# Chemical Hygiene Plan

**29 CFR 1910.1450—Occupational Exposure to Hazardous**

**Chemicals in Laboratories**

***Scope/Application:***  *This standard applies when employees are engaged in the laboratory use of hazardous chemicals.*

*The following standards are referenced in* [*29 CFR 1910.1450*](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450)*—Occupational Exposure to Hazardous Chemicals in Laboratories standard.*

* *29 CFR 1910.134—Respiratory Protection*
* *29 CFR 1910.1000—Subpart Z—Toxic and Hazardous Substances*
* *29 CFR 1910.1020—Access to Employee Exposure and Medical Records*
* *29 CFR 1910.1200—Hazard Communication*

***Note:*** *29 CFR 1910.1450 references that respirators must be selected and used according to 29 CFR 1910.134—Respiratory Protection. It also states that it supersedes the requirements of other OSHA Health Standards in 29 CFR 1910.1000, Subpart Z —Toxic and Hazardous Substances but with some exceptions. 29 CFR 1910.1020—Access to Employee Exposure and Medical Records requires medical records to be retained for duration of employment plus 30 years and exposure records for 30 years. It also references 29 CFR 1910.1200—Hazard Communication with respect to definitions and implementing a Hazard Communication Program if a chemical substance is produced for another user outside of the laboratory.*

***Standard Requirements for 29 CFR 1910.1450——Occupational Exposure to Hazardous Chemicals in Laboratories:***

* ***Programs/Plans:*** *Chemical Hygiene Plan*
* ***Procedures/Practices/Controls:*** *Work practice controls, exposure monitoring procedures, medical surveillance procedures (Include in your Chemical Hygiene Program)*
* ***Training:*** *Initially, refresher*
* ***Inspections:*** *None required*
* ***Recordkeeping:*** *Plan, medical records, exposure records, safety data sheets*
* ***Chemical Hygiene Officer/Committee:*** *Program responsibility*

***Example Plan:*** *The following example plan may be modified to be site-specific to the organization. Please reference 29 CFR 1910.1450—Occupational Exposure to Hazardous Chemicals in Laboratories to ensure that all requirements are being met.*

# Chemical Hygiene Plan

**Purpose**

The chemical hygiene plan is intended:

* To protect laboratory employees from health hazards associated with the use of hazardous chemicals in our laboratory,
* To assure that our laboratory employees are not exposed to substances in excess of the permissible exposure limits as defined by OSHA in 29 CFR 1910 Subpart Z*—*Air Contaminants.

The plan will be available to all employees for review and a copy will be located in the following areas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This plan will be reviewed annually by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and updated as necessary. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is designated as the chemical hygiene officer (CHO).

**Chemical Hygiene Officer Responsibilities**

The CHO is responsible for the implementation of the chemical hygiene plan and overseeing the chemical hygiene committee.

**Standard Operating Procedures**

The following standard operating procedures are in place for the safe handling of chemicals in our laboratory.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*We also have the following programs (if applicable).*

The written portion of the laser safety program is located in/at: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The written portion of the radiation safety program is located in//at:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The written portion of the biological safety program is located in/at:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Control Measures**

Control measures have been implemented to reduce employee exposure to hazardous chemicals.

The following operations must be performed in **laboratory fume hoods**:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The following operations must be performed in **biological safety cabinets**:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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The following operations must be performed in **glove boxes**:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Respirators must be used in accordance with our respiratory protection policy and with the Respirator Standard, 29 CFR 1910.134. This policy and associated documentation are located at the following location \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for employee review.

Appropriate protective apparel compatible with the required degree of protection for substances handled must be used. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will advise employees on the use of gloves, gowns, eye protection, barrier creams, etc. Permeability charts are available at the following location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Employees will be instructed on the location and use of eyewash stations and safety showers. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is responsible for this instruction.

Employees will be trained initially and then at the following frequency:\_\_\_\_\_\_\_\_\_\_\_\_\_­, on the use of fire extinguishers and other fire protection systems.

**Approval for Specific Laboratory Operations**

Certain laboratory procedures that present a serious chemical hazard require prior approval by the CHO before work can begin. For this facility, these procedures include:

* Work with select carcinogens;
* Work with reproductive hazards;
* Work with neurotoxins; and
* Work with acutely hazardous chemicals.

These chemicals include:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Additional protective measures will be used when working with select carcinogens, reproductive toxins and chemicals with high acute toxicity. These include:

* Establishment of a designated area.
* Use of containment devices such as fume hoods or glove boxes.
* Procedures for safe removal of contaminated waste.
* Decontamination procedures.

**Emergency Response**

We will follow our company’s emergency action plan under 1910.38 and/or plan under 1910.120 for all emergencies relating to the laboratory.

**Maintenance of Fume Hoods and Other Protective Equipment**

*Fume hoods* will be inspected every \_\_\_\_ months by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; adequacy of face velocity will be determined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; reports of hood inspections are filed at the following location: for employee review.

*Biological safety cabinets* will be inspected every \_\_\_\_ months by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; adequacy of face velocity will be determined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; reports of hood inspections are filed at the following location:\_\_\_\_\_\_\_\_\_\_\_\_\_ for employee review.

*Safety showers/eyewash stations* will be inspected every \_\_\_\_ months by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; adequacy of face velocity will be determined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; reports of hood inspections are filed at the following location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_for employee review.

**Employee Information and Training**

Each employee covered by the laboratory standard will be provided with information and training so that they are apprised of the hazards of chemicals present in their work area. This training will be given at the time of initial assignment and prior to new assignments involving different exposure situations. Refresher training will be given at the following frequency:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The training/information session will include:

* The contents of the standard and its appendices. These will be available to employees at the following location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The availability and location of the written chemical hygiene plan.
* Information on OSHA permissible exposure limits (PELs) where they exist and other recommended exposure limits.
* Signs and symptoms associated with exposure to hazardous chemical in laboratories.
* Location of reference materials, including all SDSs received, on the safe handling of chemicals in laboratories.
* Methods to detect the presence or release of chemicals (i.e., monitoring, odor thresholds).
* The physical and health hazards of chemicals in laboratory work areas.
* Measures to protect employees from these hazards, including:
* Standard operating procedures;
* Work practices;
* Emergency procedures;
* Personal protective equipment; and
* Details of the chemical hygiene plan.

The CHO is responsible for developing and updating standard operating procedures and ensuring that employees receive all appropriate training.

All laboratory employees will be trained initially and periodically thereafter on the standard’s requirements as well as standard operating procedures.

**Medical Consultation and Examination**

We will provide to affected employees medical attention including follow-up examinations that our healthcare provider determines are necessary under the following circumstances:

Whenever an employee develops signs and symptoms associated with a hazardous chemical to which they may be exposed, the employee will be provided an opportunity to receive appropriate medical examination. The employee will contact the chemical hygiene officer to initiate the medical program; and/or

Where exposure monitoring reveals an exposure level routinely above the action level (AL) (or in the absence of an action level), exposure above the permissible exposure level (PEL) for OSHA-regulated substances for which there are medical monitoring and medical surveillance requirements, medical surveillance will be established for that employee.

Currently our laboratory uses the following chemicals that have a separate OSHA standard with medical surveillance requirements:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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, laboratory or custodial will be provided an opportunity for a medical consultation. This consultation is for the purpose of determining the need for a medical examination.

All medical examinations and consultations are provided by our designated healthcare provider(s). All aspects of these examinations are provided by a licensed physician or supervised by a licensed physician. These examinations are provided without cost to the employee, without loss of pay, and at a reasonable time and place.

The CHO will provide the following information to the physician:

* Identity of the hazardous chemical to which the employee may have been exposed;
* A description of the conditions of the exposure including exposure date if available; and
* A description of signs and symptoms of the exposure that the employee is experiencing (if any).

The written opinion that the company receives from the physician must include:

* Recommendations for future medical follow-up;
* Results of examination and associated tests;
* Any medical condition revealed that may place the employee at increased risk as the result of a chemical exposure; and
* A statement that the employee has been informed by the physician of the results of the examination/consultation and told of any medical conditions that may require additional examination or treatment.

The material returned to us by the physician will not include specific findings and diagnoses that are unrelated to occupational exposure.

**Free Outreach Resources:**

[*Safety and Health Programs and Plans*](https://www.labor.nc.gov/safety-and-health/publications/example-programs) *(i.e., Example Programs to be Made Site-Specific)*

[*A - Z Safety and Health Topics*](https://www.labor.nc.gov/safety-and-health/occupational-safety-and-health/occupational-safety-and-health-topic-pages) *(i.e., Learn More About Safety and Health Topics)*

[*Which Standards Apply?*](https://www.labor.nc.gov/which-osha-standards-apply) *(Identify the Standards Applicable to Your Worksite)*

[*Safety and Health Presentations*](https://www.labor.nc.gov/document-collection/osh-presentations) *(Downloadable Presentations to be Made Site-Specific)*

[*OSH Training Calendar*](https://www.labor.communications.its.state.nc.us/OSHPublic/ETTA/class_regist/calendar.cfm) *(i.e., Register for Webinars, In-Person Classroom Training, Virtual Events)*

[*Streaming Video Services*](https://www.labor.nc.gov/safety-and-health/library/how-borrow-dvds-and-videos#are-your-videos-online) *(On-Demand Training)*

[*Request Outreach Services*](https://www.labor.communications.its.state.nc.us/OSHPublic/ETTA/Outreach/Outreach_Request_Form.html) *(i.e., Request Training, Booths, Guest Speaker)*

[*AskOSH*](https://www.labor.nc.gov/safety-and-health/occupational-safety-and-health/ask-osh) *(Interpretations)*