Texas Tech University
Health Sciences Center
Laboratory Safety Manual

Revised July 1, 1998
Standard Number: 1910.1030

Standard Title: Bloodborne pathogens.

SubPart Number: Z

SubPart Title: Toxic and Hazardous Substances

- 1910.1030(a) Scope and Application. This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.
- 1910.1030(b) Definitions. For purposes of this section, the following shall apply:
  - "Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.
  - "Blood" means human blood, human blood components, and products made from human blood.
  - "Bloodborne Pathogens" means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).
  - "Clinical Laboratory" means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.
  - "Contaminated" means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
  - "Contaminated Laundry" means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.
  - "Contaminated Sharps" means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.
  - "Decontamination" means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
  - "Director" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.
  - "Engineering Controls" means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.
  - "Exposure Incident" means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.
  - "Handwashing Facilities" means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.
  - "Licensed Healthcare Professional" is a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph (f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.
  - "HBV" means hepatitis B virus.
  - "HIV" means human immunodeficiency virus.
  - "Needleless systems" means a device that does not use needles for:
    (1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) The administration of medication or fluids; or (3) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.
  - "Occupational Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
  - "Other Potentially Infectious Materials" means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
• "Parenteral" means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

• "Personal Protective Equipment" is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

• "Production Facility" means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

• "Regulated Waste" means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

• "Research Laboratory" means a laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

• "Sharps with engineered sharps injury protections" means a nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

• "Source Individual" means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

• "Sterilize" means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

• "Universal Precautions" is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

• "Work Practice Controls" means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

1910.1030(c) Exposure Control.

1910.1030(c)(1) Exposure Control Plan.

1910.1030(c)(1)(i) Each employer having an employee(s) with occupational exposure as defined by paragraph (b) of this section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.

1910.1030(c)(1)(ii) The Exposure Control Plan shall contain at least the following elements:

1910.1030(c)(1)(ii)(A) The exposure determination required by paragraph (c)(2),

1910.1030(c)(1)(ii)(B) The schedule and method of implementation for paragraphs (d) Methods of Compliance, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, (g) Communication of Hazards to Employees, and (h) Recordkeeping, of this standard, and

1910.1030(c)(1)(ii)(C) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

1910.1030(c)(1)(iii) Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.1020(e).

1910.1030(c)(1)(iv) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans shall also:

1910.1030(c)(1)(iv)(A) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and
1910.1030(c)(1)(iv)(B) Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

1910.1030(c)(1)(v) An employer, who is required to establish an Exposure Control Plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

1910.1030(c)(1)(vi) The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

1910.1030(c)(2) Exposure Determination.

1910.1030(c)(2)(i) Each employer who has an employee(s) with occupational exposure as defined by paragraph (b) of this section shall prepare an exposure determination. This exposure determination shall contain the following:

1910.1030(c)(2)(i)(A) A list of all job classifications in which all employees in those job classifications have occupational exposure;

1910.1030(c)(2)(i)(B) A list of job classifications in which some employees have occupational exposure, and

1910.1030(c)(2)(i)(C) A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

1910.1030(c)(2)(ii) This exposure determination shall be made without regard to the use of personal protective equipment.

1910.1030(d) Methods of Compliance.

1910.1030(d)(1) General. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

1910.1030(d)(2) Engineering and Work Practice Controls.

1910.1030(d)(2)(i) Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.

1910.1030(d)(2)(ii) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

1910.1030(d)(2)(iii) Employers shall provide handwashing facilities which are readily accessible to employees.

1910.1030(d)(2)(iv) When provision of handwashing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

1910.1030(d)(2)(v) Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

1910.1030(d)(2)(vi) Employers shall ensure that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.

1910.1030(d)(2)(vii) Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as noted in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(B) below. Shearing or breaking of contaminated needles is prohibited.
1910.1030(d)(2)(vii)(A) Contaminated needles and other contaminated sharps shall not be bent, recapped or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.

1910.1030(d)(2)(vii)(B) Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.

1910.1030(d)(2)(viii) Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:

1910.1030(d)(2)(viii)(A) puncture resistant;
1910.1030(d)(2)(viii)(B) labeled or color-coded in accordance with this standard;
1910.1030(d)(2)(viii)(C) leakproof on the sides and bottom; and
1910.1030(d)(2)(viii)(D) in accordance with the requirements set forth in paragraph (d)(4)(ii)(E) for reusable sharps.

1910.1030(d)(2)(ix) Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

1910.1030(d)(2)(x) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or other potentially infectious materials are present.

1910.1030(d)(2)(xi) All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

1910.1030(d)(2)(xii) Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

1910.1030(d)(2)(xiii) Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

1910.1030(d)(2)(xiii)(A) The container for storage, transport, or shipping shall be labeled or color-coded according to paragraph (g)(1)(i) and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding in accordance with paragraph (g)(1)(i) is required when such specimens/containers leave the facility.

1910.1030(d)(2)(xiii)(B) If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

1910.1030(d)(2)(xiii)(C) If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

1910.1030(d)(2)(xiv) Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

1910.1030(d)(2)(xiv)(A) A readily observable label in accordance with paragraph (g)(1)(i)(H) shall be attached to the equipment stating which portions remain contaminated.

1910.1030(d)(2)(xiv)(B) The employer shall ensure that this information is conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

1910.1030(d)(3) Personal Protective Equipment.
1910.1030(d)(3)(i) Provision. When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

1910.1030(d)(3)(ii) Use. The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgement, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

1910.1030(d)(3)(iii) Accessibility. The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

1910.1030(d)(3)(iv) Cleaning, Laundering, and Disposal. The employer shall clean, launder, and dispose of personal protective equipment required by paragraphs (d) and (e) of this standard, at no cost to the employee.

1910.1030(d)(3)(v) Repair and Replacement. The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

1910.1030(d)(3)(vi) If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.

1910.1030(d)(3)(vii) All personal protective equipment shall be removed prior to leaving the work area.

1910.1030(d)(3)(viii) When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

1910.1030(d)(3)(ix) Gloves. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces.

1910.1030(d)(3)(ix)(A) Disposable (single use) gloves such as surgical or examination gloves, shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

1910.1030(d)(3)(ix)(B) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

1910.1030(d)(3)(ix)(C) Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

1910.1030(d)(3)(ix)(D) If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

1910.1030(d)(3)(ix)(D)(1) Periodically reevaluate this policy;

1910.1030(d)(3)(ix)(D)(2) Make gloves available to all employees who wish to use them for phlebotomy;

1910.1030(d)(3)(ix)(D)(3) Not discourage the use of gloves for phlebotomy; and
1910.1030(d)(3)(ix)(D)(4) Require that gloves be used for phlebotomy in the following circumstances:

1910.1030(d)(3)(ix)(D)(4)[i] When the employee has cuts, scratches, or other breaks in his or her skin;

1910.1030(d)(3)(ix)(D)(4)[ii] When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and


1910.1030(d)(3)(x) Masks, Eye Protection, and Face Shields. Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

1910.1030(d)(3)(xi) Gowns, Aprons, and Other Protective Body Clothing. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

1910.1030(d)(3)(xii) Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopaedic surgery).

1910.1030(d)(4) Housekeeping.

1910.1030(d)(4)(i) General. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The employer shall determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

1910.1030(d)(4)(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

1910.1030(d)(4)(ii)(A) Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.

1910.1030(d)(4)(ii)(B) Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

1910.1030(d)(4)(ii)(C) All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

1910.1030(d)(4)(ii)(D) Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.

1910.1030(d)(4)(ii)(E) Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.


1910.1030(d)(4)(iii)(A)(1) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:
1910.1030(d)(4)(iii)(A)(1)[b] Puncture resistant;
1910.1030(d)(4)(iii)(A)(1)[c] Leakproof on sides and bottom; and
1910.1030(d)(4)(iii)(A)(1)[d] Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

1910.1030(d)(4)(iii)(A)(2) During use, containers for contaminated sharps shall be:
1910.1030(d)(4)(iii)(A)(2)[a] Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);
1910.1030(d)(4)(iii)(A)(2)[b] Maintained upright throughout use; and

1910.1030(d)(4)(iii)(A)(3) When moving containers of contaminated sharps from the area of use, the containers shall be:
1910.1030(d)(4)(iii)(A)(3)[a] Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;
1910.1030(d)(4)(iii)(A)(3)[b] Placed in a secondary container if leakage is possible. The second container shall be:
1910.1030(d)(4)(iii)(A)(3)[b][i] Closable;
1910.1030(d)(4)(iii)(A)(3)[b][ii] Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
1910.1030(d)(4)(iii)(A)(3)[b][iii] Labeled or color-coded according to paragraph (g)(1)(i) of this standard.

1910.1030(d)(4)(iii)(A)(4) Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.


1910.1030(d)(4)(iii)(B)(1) Regulated waste shall be placed in containers which are:
1910.1030(d)(4)(iii)(B)(1)[b] Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
1910.1030(d)(4)(iii)(B)(1)[c] Labeled or color-coded in accordance with paragraph (g)(1)(i) this standard; and
1910.1030(d)(4)(iii)(B)(1)[d] Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

1910.1030(d)(4)(iii)(B)(2) If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:
1910.1030(d)(4)(iii)(B)(2)[b] Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
1910.1030(d)(4)(iii)(B)(2)[c] Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard; and
1910.1030(d)(4)(iii)(B)(2)[d] Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

1910.1030(d)(4)(iii)(C) Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.


1910.1030(d)(4)(iv)(A) Contaminated laundry shall be handled as little as possible with a minimum of agitation.

1910.1030(d)(4)(iv)(A)(1) Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

1910.1030(d)(4)(iv)(A)(2) Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.

1910.1030(d)(4)(iv)(A)(3) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through of or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

1910.1030(d)(4)(iv)(B) The employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

1910.1030(d)(4)(iv)(C) When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with paragraph (g)(1)(i).

1910.1030(e) HIV and HBV Research Laboratories and Production Facilities.

1910.1030(e)(1) This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

1910.1030(e)(2) Research laboratories and production facilities shall meet the following criteria:

1910.1030(e)(2)(i) Standard Microbiological Practices. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

1910.1030(e)(2)(ii) Special Practices

1910.1030(e)(2)(ii)(A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

1910.1030(e)(2)(ii)(B) Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.

1910.1030(e)(2)(ii)(C) Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.

1910.1030(e)(2)(ii)(D) When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with paragraph (g)(1)(ii) of this standard.
All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.

Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.

Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.

Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.

Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.

All spills shall be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.

A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.

A biosafety manual shall be prepared or adopted and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.

Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

HIV and HBV research laboratories shall meet the following criteria:

Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.

An autoclave for decontamination of regulated waste shall be available.

HIV and HBV production facilities shall meet the following criteria:

The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other
areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.

1910.1030(e)(4)(ii) The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination.

1910.1030(e)(4)(iii) Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.

1910.1030(e)(4)(iv) Access doors to the work area or containment module shall be self-closing.

1910.1030(e)(4)(v) An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.

1910.1030(e)(4)(vi) A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

1910.1030(e)(5) Training Requirements. Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(ix).

1910.1030(f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.


1910.1030(f)(1)(i) The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

1910.1030(f)(1)(ii) The employer shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:

1910.1030(f)(1)(ii)(A) Made available at no cost to the employee;

1910.1030(f)(1)(ii)(B) Made available to the employee at a reasonable time and place;

1910.1030(f)(1)(ii)(C) Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and

1910.1030(f)(1)(ii)(D) Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by this paragraph (f).

1910.1030(f)(1)(iii) The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.


1910.1030(f)(2)(i) Hepatitis B vaccination shall be made available after the employee has received the training required in paragraph (g)(2)(vii)(I) and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

1910.1030(f)(2)(ii) The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.
1910.1030(f)(2)(iii) If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the employer shall make available hepatitis B vaccination at that time.

1910.1030(f)(2)(iv) The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement in Appendix A.

1910.1030(f)(2)(v) If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available in accordance with section (f)(1)(ii).

1910.1030(f)(3) Post-exposure Evaluation and Follow-up. Following a report of an exposure incident, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

1910.1030(f)(3)(i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;

1910.1030(f)(3)(ii) Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;

1910.1030(f)(3)(ii)(A) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the employer shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.

1910.1030(f)(3)(ii)(B) When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.

1910.1030(f)(3)(ii)(C) Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

1910.1030(f)(3)(iii) Collection and testing of blood for HBV and HIV serological status;

1910.1030(f)(3)(iii)(A) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.

1910.1030(f)(3)(iii)(B) If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

1910.1030(f)(3)(iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

1910.1030(f)(3)(v) Counseling; and


1910.1030(f)(4) Information Provided to the Healthcare Professional.

1910.1030(f)(4)(i) The employer shall ensure that the healthcare professional responsible for the employee’s Hepatitis B vaccination is provided a copy of this regulation.

1910.1030(f)(4)(ii) The employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:

1910.1030(f)(4)(ii)(A) A copy of this regulation;

1910.1030(f)(4)(ii)(B) A description of the exposed employee's duties as they relate to the exposure incident;
1910.1030(f)(4)(ii)(C) Documentation of the route(s) of exposure and circumstances under which exposure occurred;

1910.1030(f)(4)(ii)(D) Results of the source individual's blood testing, if available; and

1910.1030(f)(4)(ii)(E) All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

1910.1030(f)(5) Healthcare Professional's Written Opinion. The employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

1910.1030(f)(5)(i) The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

1910.1030(f)(5)(ii) The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

1910.1030(f)(5)(ii)(A) That the employee has been informed of the results of the evaluation; and

1910.1030(f)(5)(ii)(B) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

1910.1030(f)(5)(iii) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

1910.1030(f)(6) Medical Recordkeeping. Medical records required by this standard shall be maintained in accordance with paragraph (h)(1) of this section.

1910.1030(g) Communication of Hazards to Employees.

1910.1030(g)(1) Labels and Signs.

1910.1030(g)(1)(i) Labels.

1910.1030(g)(1)(i)(A) Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials, except as provided in paragraph (g)(1)(i)(E), (F) and (G).

1910.1030(g)(1)(i)(B) Labels required by this section shall include the following legend:

1910.1030(g)(1)(i)(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

1910.1030(g)(1)(i)(D) Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

1910.1030(g)(1)(i)(E) Red bags or red containers may be substituted for labels.

1910.1030(g)(1)(i)(F) Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements of paragraph (g).
1910.1030(g)(1)(i)(G) Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.

1910.1030(g)(1)(i)(H) Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.

1910.1030(g)(1)(i)(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

1910.1030(g)(1)(ii) Signs.

1910.1030(g)(1)(ii)(A) The employer shall post signs at the entrance to work areas specified in paragraph (e), HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:

(Name of the Infectious Agent)

(Special requirements for entering the area)

(Name, telephone number of the laboratory director or other responsible person.)

1910.1030(g)(1)(ii)(B) These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color.

1910.1030(g)(2) Information and Training.

1910.1030(g)(2)(i) Employers shall ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours.

1910.1030(g)(2)(ii) Training shall be provided as follows:

1910.1030(g)(2)(ii)(A) At the time of initial assignment to tasks where occupational exposure may take place;

1910.1030(g)(2)(ii)(B) Within 90 days after the effective date of the standard; and

1910.1030(g)(2)(ii)(C) At least annually thereafter.

1910.1030(g)(2)(iii) For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided.

1910.1030(g)(2)(iv) Annual training for all employees shall be provided within one year of their previous training.

1910.1030(g)(2)(v) Employers shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee’s occupational exposure. The additional training may be limited to addressing the new exposures created.

1910.1030(g)(2)(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.
1910.1030(g)(2)(vii) The training program shall contain at a minimum the following elements:

1910.1030(g)(2)(vii)(A) An accessible copy of the regulatory text of this standard and an explanation of its contents;

1910.1030(g)(2)(vii)(B) A general explanation of the epidemiology and symptoms of bloodborne diseases;

1910.1030(g)(2)(vii)(C) An explanation of the modes of transmission of bloodborne pathogens;

1910.1030(g)(2)(vii)(D) An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;

1910.1030(g)(2)(vii)(E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;

1910.1030(g)(2)(vii)(F) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;

1910.1030(g)(2)(vii)(G) Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;

1910.1030(g)(2)(vii)(H) An explanation of the basis for selection of personal protective equipment;

1910.1030(g)(2)(vii)(I) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;

1910.1030(g)(2)(vii)(J) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;

1910.1030(g)(2)(vii)(K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;

1910.1030(g)(2)(vii)(L) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;

1910.1030(g)(2)(vii)(M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

1910.1030(g)(2)(vii)(N) An opportunity for interactive questions and answers with the person conducting the training session.

1910.1030(g)(2)(viii) The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

1910.1030(g)(2)(ix) Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.

1910.1030(g)(2)(ix)(A) The employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.

1910.1030(g)(2)(ix)(B) The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

1910.1030(g)(2)(ix)(C) The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.
1910.1030(h) Recordkeeping.

1910.1030(h)(1) Medical Records.


1910.1030(h)(1)(ii) This record shall include:

1910.1030(h)(1)(ii)(A) The name and social security number of the employee;

1910.1030(h)(1)(ii)(B) A copy of the employee’s hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee’s ability to receive vaccination as required by paragraph (f)(2);

1910.1030(h)(1)(ii)(C) A copy of all results of examinations, medical testing, and follow-up procedures as required by paragraph (f)(3);

1910.1030(h)(1)(ii)(D) The employer’s copy of the healthcare professional’s written opinion as required by paragraph (f)(5); and

1910.1030(h)(1)(ii)(E) A copy of the information provided to the healthcare professional as required by paragraphs (f)(4)(ii)(B)(C) and (D).

1910.1030(h)(1)(iii) Confidentiality. The employer shall ensure that employee medical records required by paragraph (h)(1) are:

1910.1030(h)(1)(iii)(A) Kept confidential; and

1910.1030(h)(1)(iii)(B) Not disclosed or reported without the employee’s express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

1910.1030(h)(1)(iv) The employer shall maintain the records required by paragraph (h) for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.1020.

1910.1030(h)(2) Training Records.

1910.1030(h)(2)(i) Training records shall include the following information:

1910.1030(h)(2)(i)(A) The dates of the training sessions;

1910.1030(h)(2)(i)(B) The contents or a summary of the training sessions;

1910.1030(h)(2)(i)(C) The names and qualifications of persons conducting the training; and

1910.1030(h)(2)(i)(D) The names and job titles of all persons attending the training sessions.

1910.1030(h)(2)(ii) Training records shall be maintained for 3 years from the date on which the training occurred.

1910.1030(h)(3) Availability.

1910.1030(h)(3)(i) The employer shall ensure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

1910.1030(h)(3)(ii) Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.
Employee medical records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

Transfer of Records.

The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020.

If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three months prior to their disposal and transmit them to the Director, if required by the Director to do so, within that three month period.

Sharps injury log.

The employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:

- The type and brand of device involved in the incident,
- The department or work area where the exposure incident occurred, and
- An explanation of how the incident occurred.

The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR 1904.

The sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

Dates.

The standard shall become effective on March 6, 1992.

The Exposure Control Plan required by paragraph (c) of this section shall be completed on or before May 5, 1992.

Paragraph (g)(2) Information and Training and (h) Recordkeeping shall take effect on or before June 4, 1992.


Standard Number: 1910.1030 App A

Standard Title: Hepatitis B Vaccine Declination (Mandatory)

SubPart Number: Z

SubPart Title: Toxic and Hazardous Substances

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

TEXAS HAZARD COMMUNICATION ACT

HEALTH & SAFETY CODE

CHAPTER 502

HAZARD COMMUNICATION ACT

Sec. 502.001. Short Title

This chapter may be cited as the Hazard Communication Act.


Sec. 502.002. Findings; Purpose

a. The legislature finds that:
   1. the health and safety of persons working in this state may be improved by providing access to information regarding hazardous chemicals to which those persons may be exposed during normal employment activities, during emergency situations, or as a result of proximity to the manufacture or use of those chemicals; and
   2. many employers in this state have established suitable information programs for their employees and that access to the information is required of most employers under the federal Occupational Safety and Health Administration’s (OSHA) Hazard Communication Standard.

b. It is the intent and purpose of this chapter to assure that employers provide information regarding hazardous chemicals in the workplace to employees who may be exposed to those chemicals in their workplace.


Sec. 502.0021. Federal Laws and Regulations

In this chapter, a reference to a federal law or regulation means a reference to the most current version of that law or regulation.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.003. Definitions

In this chapter:

1. "Article" means a manufactured item:
   A. that is formed to a specific shape or design during manufacture;
   B. that has end-use functions dependent in whole or in part on its shape or design during end use; and
   C. that does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use.

2. "Board" means the Texas Board of Health.

3. "Chemical manufacturer" means an employer in Standard Industrial Classification (SIC) Codes 20-39 with a workplace where chemicals are produced for use or distribution.

4. "Chemical name" means:
   A. the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature; or
   B. a name that clearly identifies the chemical for the purpose of conducting a hazard evaluation.

5. "Common name" means a designation of identification, such as a code name, code number, trade name, brand name, or generic name, used to identify a chemical other than by its chemical name.

6. "Department" means the Texas Department of Health.
7. "Designated representative" means the individual or organization to whom an employee gives written authorization to exercise the employee's rights under this chapter, except that a recognized or certified bargaining agent is a designated representative regardless of written employee authorization.

8. "Director" means the director of the Texas Department of Health.

9. "Distributor" means a business in Standard Industrial Classification Major Industry Group 516 or 517 that supplies hazardous chemicals to an employer who must comply with this Act.

10. "Employee" means a person who may be or may have been exposed to hazardous chemicals in the person's workplace under normal operating conditions or foreseeable emergencies, and includes a person working for this state, a person working for a political subdivision of this state, or a member of a volunteer emergency service organization or, if the applicable OSHA standard or MSHA standard is not in effect, a person working for a private employer. Workers such as office workers or accountants who encounter hazardous chemicals only in nonroutine, isolated instances are not employees for purposes of this chapter.

11. "Employer" means a person engaged in private business who is regulated by the federal Occupational Safety and Health Act of 1970 (Pub. L. No. 91-596), the Federal Coal Mine Health and Safety Act of 1969 (Pub. L. No. 91-173), or the Federal Mine Safety and Health Act Amendments Act of 1977 (Pub. L. No. 95-164) on the effective date of this Act, or the state or a political subdivision of the state, including a state, county, or municipal agency, a public school, a college or university, a public authority, a public utility, a nonprofit organization, a volunteer emergency service organization, and other similar employers. The term does not include any person to whom the federal Occupational Safety and Health Act of 1970 (Pub. L. No. 91-596), the Federal Coal Mine Health and Safety Act of 1969 (Pub. L. No. 91-173), or the Federal Mine Safety and Health Act Amendments Act of 1977 (Pub. L. No. 95-164) is applicable if that employer is covered by the OSHA standard or the other two laws.

12. "Expose" or "exposure" means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry, including inhalation, ingestion, skin contact, or absorption. The term includes potential, possible, or accidental exposure under normal conditions of use or in a reasonably foreseeable emergency.

13. "Hazardous chemical" or "chemical" means an element, compound, or mixture of elements or compounds that is a physical hazard or health hazard as defined by the OSHA standard in 29 CFR Section 1910.1200(c), or a hazardous substance as defined by the OSHA standard in 29 CFR Section 1910.1200(d)(3), or by OSHA's written interpretations. A hazard determination may be made by employers who choose not to rely on the evaluations made by their suppliers if there are relevant qualitative or quantitative differences. A hazard determination shall involve the best professional judgment.

14. "Health hazard" has the meaning given that term by the OSHA standard (29 CFR 1910.1200(c)).

15. "Identity" means a chemical or common name, or alphabetical or numerical identification, that is indicated on the material safety data sheet (MSDS) for the chemical. The identity used must permit cross references to be made among the workplace chemical list, the label, and the MSDS.

16. "Label" means any written, printed, or graphic material displayed on or affixed to a container of hazardous chemicals.

17. "Material Safety Data Sheet" ("MSDS") means a document containing chemical hazard and safe handling information that is prepared in accordance with the requirements of the OSHA standard for that document.

18. "MSHA standard" means the Hazard Communication Standard issued by the Mining Safety and Health Administration.


20. "Physical hazard" means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water-reactive in terms defined in the OSHA standard.

21. "Temporary workplace" means a stationary workplace that is staffed less than 20 hours a week. A temporary workplace may be considered to be a work area of the headquarters workplace from which employees are routinely dispatched. Temporary workplaces may include pumping stations, emergency response sites, and similar workplaces.

22. "Work area" means a room, defined space, utility structure, or an emergency response site in a workplace where hazardous chemicals are present, produced, or used and where employees are present.

23. "Workplace" means an establishment, job site, or project, at one geographical location containing one or more work areas with or without buildings, that is staffed 20 or more hours a week.

24. "Workplace chemical list" means a list of hazardous chemicals developed under Section 502.005 (a).

Sec. 502.004. Applicability of Chapter

a. Except, as provided by Subsection (b), this chapter applies only to employers who are not required to comply with the OSHA standard, the Federal Coal Mine Health and Safety Act of 1969 (Pub. L. No. 91-173), or the Federal Mine Safety and Health Amendments Act of 1977 (Pub. L. No. 95-164).

b. Chemical manufacturers, importers, and distributors shall provide MSDSs as required by Section 502.006. Penalties provided by Sections 502.014, 502.015, and 502.016 may be assessed against chemical manufacturers, importers, and distributors for failure to provide MSDSs.

c. If an employer is covered by both this chapter and Chapter 125, Agriculture Code, the employer is required to comply only with this chapter.

d. This chapter, except Section 502.009, does not apply to a hazardous chemical in a sealed and labeled package that is received and subsequently sold or transferred in that package if:
   1. the seal and label remain intact while the chemical is in the workplace; and
   2. the chemical does not remain in the workplace longer than five working days.

e. This chapter does not require labeling of the following chemicals:
   1. any pesticide, as that term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency,
   2. any food, food additive, color additive, drug, cosmetic, medical or veterinary device, including materials intended for use as ingredients in those products such as flavors and fragrances, as those terms are defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.) and regulations issued under that Act, when they are subject to the labeling requirements under that Act by the Food and Drug Administration.
   3. any distilled spirits that are beverage alcohol, wine, or malt beverages intended for nonindustrial use, as those terms are defined in the Federal Alcohol Administration Act (27 U.S.C. Section 201 et seq.) and regulations issued under that Act, when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Bureau of Alcohol, Tobacco, and Firearms; and
   4. any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. Section 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. Section 1261 et seq.), respectively, when subject to a consumer product safety standard or labeling requirement of those Acts or regulations issued under those Acts by the Consumer Product Safety Commission.

f. This chapter does not apply to:
   1. any hazardous waste, as that term is defined by the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. Section 6901 et seq.), when subject to regulations issued under that Act by the Environmental Protection Agency;
   2. a chemical in a laboratory under the direct supervision or guidance of a technically qualified individual if:
      A. labels on incoming containers of chemicals are not removed or defaced;
      B. the employer complies with Section 502.006 and 502.009 with respect to laboratory employees; and
      C. the laboratory is not used primarily to produce hazardous chemicals in bulk for commercial purposes;
   3. tobacco or tobacco products;
   4. wood or wood products;
   5. articles;
   6. food, drugs, cosmetics, or alcoholic beverages in a retail food sale establishment that are packaged for sale to consumers;
   7. food, drugs, or cosmetics intended for personal consumption by an employee while in the workplace;
   8. any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. Section 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. Section 1261 et seq.), respectively, if the employer can demonstrate it is used in the workplace in the same manner as normal consumer use and if the use results in a duration and frequency of exposure that is not greater than exposures experienced by consumers;
   9. any drug, as that term is defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.); and
   10. radioactive waste.

**Sec. 502.005. Workplace Chemical List**

a. For the purpose of worker right-to-know, an employer shall compile and maintain a workplace chemical list that contains the following information for each hazardous chemical normally present in the workplace or temporary workplace in excess of 55 gallons or 500 pounds or in excess of an amount that the board determines by rule for certain highly toxic or dangerous chemicals:
   1. the identity used on the MSDS and container label; and
   2. the work area in which the hazardous chemical is normally present.

b. The employer shall update the workplace chemical list as necessary but at least by December 31 of each year. Each workplace chemical list shall be dated and signed by the person responsible for compiling the information.

c. The workplace chemical list may be prepared for the workplace as a whole or for each work area or temporary workplace and must be readily available to employees and their representatives. All employees shall be made aware of the workplace chemical list before working with or in a work area containing hazardous chemicals.

d. An employer shall maintain a workplace chemical list for at least 30 years. The employer shall send complete records to the director if the employer ceases to operate.


**Sec. 502.006. Material Safety Data Sheet**

a. A chemical manufacturer or distributor shall provide appropriate material safety data sheets to employers who acquire hazardous chemicals in this state with each initial shipment and with the first shipment after an MSDS is updated. The MSDSs must conform to the most current requirements of the OSHA standard.

b. An employer shall maintain a legible copy of current MSDS for each hazardous chemical purchased. If the employer does not have a current MSDS for a hazardous chemical when the chemical is received at the workplace, the employer shall request an MSDS in writing from the manufacturer or distributor in a timely manner or shall otherwise obtain a current MSDS. The manufacturer or distributor shall respond with an appropriate MSDS in a timely manner.

c. Material safety data sheets shall be readily available, on request, for review by employees or designated representatives at each workplace.

d. A copy of an MSDS maintained by an employer under this section shall be provided to the director on request.


**Sec. 502.007. Label**

a. A label on an existing container of a hazardous chemical may not be removed or defaced unless it is illegible, inaccurate, or does not conform to the OSHA standard or other applicable labeling requirement. Primary containers must be relabeled with at least the identity appearing on the MSDS, the pertinent physical and health hazards, including the organs that would be affected, and the manufacturer's name and address. Except as provided by Subsection (b), secondary containers must be relabeled with at least the identity appearing on the MSDS and appropriate hazard warnings.

b. An employee may not be required to work with a hazardous chemical from an unlabeled container except for a portable container intended for the immediate use of the employee who performs the transfer.


**Sec. 502.008. Outreach Program**

a. The director shall develop an outreach program that:
   1. consists of an education and training program in the form of instructional materials to assist employers in fulfilling the requirements of Section 502.009; and
   2. includes the development and distribution of a supply of informational leaflets concerning employer's duties, employee rights, the outreach program, and the effects of hazardous chemicals.

b. The director may contract with a public institution of higher education or other public or private organization to develop and implement the outreach program.

c. The director shall develop and provide to each employer a suitable form of notice providing employees with information relating to employee rights under this chapter.

d. The director shall publicize the availability of information to answer inquiries from employees, employers, or the public in this state concerning the effects of hazardous chemicals.

e. In cooperation with the director, an employer may provide an outreach program in the community.


Sec. 502.009. Employee Education Program

a. An employer shall provide an education and training program for employees who use or handle hazardous chemicals.

b. An employer shall develop, implement, and maintain at the workplace a written hazard communication program for the workplace that describes how the criteria specified in this chapter will be met.

c. An education and training program must include, as appropriate:
   1. information on interpreting labels and MSDSs and the relationship between those two methods of hazard communication;
   2. the location by work area, acute and chronic effects, and safe handling of hazardous chemicals known to be present in the employees' work area and to which the employees may be exposed;
   3. the proper use of protective equipment and first aid treatment to be used with respect to the hazardous chemicals to which employees may be exposed; and
   4. general safety instructions on the handling, cleanup procedures, and disposal of hazardous chemicals.

d. Training may be conducted by categories of chemicals. An employer must advise employees that information is available on the specific hazards of individual chemicals through the MSDSs. Protective equipment and first aid treatment may be by categories of hazardous chemicals.

e. An employer shall provide additional instruction to an employee when the potential for exposure to hazardous chemicals in the employee's work area increases significantly or when the employer receives new and significant information concerning the hazards of a chemical in the employee's work area. The addition of new chemicals alone does not necessarily require additional training.

f. An employer shall provide training to a new or newly assigned employee before the employee works with or in a work area containing a hazardous chemical.

g. An employer shall keep the written hazard communication program and a record of each training session given to employees, including the date, a roster of the employees who attended, the subjects covered in the training session, and the names of the instructors. Those records shall be maintained for at least five years by the employer. The department shall have access to those records and may interview employees during inspections.

h. Emergency service organizations shall provide, to their members or employees who may encounter hazardous chemicals during an emergency, information on recognizing, evaluating, and controlling exposure to the chemicals.

i. As part of an outreach program created in accordance with Section 502.008, the director shall develop an education and training assistance program to assist employers who are unable to develop the programs because of size or other practical considerations. The program shall be made available to those employers on request.


Sec. 502.010. Liability Under Other Law

Providing information to an employee does not affect:

1. the liability of an employer with regard to the health and safety of an employee or other person exposed to hazardous chemicals;
2. the employer’s responsibility to take any action to prevent occupational disease as required under other law; or
3. any other duty or responsibility of a manufacturer, producer, or formulator to warn ultimate users of a hazardous chemical under other law.

Sec. 502.011. Complaints and Investigations

a. The director or the director’s representative shall investigate in a timely manner a complaint received in writing from an employee or an employee’s designated representative relating to an alleged violation of this chapter by an employer.

b. A complaint received from a person relating to an alleged violation shall be referred to the federal Occupational Safety and Health Administration (OSHA) or to the federal Mine Safety and Health Administration (MSHA) if the complaint is related to an applicable OSHA or MSHA requirement and the applicable OSHA or MSHA standard is in effect. The director or the director’s representative shall investigate the complaint if:
   1. the applicable OSHA or MSHA standard is not in effect; or
   2. the complaint is based on a requirement of this chapter.

c. On presentation of appropriate credentials, an officer or representative of the director may enter a workplace at reasonable times to inspect and investigate complaints.

d. The department may find multiple violations by an employer based on distinct requirements of this chapter


Sec. 502.012. Reporting Fatalities and Injuries

a. Within 48 hours after the occurrence of an employee accident that directly or indirectly involves chemical exposure or that involves asphyxiation, and that is fatal to one or more employees or results in the hospitalization of five or more employees, the employer of any of the employees so injured or killed shall report the accident either orally or in writing to the department.

b. The report to the department shall relate the circumstances of the accident, the number of fatalities, and the extent of any injuries. If it is necessary to complete the investigation of an incident, the department may require additional reports in writing as necessary.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.014. Administrative Penalty

a. The director may assess an administrative penalty against an employer who violates this chapter, board rules adopted under this chapter, or an order issued under this chapter.

b. If the department finds one or more violations of this chapter, the director may issue a notice of violation to the employer. The notice of violation shall specifically describe the violation, refer to the applicable section or subsection of the chapter, and state the amount of the penalty, if any, to be assessed by the director.

c. An employer who receives a notice of violation may respond to the department in writing within 15 days after the date of receipt of the notice of violation in one of the ways provided by Subsection (d), (e), or (f).

d. If the employer disputes the validity of the violation and has reason to believe that the findings of the department were based on inaccurate or incomplete information, the employer may request an informal conference with representatives of the department. The purpose of an informal conference is to permit the employer to meet with department representatives to discuss the basis of the violation and to provide information to the department. The department shall schedule the informal conference. A request for an informal conference made in bad faith is a violation of this chapter.

e. The employer may correct the violation and certify to the department that the corrections have been made.

f. The employer may request a hearing.

g. Following an informal conference, the department shall respond in writing to the employer, stating whether the department intends to withdraw the notice of violation or pursue it. If the department intends to pursue the notice of violation, the employer may respond as provided by either Subsection (h) or (i) within 10 days after the date of receipt of the department’s correspondence.

h. The employer may correct the violation and certify to the department that the corrections have been made.

i. The employer may request a hearing.

j. A request for an informal conference or a statement by an employer that the employer is in compliance with the provision of this chapter does not waive the employer’s right to a hearing.

k. The director may not assess an administrative penalty for any violation that has been corrected within 15 days after the date of receipt of the notice of violation, the date of receipt of the department’s response by the employer, or 10 days after the date of receipt by the employer of the department’s response to the informal conference provided for in Subsection (c), whichever is later.
I. In determining the amount of the penalty, the director shall consider:
   1. the employer's previous violations;
   2. the seriousness of the violation;
   3. any hazard to the health and safety of the employee;
   4. the employer's demonstrated good faith;
   5. the duration of the violation; and
   6. other matters as justice may require.

m. Each day a violation continues may be considered a separate violation.

n. The penalty may not exceed $500 for each violation.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.0141. Administrative Penalty Assessment procedure

a. An administrative penalty may be assessed only after an employer charged with a violation is given an opportunity for a hearing.
b. If a hearing is held, the director shall make findings of fact and shall issue a written decision regarding the occurrence of the violation and the amount of the penalty that may be warranted.
c. If the employer charged with the violation does not request a hearing in a timely manner, the director may assess a penalty after determining that a violation has occurred and the amount of the penalty that may be warranted.
d. After making a determination under this section that a penalty is to assessed against an employer, the director shall issue an order requiring that the employer pay the penalty.
e. The director may consolidate a hearing held under this section with another proceeding.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.0142. Payment of Administrative Penalty; Judicial Review

a. Not later than the 30th day after the date an order finding that a violation has occurred is issued, the director shall inform the employer against whom the order is issued of the amount of the penalty for the violation.
b. Within 30 days after the date the director's order is final as provided by Subchapter F, Chapter 2001, Government Code, the employer shall:
   1. pay the amount of the penalty;
   2. pay the amount of the penalty and file a petition for judicial review contesting the occurrence of the violation, the amount of the penalty, or both the occurrence of the violation and the amount of the penalty; or
   3. without paying the amount of the penalty, file a petition for judicial review contesting the occurrence of the violation, the amount of the penalty, or both the occurrence of the violation and the amount of the penalty.
c. Within the 30-day period, an employer who acts under Subsection (b)(3) may:
   1. stay enforcement of the penalty by:
      A. paying the amount of the penalty to the court for placement in an escrow account; or
      B. giving to the court a supersede as bond that is approved by the court for the amount of the penalty and that is effective until all judicial review of the director's order is final; or
   2. request the court to stay enforcement of the penalty by:
      A. filing with the court a sworn affidavit of the employer stating that the employer is financially unable to pay the amount of the penalty and is financially unable to give the supersede as bond; and
      B. giving a copy of the affidavit to the director by certified mail.
d. Subsection (c)(1) does not apply to the state or a political subdivision. The penalty may not be enforced against the state or a political subdivision until all judicial review has been exhausted.
e. If the director receives a copy of an affidavit under Subsection (c)(2), the director may file with the court, within five days after the date the copy is received, a contest to the affidavit. The court shall hold a hearing on the facts alleged in the affidavit as soon as practicable and shall stay the enforcement of the penalty on finding that the alleged facts are true. The employer who files an affidavit has the burden of proving that the employer is financially unable to pay the amount of the penalty and to give a supersede as bond.
f. If the employer does not pay the amount of the penalty and the enforcement of the penalty is not stayed, the director may refer the matter to the attorney general for collection of the amount of the penalty.
g. Judicial review of the order of the director:
   1. is instituted by filing a petition as provided by Subchapter G, Chapter 2001, Government Code; and
   2. is under the substantial evidence rule.
h. If the court sustains the occurrence of the violation, the court may uphold or reduce the amount of the penalty and order the employer to pay the full or reduced amount of the penalty. If the court does not sustain the occurrence of the violation, the court shall order that no penalty is owed.

i. When the judgment of the court becomes final, the court shall proceed under this subsection. If the employer paid the amount of the penalty and if that amount is reduced or is not upheld by the court, the court shall order that the appropriate amount plus accrued interest be remitted to the employer. The rate of the interest is the rate charged on loans to depository institutions by the New York Federal Reserve Bank, and the interest shall be paid for the period beginning on the date the penalty was paid and ending on the date the penalty is remitted. If the employer gave a supersede as bond and if the amount of the penalty is not upheld by the court, the court shall order the release of the bond. If the employer gave a supersede as bond and if the amount of the penalty is reduced, the court shall order the release of the bond after the employer pays the amount.

j. All proceedings under this section are subject to Chapter 2001, Government Code.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1995, 74th Leg., ch. 76, Sec. 5.95(49), (53), (59), eff. Sept. 1, 1995.

Sec. 502.015. Civil Penalty; Injunction

a. If it appears that an employer has violated, is violating, or is threatening to violate this chapter or any rule adopted or order issued under this chapter, the director may request attorney general or the district, county, or city attorney of the municipality or county in which the violation has occurred, is occurring, or may occur to institute a civil suit for:

1. injunctive relief to restrain the employer from continuing the violation or threat of violation;
2. the assessment and recovery of a civil penalty for a violation; or
3. both the injunctive relief and the civil penalty.

b. The penalty may be in an amount not to exceed $2,000 a day for each violation, with a total not to exceed $20,000 for that violation.

c. In determining the amount of the penalty, the court shall consider the employer’s history of previous violations, the seriousness of the violation, any hazard to health and safety of the public, the demonstrated good faith of the employer charged, and other matters as justice may require.

d. Any civil penalty recovered in a suit instituted by the attorney general under this chapter shall be deposited in the state treasury to the credit of the general revenue fund. Any civil penalty recovered in a suit instituted by a local government under this chapter shall be paid to the local government.

e. This section does not affect any other right of an employee or any other employer to receive compensation for damages under other law.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.016. Criminal Penalty

An employer who is required to disclose hazard information under this chapter and who proximately causes an occupational disease or injury to an individual by knowingly disclosing false hazard information or knowingly failing to disclose hazard information provided on an MSDS commits an offense that is punishable by a fine of not more than $10,000 for each violation. Each day of violation constitutes a separate offense, except that the fine may not exceed $100,000 for that violation. This section does not affect any other right of an employee or any other employer to receive compensation for damages under other law.

Added by Acts 1993, 73rd Leg., ch. 528 Sec. 1, eff. Sept. 1, 1993.

Sec. 502.017. Employee Notice; Rights of Employees

a. An employer shall post and maintain adequate notice, at locations where notices are normally posted, informing employees of their rights under this chapter. If the director does not prepare the notice under Section 502.008, the employer shall prepare the notice.

b. Employees who may be exposed to hazardous chemicals shall be informed of the exposure and shall have access to the workplace chemical list and MSDSs for the hazardous chemicals. Employees, on request, shall be provided a copy of a specific MSDS with any trade secret information deleted. In addition, employees shall receive training concerning the hazards of the chemicals and measures they can take to protect themselves from those hazards. Employees shall be provided with appropriate personal protective equipment. These rights are guaranteed.
c. An employer may not discharge, cause to be discharged, otherwise discipline, or in any manner discriminate against an employee because the employee has:
   1. filed a complaint;
   2. assisted an inspector of the department who may make or is making an inspection under Section 502.011;
   3. instituted or caused to be instituted any proceeding under or related to this chapter;
   4. testified or is about to testify in a proceeding under this chapter; or
   5. exercised any rights afforded under this chapter on behalf of the employee or on behalf of others.

d. Pay, position, seniority, or other benefits may not be lost as the result of the exercise of any right provided by this chapter.

e. A waiver by an employee of the benefits or requirements of this chapter is void. An employer's request or requirement that an employee waive any rights under this chapter as a condition of employment is a violation of this chapter.


Sec. 502.018. Standard for Physician Treatment

For the purposes of this chapter, the requirements in the OSHA standard for physicians treating employees (29 CFR 1910.1200(l)) apply to physicians treating persons.


Sec. 502.019. Rules

The board may adopt rules and administrative procedures reasonably necessary to carry out the purposes of this chapter.


Sec. 502.020. WORKPLACE SAFETY FOR INMATES.

A person imprisoned in a facility operated by or for the Texas Department of Criminal Justice is not an employee for the purposes of this chapter. The Texas Department of Criminal Justice shall provide a person imprisoned in a facility operated by or for the Texas Department of Criminal Justice the protections from exposure to hazardous chemicals in the workplace as provided for in this chapter.

OSHA 13 CARCINOGENS STANDARD - 29 CFR 1910.1003

29 CFR 1910.1003 - 13 Carcinogens (4-Nitrobiphenyl, etc.).

Standard Number: 1910.1003

Standard Title: 13 Carcinogens (4-Nitrobiphenyl, etc.).

SubPart Number: Z

SubPart Title: Toxic and Hazardous Substances

Produced by USDOL OSHA - Directorate of Safety Standards & Directorate of Health Standards

Maintained by USDOL OSHA - OCIS

1910.1003(a) Scope and application.

1610.1003(a)(1) This section applies to any area in which the 13 carcinogens addressed by this section are manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3) and (4) of this section. The 13 carcinogens are the following:

4-Nitrobiphenyl, Chemical Abstracts Service Register Number (CAS No.) 92933;

alpha-Naphthylamine, CAS No. 134327;

methyl chloromethyl ether, CAS No. 107302;

3,3'-Dichlorobenzidine (and its salts) CAS No. 91941;

bis-Chloromethyl ether, CAS No. 542881;

beta-Naphthylamine, CAS No. 91598;

Benzidine, CAS No. 92875;

4-Aminodiphenyl, CAS No. 92671;

Ethyleneimine, CAS No. 151564;

beta-Propiolactone, CAS No. 57578;

2-Acetylaminofluorene, CAS No. 53963;

4-Dimethylaminoazo-benezene, CAS No. 60117; and
N-Nitrosodimethylamine, CAS No. 62759.

1910.1003(a)(2) This section shall not apply to the following:

1910.1003(a)(2)(i) Solid or liquid mixtures containing less than 0.1 percent by weight or volume of 4-Nitrobiphenyl; methyl chloromethyl ether; bis-chloromethyl ether; beta-Naphthylamine; benzidine or 4-Aminodiphenyl; and

1910.1003(a)(2)(ii) Solid or liquid mixtures containing less than 1.0 percent by weight or volume of alpha-Naphthylamine; 3,3'-Dichlorobenzidine (and its salts); Ethyleneimine; beta-Propiolactone; 2-Acetylaminofluorene; 4-Dimethylaminoazobenzene, or N-Nitrosodimethylamine.

1910.1003(b) Definitions. For the purposes of this section:

Absolute filter is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 um particles.

Authorized employee means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

Clean change room means a room where employees put on clean clothing and/or protective equipment in an environment free of the 13 carcinogens addressed by this section. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

Closed system means an operation involving a carcinogen addressed by this section where containment prevents the release of the material into regulated areas, non-regulated areas, or the external environment.

Decontamination means the inactivation of a carcinogen addressed by this section or its safe disposal.

Director means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

Disposal means the safe removal of the carcinogens addressed by this section from the work environment.

Emergency means an unforeseen circumstance or set of circumstances resulting in the release of a carcinogen addressed by this section that may result in exposure to or contact with the material.

External environment means any environment external to regulated and nonregulated areas.
Isolated system means a fully enclosed structure other than the vessel of containment of a carcinogen addressed by this section that is impervious to the passage of the material and would prevent the entry of the carcinogen addressed by this section into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

Laboratory-type hood is a device enclosed on the three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving a carcinogen addressed by this section within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

Nonregulated area means any area under the control of the employer where entry and exit is neither restricted nor controlled.

Open-vessel system means an operation involving a carcinogen addressed by this section in an open vessel that is not in an isolated system, a laboratory-type hood, nor in any other system affording equivalent protection against the entry of the material into regulated areas, non-regulated areas, or the external environment.

Protective clothing means clothing designed to protect an employee against contact with or exposure to a carcinogen addressed by this section.

Regulated area means an area where entry and exit is restricted and controlled.

1910.1003(c) Requirements for areas containing a carcinogen addressed by this section. A regulated area shall be established by an employer where a carcinogen addressed by this section is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

1910.1003(c)(1) Isolated systems. Employees working with a carcinogen addressed by this section within an isolated system such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

1910.1003(c)(2) Closed system operation.

1910.1003(c)(2)(i) Within regulated areas where the carcinogens addressed by this section are stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens addressed by this section are contained within, access shall be restricted to authorized employees only.

1910.1003(c)(2)(ii) Employees exposed to 4-Nitrobiphenyl; alpha-Naphthylamine; 3,3'-Dichlorobenzidine (and its salts); beta-Naphthylamine; benzidine; 4-Aminodiphenyl; 2-Acetylamino-fluorene; 4-Dimethylaminoazo-benzene; and N-Nitrosodimethylamine shall be
required to wash hands, forearms, face, and neck upon each exit from the regulated areas, close to the point of exit, and before engaging in other activities.

1910.1003(c)(3) Open-vessel system operations. Open-vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

1910.1003(c)(4) Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system. In operations involving "laboratory-type hoods," or in locations where the carcinogens addressed by this section are contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this paragraph shall apply.

1910.1003(c)(4)(i) Access shall be restricted to authorized employees only.

1910.1003(c)(4)(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

1910.1003(c)(4)(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

1910.1003(c)(4)(iv) Employees engaged in handling operations involving the carcinogens addressed by this section shall be provided with and required to wear a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with Sec. 1910.134. A respirator affording higher levels of protection may be substituted.

1910.1003(c)(4)(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

1910.1003(c)(4)(vi) Drinking fountains are prohibited in the regulated area.

1910.1003(c)(4)(vii) Employees shall be required to wash hands, forearms, face, and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities and employees exposed to 4-Nitrobiphenyl; alpha-Naphthylamine; 3,3'-Dichlorobenzidine (and its salts); beta-Naphthylamine; Benzidine; 4-Aminodiphenyl; 2-Acetylaminofluorene; 4-Dimethylaminoazo-benzene; and N-Nitrosodimethylamine shall be required to shower after the last exit of the day.
1910.1003(c)(5) Maintenance and decontamination activities. In cleanup of leaks of spills, maintenance, or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with a carcinogen addressed by this section could result, each authorized employee entering that area shall:

1910.1003(c)(5)(i) Be provided with and required to wear clean, impervious garments, including gloves, boots, and continuous-air supplied hood in accordance with Sec. 1910.134;

1910.1003(c)(5)(ii) Be decontaminated before removing the protective garments and hood;

1910.1003(c)(5)(iii) Be required to shower upon removing the protective garments and hood.

1910.1003(d) General regulated area requirements --

1910.1003(d)(1) [Reserved]

1910.1003(d)(2) Emergencies. In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2)(i) through (v) of this section shall be implemented.

1910.1003(d)(2)(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

1910.1003(d)(2)(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

1910.1003(d)(2)(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

1910.1003(d)(2)(iv) Where an employee has a known contact with a carcinogen addressed by this section, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

1910.1003(d)(2)(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

1910.1003(d)(2)(vi) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure to Ethyleneimine or beta-Propiolactone only would be most likely as a result of equipment failure or improper work practice.

1910.1003(d)(3) Hygiene facilities and practices.
1910.1003(d)(3)(i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products are prohibited in regulated areas.

1910.1003(d)(3)(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with Sec. 1910.141(d)(1) and (2)(ii) through (vii).

1910.1003(d)(3)(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with Sec. 1910.141(d)(3).

1910.1003(d)(3)(iv) Where employees wear protective clothing and equipment, clean change rooms shall be provided for the number of such employees required to change clothes, in accordance with Sec. 1910.141(e).

1910.1003(d)(3)(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

1910.1003(d)(4) Contamination control.

1910.1003(d)(4)(i) Except for outdoor systems, regulated areas shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

1910.1003(d)(4)(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

1910.1003(d)(4)(iii) Decontamination procedures shall be established and implemented to remove carcinogens addressed by this section from the surfaces of materials, equipment, and the decontamination facility.

1910.1003(d)(4)(iv) Dry sweeping and dry mopping are prohibited for 4-Nitrobiphenyl; alpha-Naphthylamine; 3,3'-Dichlorobenzidine (and its salts); beta-Naphthylamine; Benzidine; 4-Aminodiphenyl; 2-Acetylaminofluorene; 4-Dimethylaminoazo-benzene and N-Nitrosodimethylamine.

1910.1003(e) Signs, information and training --

1910.1003(e)(1) Signs --

1910.1003(e)(1)(i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY
1910.1003(e)(1)(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA
IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS,
AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES
AUTHORIZED PERSONNEL ONLY

1910.1003(e)(1)(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

1910.1003(e)(2) Container contents identification.

1910.1003(e)(2)(i) Containers of a carcinogen addressed by this section and containers required under paragraphs (c)(4)(v) and (c)(6)(viii)(B) and (viii)(B) of this section that are accessible only to and handled only by authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name or other proprietary identification of the carcinogen and percent.

1910.1003(e)(2)(ii) Containers of a carcinogen addressed by this section and containers required under paragraphs (c)(4)(v) and (c)(6)(viii)(B) and (viii)(B) of this section that are accessible to or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification that includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

1910.1003(e)(2)(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

1910.1003(e)(2)(iv) Containers whose contents are carcinogens addressed by this section with corrosive or irritating properties shall have label statements warning of such hazards noting, if appropriate, particularly sensitive or affected portions of the body.

1910.1003(e)(3) Lettering. Lettering on signs and instructions required by paragraph (e)(1) shall be a minimum letter height of 2 inches (5 cm). Labels on containers required under this section shall not be less than one-half the size of the largest lettering on the package, and not less than 8-point type in any instance. Provided, That no such required lettering need be more than 1 inch (2.5 cm) in height.

1910.1003(e)(4) Prohibited statements. No statement shall appear on or near any required sign, label, or instruction that contradicts or detracts from the effect of any required warning, information, or instruction.
1910.1003(e)(5) Training and indoctrination.

1910.1003(e)(5)(i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

1910.1003(e)(5)(i)(A) The nature of the carcinogenic hazards of a carcinogen addressed by this section, including local and systemic toxicity;

1910.1003(e)(5)(i)(B) The specific nature of the operation involving a carcinogen addressed by this section that could result in exposure;

1910.1003(e)(5)(i)(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

1910.1003(e)(5)(i)(D) The purpose for and application of decontamination practices and purposes;

1910.1003(e)(5)(i)(E) The purpose for and significance of emergency practices and procedures;

1910.1003(e)(5)(i)(F) The employee's specific role in emergency procedures;

1910.1003(e)(5)(i)(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of a carcinogen addressed by this section;

1910.1003(e)(5)(i)(H) The purpose for and application of specific first aid procedures and practices;

1910.1003(e)(5)(i)(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

1910.1003(e)(5)(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

1910.1003(e)(5)(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

1910.1003(f) Reports --

1910.1003(f)(1) Operations. The information required in paragraphs (f)(1)(i) through (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change:

1910.1003(f)(1)(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;
1910.1003(f)(1)(ii) The name(s) and other identifying information as to the presence of a carcinogen addressed by this section in each regulated area;

1910.1003(f)(1)(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

1910.1003(f)(1)(iv) The manner in which carcinogens addressed by this section are present in each regulated area; for example, whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

1910.1003(f)(2) Incidents. Incidents that result in the release of a carcinogen addressed by this section into any area where employees may be potentially exposed shall be reported in accordance with this paragraph.

1910.1003(f)(2)(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

1910.1003(f)(2)(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

1910.1003(f)(2)(ii)(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;


1910.1003(f)(2)(ii)(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

1910.1003(f)(2)(ii)(D) An analysis of the circumstances of the incident and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

1910.1003(g) Medical surveillance. At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

1910.1003(g)(1) Examinations.

1910.1003(g)(1)(i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

1910.1003(g)(1)(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.
1910.1003(g)(1)(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy, and cigarette smoking.

1910.1003(g)(2) Records.

1910.1003(g)(2)(i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

1910.1003(g)(2)(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.1020 (a) through (e) and (g) through (i). These records shall also be provided upon request to the Director.

1910.1003(g)(2)(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

TTUHSC LABORATORY STANDARD OPERATING PROCEDURE - CHEMICAL HYGIENE PLAN

HSC OP:

Laboratory Standard Operating Procedure (SOP), Chemical Hygiene Plan

PURPOSE:

The purpose of this Health Sciences Center Laboratory Standard Operating Procedure is to provide guidance and assistance to Principle Investigators and Laboratory Supervisors in providing for the safety of laboratory personnel and compliance with federal regulations for a written Chemical Hygiene Plan.

REVIEW:

This Laboratory SOP will be reviewed annually on September 1 by the Director of Safety Services and with recommendations for revisions, forwarded to the Institutional Biohazards Committee. Laboratory specific SOP’s (This Laboratory SOP supplemented with laboratory specific information and procedures [See TTUHSC Laboratory Safety Manual, Tab 22 SOP’s]) completed by the Principle Investigator or Laboratory Supervisor will be reviewed annually by the BSO/CHO and with recommendation for revisions, forwarded to the Institutional Biohazards Committee for part of the requirements for certifying the laboratory.

Background:

Texas Tech University Health Sciences Center has established the TTUHSC OP: General Laboratory Use Policy which states:

"It is the policy of Texas Tech University Health Sciences Center (TTUHSC) to comply with guidelines and/or regulations applicable to laboratory procedures to provide for the safety of personnel working in or with access to laboratories."

The National Institutes of Health and other federal funding agencies require that agencies receiving grant funding from them comply with federal regulation regarding health and safety. The Occupational Safety and Health Administration’s (OSHA) Occupational Exposure to Hazardous Chemicals in Laboratories standard in the Code of Federal Regulations (29 CFR 1910.1450) is reprinted in the TTUHSC Laboratory Safety Manual under Tab 19 as Appendix A. This standard requires the development and implementation of a written Chemical Hygiene Plan. This Plan must set forth procedures, equipment, personal protective equipment and work practices that are capable of protecting employees from the health hazards presented by hazardous chemicals used in that laboratory. An overview of the necessary requirements for the written Chemical Hygiene Plan are that it is:
Capable of protecting employees from health hazards associated with hazardous chemicals in that laboratory;

Capable of keeping exposures below the "permissible exposure limits" (PEL) specified by OSHA in the MSDS for the hazardous chemical;

Readily available to employees, management and their representatives, and regulatory agencies; and,

Reviewed and evaluated for effectiveness, at least annually, and updated as necessary.

The written Chemical Hygiene Plan shall include each of the following elements and shall indicate specific measures that the Principal Investigator or Laboratory Supervisor will take to ensure laboratory employee protection.

Standard Operating Procedures relevant to safety and health to be followed when laboratory work involves the use of hazardous chemicals;

Exposure Determination criteria that the Principal Investigator or Laboratory Supervisor 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 given to the selection of control measures for chemicals that are known to be extremely hazardous;

Safety Equipment requirements which includes 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;

Education and training information to be provided to for employee. The components of this training are detailed below: Ensurance that employees have been informed, trained and appraised of the hazardous chemicals present in the laboratory;

Information and training shall be provided at the time of an employee’s initial assignment to the laboratory where hazardous chemicals are present and prior to assignments involving new exposure situations;

Employees shall be informed and trained on: The contents of the TTUHSC Laboratory Safety Manual including the appendices, addendums, operating policies and procedures, and the laboratory specific information supplied by the Principal Investigator or Laboratory Supervisor which becomes part of the TTUHSC Laboratory Safety Manual;

The location of where the TTUHSC Laboratory Safety Manual will be kept, and other chemical reference materials on the safe handling, storage and disposal of hazardous chemicals including but not limited to, Material Safety Data Sheets (MSDS);
The permissible exposure limits (PEL’s) or other recommended exposure limits for hazardous chemicals;

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

Methods and observations that may be used to detect the presence or release of a hazardous chemical such as monitors (if applicable), visual appearance or odor;

The physical and health hazards of chemicals in the laboratory; and,

The measures (appropriate work practices, emergency procedures, personal protective equipment to be used, etc.) employees can take to protect themselves from the physical and health hazards, including specific protective procedures that the Principal Investigator or Laboratory Supervisor has implemented.

A record of each training session given to employees, including the date, a roster of the employees who attended, the subjects covered in the training session, and the names of the instructors. This record shall be maintained in the TTUHSC Laboratory Safety Manual with copies provided to the Department Head and Safety Services; and,

Training records shall be maintained for at least 5 years.

Prior approval circumstances under which a particular laboratory operation, procedure or activity shall require appropriate TTUHSC Committee (IBC, ACUC, IRB, Recombinant DNA, Radiation Safety, etc.) review before implementation;

Medical Consultation and medical examinations; Medical consultation and medical examinations provisions in accordance with the following: Whenever an employee develops signs or symptoms associated with a hazardous chemical to which they may have been exposed in the laboratory;

Where exposure determination revels that the exposure level is routinely above the PEL; and,

Whenever an incident takes place in the laboratory such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous chemical exposure.

Medical consultation, examination, and attention shall be performed by or under the direct supervision or a licensed physician. The Principal Investigator or Laboratory Supervisor shall provide the physician the following: Identity of the hazardous chemical(s) to which the employee may have been exposed;

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

A description of the signs and symptoms of exposure that the employee is experiencing, if any.
A written opinion from the physician shall be provided to the Principal Investigator or Laboratory Supervisor and include the following: Any recommendations for further medical follow-up;

The results of the medical examination and any associated tests;

Any medical condition which may place the employee at increased risk as a result of exposure to a hazardous chemical; and, 

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

Designation by the Principal Investigator, Laboratory Supervisor, or Department Head of personnel responsible for implementation of the Chemical Hygiene Plan and possibly including assignment of a Departmental or Laboratory Chemical Hygiene Officer to coordinate these efforts; and,

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: Establishment of a designated or controlled access area;

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

Procedures for safe removal of contaminated waste; and

Decontamination procedures.

POLICY/PROCEDURE:

Safety Services' Responsibilities

Maintaining and revising as necessary this Laboratory SOP, Chemical Hygiene Plan;

Maintaining and revising a listing of highly hazardous chemicals (readily identified by the signal word of "Danger", "Warning", or "Poison" on the label) requiring registration with the Institutional Biohazards Committee. This listing is available via Safety Service’s web site at http://www2.ttuhsc.edu/pages/safety/chemlist.htm and may be downloaded in Microsoft Word or Word Perfect 5.0 formats and is included as Appendix F of this TTUHSC Laboratory Safety Manual under Tab 21.

Testing fume hoods, safety showers, and eyewash stations at least twice per year for assurance that they are functioning properly and meet specific operational parameters. Tagging these units that meet performance criteria with their flow rate, initials of person performing the test and date tested. Units not meeting operational parameters are tagged "Out of Service" and a written submission for repair is initiated. Performance criteria is as follows: Fume Hoods have an
average inward flow rate of between 80-120 liner feet per minute with the sash in the full open position;

Safety Showers release at least 30 gallons of water per minute and remain in the on position until turned off; and

Emergency Eyewash Station flush both eyes simultaneously, are activated by a single motion in less than one second, remains on until turned off, allows both hand free to flush eyes, and release at least 0.4 gallons per minute.

Providing basic laboratory training in regard to the chemical hygiene plan;

Working with Principal Investigator’s and Laboratory Supervisor’s to evaluate the specific activities for special requirements for approvals, and safety provisions within the laboratory itself;

Inspecting laboratories for compliance with OSHA’s Occupational Exposure to Hazardous Chemicals in the Laboratory standard and report findings to the Institutional Biohazards Committee; and,

Providing proper maintenance of safety related records.

Department Head's Responsibilities

Maintaining files on Standard Operating Procedures and training records sent to them by the Principal Investigators or Laboratory Supervisors under their authority;

Estimating expenditures and proposing budgets for health and safety improvements within their department; and,

Appointing, if applicable, a Departmental Chemical Hygiene Officer to assist Principal Investigators or Laboratory Supervisors in coordinating efforts to comply with the requirements of the Hazard Communication and Chemical Hygiene Plans.

Principal Investigator's and Laboratory Supervisor's Responsibilities

Ensuring that labels on incoming containers of chemicals are not removed or defaced;

Maintaining a legible copy of all MSDSs that are received in the laboratory and that they, the TTUHSC Laboratory Safety Manual and other chemical reference materials are readily available and known to the laboratory employees;

Registering highly hazardous chemicals (identified by the signal word of "Danger", "Warning", Or Poison") with the Institutional Biohazards Committee (IBC) (See Appendix F of this TTUHSC Laboratory Safety Manual under Tab 21). If the activity includes animals, radioactive
materials, human subjects, or recombinant DNA it must also be registered with the appropriate (IACUC, RSC, IRB, or Recombinant DNA respectively) TTUHSC committee;

Segregating hazardous chemicals by compatibility (See Section 4E of this TTUHSC Laboratory Safety Manual under Tab 13) and separate from general dry chemicals. A listing of highly hazardous chemicals shall be developed and maintained (copy provided to Safety Services) to assist in ensuring the availability of MSDSs, registering with the IBC, and facilitating hazard recognition and training of laboratory employees;

Providing the laboratory specific information under the SOP’s section of this TTUHSC Laboratory Safety Manual which will be capable of protecting employees from the health hazards associated with hazardous chemicals in the laboratory. Copies of these completed SOP’s shall be provided to the Department Head and Safety Services. This information will be available to the IBC, IACUC, RSC, inspectors, and TTUHSC Administration. The originals shall become part of the TTUHSC Laboratory Safety Manual, under the Tab of SOP’s, that is specific to the given laboratory. These SOP’s shall be reviewed and evaluated for effectiveness, at least annually, and updated as necessary and shall include the following: Documented exposure determinations on hazardous chemical and particularly highly hazardous chemical activities in the laboratory to ensure that employee exposures do not exceed the PEL for the chemical. This process of determination may involve implementing control measures such as engineering controls (use of an operating fume hood), work practices, or use of personal protective equipment and hygiene practices;

Specific conditions and procedures for the safe use and handling of hazardous chemicals to reduce or eliminate exposure. These handling procedures shall include spill or release response planning, emergency shut-down procedures, decontamination and clean-up procedures, aerosol generation reduction processes, and appropriate waste disposal methods;

Appropriate personal protective equipment and safety equipment for the specific activities and categories of hazardous chemicals present, including information on their use, limitations, storage, maintenance, repair, cleaning, and disposal;

Information on first aid treatment to be used with respect to the categories of hazardous chemicals to which employees may be exposed, including accident/incident reporting, and obtaining medical attention; and,

Information on health and physical risks associated with categories of hazardous chemicals used in the laboratory, including signs and symptoms of exposure, and methods and observations that may be used to detect the presence or release of a hazardous chemical such as monitors (if applicable), visual appearance or odor. This information must advise employees that specific information is available for individual chemicals through the MSDSs.

Providing appropriate information to physicians in cases of occupational exposure or suspected exposure. This information includes: identity of the hazardous chemical(s), conditions of exposure and quantities involved, and signs and symptoms of the exposure;
Providing specialized training applicable to the specific activities, including performance evaluations for the proper conduct of these assigned activities. This training for new or newly assigned employees shall take place before the employee works with or in an area containing hazardous chemicals;

Providing additional information and training as different hazards are introduced into the specific activities of the employees or new and significant information concerning the hazards of a highly hazardous chemical is received; and,

Providing a record of each training session given to employees, including the date roster or the employees who attended, the subjects covered in the training session, and the names of the instructors. This record shall be maintained in the TTUHSC Laboratory Safety Manual with copies provided to the Department Head and Safety Service. All training must be documented!

Laboratory Employee's Responsibilities

Following all health and safety standards, rules, guidelines and written SOPs;

Reporting all hazardous acts or conditions to the supervisor, Unit Safety Officer, Departmental Chemical Hygiene Officer, and/or Safety Department;

Wearing or using, maintaining, and cleaning or disinfecting, prescribed protective equipment;

Reporting any job-related injuries or illness to the supervisor and seek treatment immediately;

Refraining from the operation of any equipment or instrumentation without proper instruction and authorization;

Developing and remaining aware of the hazards of the chemicals and hazardous substances at the work site and how to use them safely; and,

Requesting information and training when unsure how to handle a hazardous substance or procedure.

Laboratory specific model plans - lab specific forms

Chemical Hygiene Plan form (CHP)

Exposure Control Plan form (ECP)

Hazard Communication Plan form (HCP)

These forms are created in MS Word and can be completed electronically then printed out and submitted. The ECP is only for those laboratories that handle human material (e.g., blood, cells, tissues) while the HCP and CHP should be completed by all research laboratories. Please fill out
the form completely and sign all necessary blanks. For help in completing these forms, please contact the Laboratory Safety Manager at 806-743-2597.
TTUHSC LABORATORY STANDARD OPERATING PROCEDURE - LABORATORY EMPLOYEE TRAINING REQUIREMENTS

HSC OP:

Laboratory Standard Operating Procedure (SOP), Employee Training Requirements.

PURPOSE:

The purpose of this Laboratory, Standard Operating Procedure is to provide guidance and assistance to Principle Investigators and Laboratory Supervisors in providing for the safety of laboratory personnel and compliance with federal and state laws regarding education and training or employees exposed to chemical and biological hazards including bloodborne pathogens.

REVIEW:

This Laboratory SOP will be reviewed annually on September 1 by the Director of Safety Services and with recommendations for revisions, and forwarded to the Institutional Biohazards Committee.

Background:

The three TTUHSC Laboratory Standard Operating Procedures (Chemical Hygiene Plan, Exposure Control Plan, and Hazard Communication Program) each identified required training of laboratory employees. This SOP is a compilation of those training requirement. Effective Training and established laboratory specific SOP’s on the proper and safe handling of hazardous chemical and biohazards materials are the fundamentals of providing for laboratory employees safety.

POLICY/PROCEDURE:

Safety Service's Responsibilities

Provide basic safety training in regard to Hazard Communication, Chemical Hygiene Plan (Chemical Safety), and Exposure Control Plan (Biological Safety); and,

Maintaining the centralized training records for TTUHSC and the Institutional Biohazards Committee.

Department Head's Responsibilities

Maintaining files on Standard Operating Procedures and training records sent to them by the Principal Investigators or Laboratory Supervisors under their authority and ensuring that laboratory employees in their department are provided the required training.
Principal Investigator's and Laboratory Supervisor's Responsibilities

Providing education and training programs that relate to the specific chemicals and biohazard materials that are stored or used in the laboratory in relation to the tasks performed by the employees. This education and training may be conducted by category of hazards when appropriate if similar materials or agents are involved; and,

Providing recordkeeping on all safety education and training programs provided, and providing copies to their Department Head and Safety Services.

Laboratory Employee's Responsibilities

Following all health and safety instructions provided to them through education and training programs, standards, rules, guidelines and written SOPs;

Refraining from the operation of any equipment or instrumentation or process without proper instruction and authorization;

Developing and remaining aware of the hazards of the hazardous chemicals and biological materials with which they work and how to use them safely; and,

Requesting information and training when unsure how to handle a hazardous substance or procedure.

Chemical Hygiene Plan's Education and Training Requirements

Education and training information to be provided to for employee. The components of this training are detailed below:

Ensurance that employees have been informed, trained and appraised of the hazardous chemicals present in the laboratory;

Information and training shall be provided at the time of an employee’s initial assignment to the laboratory where hazardous chemicals are present and prior to assignments involving new exposure situations;

Employees shall be informed and trained on:

The contents of the TTUHSC Laboratory Safety Manual including the appendices, addendums, operating policies and procedures, and the laboratory specific information supplied by the Principal Investigator or Laboratory Supervisor which becomes part of the TTUHSC Laboratory Safety Manual;

The location of where the TTUHSC Laboratory Safety Manual will be kept, and other chemical reference materials on the safe handling, storage and disposal of hazardous chemicals including but not limited to, Material Safety Data Sheets (MSDS);
The permissible exposure limits (PEL’s) or other recommended exposure limits for hazardous chemicals;

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

Methods and observations that may be used to detect the presence or release of a hazardous chemical such as monitors (if applicable), visual appearance or odor;

The physical and health hazards of chemicals in the laboratory; and,

The measures (appropriate work practices, emergency procedures, personal protective equipment to be used, etc.) employees can take to protect themselves from the physical and health hazards, including specific protective procedures that the Principal Investigator or Laboratory Supervisor has implemented.

A record of each training session given to employees, including the date, a roster of the employees who attended, the subjects covered in the training session, and the names of the instructors. This record shall be maintained in the TTUHSC Laboratory Safety Manual with copies provided to the Department Head and Safety Services; and,

Training records shall be maintained for at least 5 years.

Exposure Control Plan's Education and Training Requirements

An education and training program containing the elements referenced in this Laboratory Standard Operating Procedure, Exposure Control Plan under the section on Communication Of Hazards To Employees, and as a minimum, the training program shall contain: An accessible copy of the OSHA standard and an explanation of its contents;

A general explanation of the epidemiology and symptoms of bloodborne diseases;

An explanation of the modes of transmission of bloodborne pathogens;

An explanation of the laboratory's Exposure Control Plan and how to obtain a copy of the laboratory's written plan;

An explanation of how to recognize tasks and activities that may involve exposure to blood and other potentially infectious materials;

An explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate engineering controls, work practices, and personal protective equipment;

Information on the types, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment;

An explanation of the basis for the selection of personal protective equipment;
Information on the safety and efficacy of the hepatitis B vaccine;

Information on appropriate actions to take and persons to contact in an emergency;

An explanation of the procedure to follow if an exposure incident occurs;

Information on post-exposure evaluation and follow-up;

An explanation of the signs and labels and/or color coding;

An opportunity for interactive questions and answers; and,

Common bloodborne diseases in addition to HIV and HBV, such as hepatitis A and syphilis must be described. Uncommon diseases do not need to be described in detail unless employees work with particular bloodborne pathogens.

Hazard Communication's Education and Training Requirements

The requirements concerning Employee Education Program, for employees who use or handle hazardous chemicals, include: (See: Training Tab following the Model Programs of this TTUHSC Laboratory Safety Manual)

Developing, implementing, and maintaining a written hazard communication program that describes how specified criteria will be met;

Education and training program must include, as appropriate: Information on interpreting labels and MSDSs and the relationship between those two methods of hazard communication;

The location by work area, acute and chronic effects, and safe handling of hazardous chemical known to be present in the laboratory and to which the employees may be exposed;

The proper use of protective equipment and first aid treatment to be used with respect to the hazardous chemicals to which employees may be exposed; and

General safety instructions on the handling, cleanup procedures, and disposal of hazardous chemicals.

Training may be conducted by category of chemicals;

Training on protective equipment and first aid treatment may be given by categories of hazardous chemicals;

Advising employees that information is available on the specific hazards of individual chemicals through the MSDSs;
Additional instruction to an employee shall be provided when the potential for exposure to hazardous chemicals in the employee’s work area increases significantly or when new and significant information concerning the hazards of a chemical in the employee’s work area is received;

Training shall be provided to new or newly assigned employees before the employee works with or in an area containing a hazardous chemical;

Maintaining the written hazard communication program and a record of each training session given to employees, including the date, a roster of the employees who attended, the subjects covered in the training session, and the names of the instructors; and,

Training records shall be maintained for at least 5 years, and the Texas Department of Health will have access to those records and may interview employees during inspections.