) including the requirements for preparation of safety data sheets and labeling.

1910.1450(i)

Use of respirators. Where 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 equipment. Respirators shall be selected and used in accordance with the requirements of 29 CFR 1910.134.

1910.1450(j)

Recordkeeping.

1910.1450(j)(1)

The 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 this standard.

1910.1450(j)(2)

The employer shall assure that such records are kept, transferred, and made available in accordance with 29 CFR 1910.20.

1910.1450(k)

[Reserved]

1910.1450(l)

Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.