

Chemical Hygiene Plan

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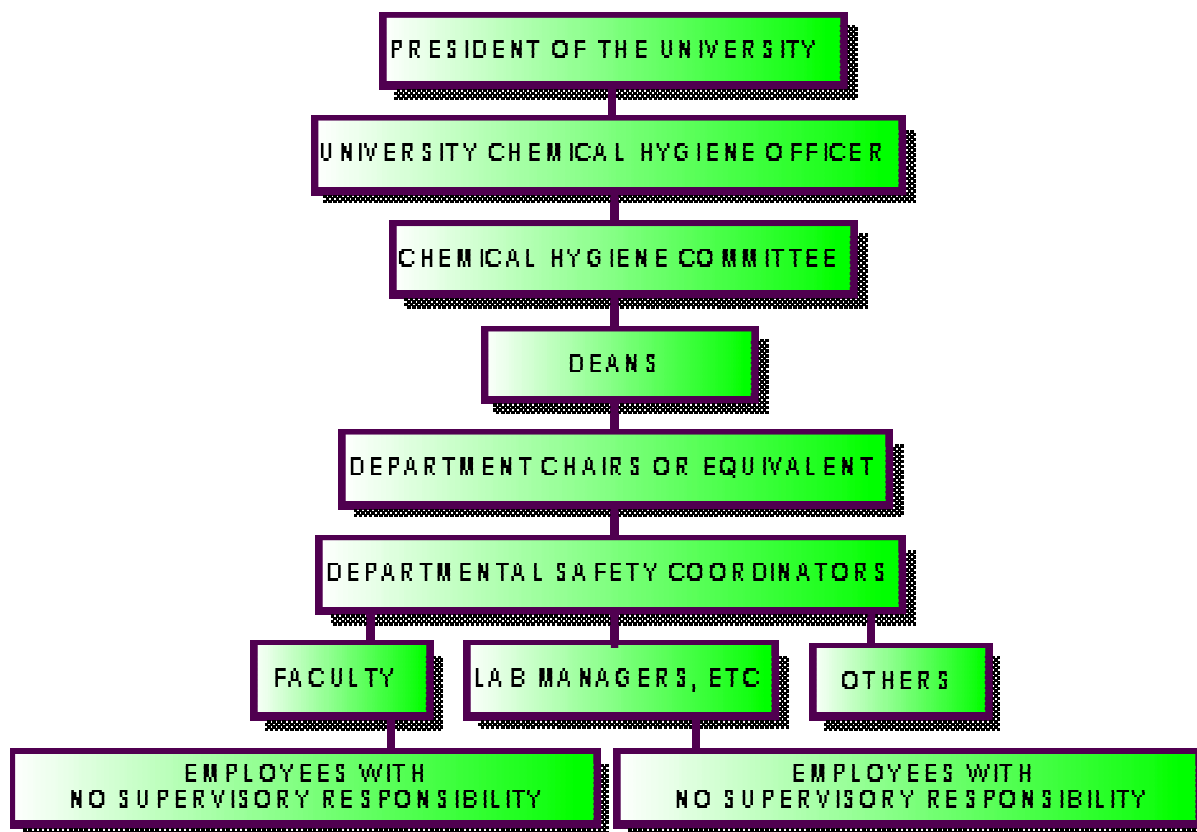
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Note: Except for appendix K, the Hazardous Materials glossary, the remaining appendixes are not included in the web version of the plan. If you need a copy of the appendixes, contact Nancy Fox.

1 Implementation Responsibilities

The President of Weber State University has the ultimate responsibility for chemical safety and the implementation of a chemical hygiene plan. A university Chemical Hygiene Officer (CHO) appointed by the administration will act as a representative of the president in this capacity. In addition, practicality dictates that others must share this responsibility. In general, immediate supervisors, after receiving appropriate training where necessary, will be responsible for the chemical safety of the employees under their supervision. At each level of supervision, the supervisor assumes this responsibility for all those of lower supervisory authority (see Figure 1.1). Thus, a laboratory manager of a department is responsible for all employees working under his or her supervision. The department chairman is responsible for the laboratory manager and all those employees supervised by the laboratory manager.

Individual departments, colleges or other units of the university may appoint chemical hygiene officers to assist at any level of supervision deemed necessary. The organizational chart for chemical safety responsibility is given in Figure 1.1.



2. Standard laboratory operating procedures

Certain procedures are considered to be standards to be followed by employees at all times when working with chemicals in the laboratory. These are included in the following sections. Additional operating procedures may be included in individual departmental or unit contributions found in Appendix A.

2.1 General rules to be followed when working in laboratories or chemical storage areas:

Employees generally should not work alone. Exceptions must be approved by supervisors.

- Appropriate eye protection must be worn at all times. The minimum acceptable protection is prescription or safety glasses. Other protection may be required for specific classes of chemicals (see Section 2.3).
- When working with flammable chemicals, be certain no sources of ignition are near enough to cause a fire or explosion in the event of a vapor release or liquid spill.
- Use a tip-resistant shield for protection whenever an explosion or implosion might occur.

When working with a specific chemical, employees should know and be aware of the following information relative to that chemical:

- The chemicals' hazards, as determined from the MSDS and other appropriate references.
- Appropriate safeguards for using that chemical, including personal protective equipment.
- The location and proper use of emergency equipment.
- How and where to properly store the chemical when it is not in use.
- Proper personal hygiene practices.
- Any special methods required for transporting that chemical within the facility.
- Appropriate procedures for emergencies, including evacuation routes, spill cleanup procedures and proper waste disposal.

2.2 Personal hygiene rules to be followed when working in laboratories or chemical storage areas

- Wash promptly whenever a chemical has contacted the skin.
- Avoid inhalation of chemicals; do not "sniff" to test chemicals.
- Use chemicals in a hood when appropriate (see Section 2.3).
- Do not use mouth suction to pipet anything; use suction bulbs.
- Wash well with soap and water before leaving the laboratory or chemical storage area; do not wash with organic solvents.
- Do not drink, eat, smoke, or apply cosmetics in laboratories or chemical storage areas.
- Do not bring food, beverage, tobacco, or cosmetic products into chemical storage or use areas.

2.3 Rules for the use of protective clothing and equipment to be followed when working in laboratories or chemical storage areas

- Prescription or safety eye glasses must be worn at all times. When additional protection such as a face shield is required, employees will be notified by their supervisor or in written directions.
- When working with corrosive liquids, allergic, sensitizing, or toxic chemicals, wear gloves made of a material that is resistant to permeation by the chemical.
- Wear a laboratory apron or coat in addition to regular clothing. The combination should cover the skin well. The wearing of shorts, short pants, and short skirts is discouraged. Shoes should have fully covering uppers and low heels. Sandals, open-toed shoes or shoes with uppers of loosely woven material are not acceptable.
- Whenever work is done where exposure by inhalation is likely to exceed the threshold limits described in an MSDS, use a hood. Supervisor must be consulted before such work is done.
- Carefully inspect all protective equipment before using. Do not use defective protective equipment.

2.4 Rules for general housekeeping of laboratories and chemical storage areas

- Access to emergency equipment, showers, eyewashes, and exits should never be blocked by anything, not even a temporarily parked chemical cart.
- All chemical containers used for permanent or temporary storage must be labeled to at least identify the contents and the hazards those contents present to users. Hazards may be indicated by appropriate symbols.
- All work areas, especially laboratory benches, must be kept clear of clutter.
- All aisles, hallways, and stairs must be kept clear of all chemicals. No chemicals are to be permanently stored in these areas or on laboratory benches.
- All chemicals should be placed in their assigned storage areas at the end of each workday.
- At the end of each workday, the contents of all unlabeled storage containers are to be considered wastes.
- Used materials and wastes should be properly labeled and kept in their proper containers.
- Promptly clean up all spills; properly dispose of the spilled chemical and cleanup materials.
- All working surfaces and floors should be cleaned regularly.

2.5 Prior approval of certain laboratory procedures

Employees must obtain approval from their supervisor to proceed or continue with a laboratory procedure whenever the following circumstances are encountered. Faculty members performing research are exempt from this requirement because it is assumed that they are aware of appropriate procedures or will make themselves aware before proceeding.

- A new laboratory procedure or test is to be carried out.
- It is possible that toxic limit concentrations could be exceeded.
- There is a change in a procedure or test, even if it is very similar to prior practices.
"Change in a procedure or test" means:
 - A 20% or greater increase or decrease in the amount of one or more chemicals used.
 - A substitution or deletion of any of the chemicals in a procedure.
 - Any change in other conditions under which the procedure is to be conducted.
- There is a failure of any of the equipment used in the process, especially of safeguards such as fume hoods or clamped apparatus.
- A procedure gives unexpected results.
- Members of the laboratory staff become ill, suspect that they or others have been exposed, or otherwise suspect a failure of any safeguards.

2.6 Spills and accidents

Spills of hazardous substances or accidents involving such substances will be resolved immediately according to sections 5F.1-5F.6 of the Emergency Preparedness Manual of Weber State University. A brief overview of the steps to be followed is given below:

- Notify your supervisor and appropriate emergency responders immediately.
- If spilled chemical is flammable, extinguish all nearby sources of ignition.
- If a person has been splashed with a chemical, wash them with plenty of water for at least 15 minutes, remove all contaminated clothing, and get medical attention.
- If a person has been overexposed by inhalation, get victim to fresh air, apply artificial respiration if necessary, and get medical attention.
- In other cases of overexposure, get medical attention and follow the instruction of the medical professional.
- After securing proper medical attention for a chemical exposure victim, neutralize or absorb the spilled chemical with the proper spill clean up material and dispose of it in accordance with hazardous wastes procedures.
- Do not force any liquids into the mouth of an unconscious person.
- Do not handle emergencies alone, especially without notifying someone that the accident has occurred.
- Do not apply medical aid procedures without some training in that area (except to wash with water for 15 minutes and get victim to fresh air). If you are not trained in

fundamental first aid, get medical direction before inducing vomiting, giving antidotes, or applying a "neutralizer" to the skin or eyes of the victim. Everyone should be aware of how to give CPR.

- Do not linger at the accident scene if you are not one of the emergency responders.

For more detailed discussions on handling emergencies in the laboratory and evacuation procedures, see the Emergency Preparedness Manual of Weber State University.

2.7 Disposal of waste chemicals

Chemical wastes are regulated by the Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA) and its amendments. Hazardous wastes can be classified as flammable, corrosive, toxic or listed. A listed waste is one that is listed on one of the RCRA lists. Common laboratory hazardous wastes include solvents and toxic wastes.

Laboratory personnel are expected to dispose of hazardous waste as described in the university Hazardous Waste Management Plan. Contact the Environmental Health & Safety Officer for a copy of the plan or with any questions pertaining to hazardous wastes

2.8 Specific safety procedures

Some laboratory procedures involve the use of specific chemicals or techniques for which special safety practices are necessary. The following are general practices. Any additional practices used by departments or other units will be specified in Appendix A.

Procedures for Toxic Chemicals

The MSDS for many of the chemicals used in the laboratory will state recommended limits or OSHA-mandated limits, or both, as guidelines for exposure. Typical limits are threshold limit values (TLV), permissible exposure limits (PEL), and action levels. When such limits are stated, they will be used to assist in determining the safety precautions, control measures, and safety apparel that apply when working with toxic chemicals.

- When a TLV or PEL value is less than 50 ppm or 100 mg/m³, the user of the chemical must use it in an operating fume hood, glove box, vacuum line, or similar device, which is equipped with appropriate traps and/or scrubbers. If none are available, no work should be performed using that chemical.
- If a TLV, PEL, or comparable value is not available for that substance, the animal or human median inhalation lethal concentration information, LC₅₀, will be assessed. If that value is less than 200 ppm or 200 mg/m³ (when administered continuously for one hour or less), then the chemical must be used in an operating fume hood, glove box, vacuum line, or similar device, which is equipped with appropriate traps and/or scrubbers. If none are available, no work should be performed using that chemical.
- Whenever laboratory handling of toxic substances with moderate or greater vapor pressures will be likely to exceed air concentration limits, laboratory work with such liquids and solids will be conducted in a fume hood, glove box, vacuum line, or similar

device, which is equipped with appropriate traps and/or scrubbers. If none are available, no work should be performed using that chemical.

Procedures for Flammable Chemicals

In general, the flammability of a chemical is determined by its flash point, the lowest temperature at which an ignition source can cause the chemical to ignite momentarily under certain controlled conditions.

- Chemicals with a flash point below 200°F (93.3°C) will be considered "fire-hazard chemicals."
- OSHA standards and the National Fire Protection Association (NFPA) guidelines on when a chemical is considered flammable apply to the use of flammable chemicals in the laboratory. In all work with fire-hazard chemicals, follow the requirements of 29 CFR, subparts H and L; NFPA Manual 30, "Flammable and Combustible Liquids Code;" and NFPA Manual 45, "Fire Protection for Laboratories Using Chemicals."
- Fire-hazard chemicals should be stored in a flammable-solvent storage area or in storage cabinets designed for flammable materials.
- Fire-hazard chemicals should be used only in vented hoods and away from sources of ignition.

Procedures for Reactive Chemicals

When reactive chemicals are used, all proper safety precautions will be followed, including but not limited to appropriate storage, prohibition against mixing even small quantities with other chemicals without receiving prior approval from written directions or a supervisor, and the use of appropriate personal protection precautions. A reactive chemical is one that:

- Is described as such in an MSDS or other appropriate reference.
- Is ranked by the NFPA as a 3 or 4 reactivity.
- Is identified by the DOT as an oxidizer, organic peroxide or explosive of Class A, B, or C.
- Fits EPA definition of reactive (40 CFR 261.23).
- Fits OSHA definitions of unstable (29 CFR 1910.1450).
- Is known to be reactive with other substances.

Procedures for Corrosive Chemicals and Contact-Hazard Chemicals

When chemicals classified as corrosive or contact-hazard are used, all proper safety precautions will be followed. This includes but is not limited to the wearing of appropriate eye covering, gloves and laboratory apron or coat.

A corrosive chemical is one that meets one or more of the following criteria:

- Fits the OSHA definition in Appendix B of 29 CFR 1910.1200.
- Has a pH greater than 12 or less than 2.5.
- Is known or found to be corrosive to living tissue.

A contact-hazard chemical is an allergen or sensitizer that meets one or more of the following criteria:

- Is so identified or described in the MSDS or on the container label.
- Is so identified or described in the medical or industrial hygiene literature.
- Is known or found to be an allergen or sensitizer.

2.9 Control measures and equipment

Chemical safety is achieved by continual awareness of chemical hazards and by keeping the chemical under control by using precautions, including engineering safeguards such as hoods. Laboratory personnel will be instructed in the precautions to be taken, including the use of engineering (primarily fume hoods) and other safeguards. All engineering safeguards and controls will be properly maintained, inspected on a regular basis, and not overloaded beyond their design limits.

Ventilation

Normal ventilation in laboratories and chemical storage areas will be maintained at a level necessary to give workers comfortable levels of breathing air. This level will not be considered to be sufficient to prevent accumulation of chemical vapors. Any work done with chemicals that have low air concentration limits or high vapor pressures will be followed:

- A fume hood is a safety backup for condensers, traps, or other devices that collect vapors and fumes.
- The apparatus inside the hood should be placed on the floor of the hood at least six inches away from the front edge to keep vapors from escaping.
- Fume hood windows should be lowered (closed) at all times except when necessary to raise (open) them to work with chemicals or apparatus located inside.
- The hood fan should be kept "on" whenever a chemical is inside the hood, whether or not any work is being done in the hood.
- Personnel will be made aware of the steps to be taken in the event of power failure or other hood failure.
- Hood vent ducts and fans will be inspected at frequent intervals to be sure they are both clean and clear of obstructions.
- Hoods will not be used as permanent, long-term storage areas for chemicals, apparatus, or other materials.

Flammable-Liquid Storage

- Any fire hazard chemical (see section 2.8-2) used in laboratories in a quantity greater than 500 ml will be kept in a metal safety can designed for such use. Such cans will be used and maintained as recommended by the manufacturer.
- Quantities of fire-hazard chemicals greater than 500 ml may be stored in appropriate storage areas (such as an approved flammable cabinet) in original containers of glass or other suitable material.
- All flammables will be protected against sources of ignition.

- Approved cabinets designed for the storage of flammable materials will be used and maintained according to manufacturers' specifications.
- Only compatible materials will be stored in any cabinet.
- No paper, cardboard or other combustible packaging material will be stored in cabinets.
- Cabinets will not be overloaded.

Eyewash Fountains and Safety Showers

- All workers in laboratories using flammable chemicals will have access to safety showers or fire blankets. All workers using chemicals with the capability of damaging eyes or skin will have access to safety showers and eyewash fountains.
- The functioning of safety showers and eyewash fountains will be checked on a regular basis of not less than every 6 months. Any showers or fountains found not to work properly will be promptly repaired.
- Access to eyewash fountains and safety showers will not be restricted or blocked in any way.

Respirators

In general, respirators will not be used in laboratories or chemical storage areas. Any departments or units deviating from this practice will include a written respirator program in their individual specifications included in Appendix A. The written program must comply with requirements of 29 CFR 1910.134. If a laboratory worker or supervisor feels there is a need for respirator protection, he/she should contact the Environmental Health & Safety Office. Environmental Health & Safety staff will evaluate the situation and, if respiratory protection is required, will ensure compliance with the Weber State Respiratory Protection Program and 29 CFR 1910.134.

Vapor Detection

Odor will not be used as a means to determine if inhalation exposure limits are or are not being exceeded. Whenever there is reason to suspect that a toxic chemical inhalation limit might be exceeded, whether or not a suspicious odor is noticed, workers will leave the work area and notify their supervisor. Appropriate vapor detectors will then be used to determine the level of chemical in the air of the work area.

2.10 Procedures to follow in laboratories where the following inimical chemicals are used: carcinogens, reproductive toxins, substances that have a high degree of acute toxicity, and chemicals of unknown toxicity.

The procedures described in this section are to be followed when working with more than 10 mg of any select carcinogen, reproductive toxin, substance with a high degree of acute toxicity or a chemical substance whose toxic properties are not known.

The following definitions apply:

A select carcinogen is:

- Any chemical that OSHA has specifically designated as a carcinogen and written a standard for its use (See Appendix B for current list).
- Any chemical listed in the "Annual Report on Carcinogens" published by the national Toxicology Program (NTP) as "known to be carcinogens" (See Appendix B for list).
- Any chemical listed in the publication called "International Agency for Research on Cancer Monographs (IARC) under the list titled "Group 1 - Carcinogenic to Humans (See Appendix B for list).
- Any chemical that appears in the same NTP document described in 2) above on the list titled "reasonably anticipated to be carcinogens," or appear on the IARC publication referred to in 3) above on lists 2A (probably carcinogenic to humans) and 2B (possible carcinogenic to humans) and also causes statistically significant tumor evidence in experimental animals in accordance with any of the following criteria:
 - After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to levels of less than 10 mg/m³;
 - After repeated skin application of less than 300 (mg/kg of body weight) per week; or After oral dosages of less than 50 mg/kg of body weight per day.

These lists are included in Appendix B.

- Any chemical described as a select carcinogen in the applicable MSDS.
- A reproductive toxin is any substance described as such in the applicable MSDS.
- A substance with a high degree of acute toxicity is any substance with an MSDS listing of LD50 data meeting or exceeding (lower than) the following criteria:
 - A median LD50 of 50 mg/kg orally in albino rats, 200-300 grams.
 - A median LD50 of 200 mg/kg by continuous contact for 24 hours with the bare skin or albino rabbits weighing 2-3 kg.
 - A median LD50 in air of 200 ppm(or 2 mg/ liter) continuous inhalation for one hour.
- A chemical whose toxic properties are unknown is any chemical with an MSDS listing such as "unknown" or "not known" for toxicity.
- For the purposes of this CHP, chemicals in these four categories will be called "inimical."
- The use of a designated area should be considered for the use of inimical chemicals. A designated area is a hood, glove box, portion of a laboratory, or an entire laboratory room designated as the only area where work with quantities of the inimical chemicals in excess of the specified limit shall be conducted.
- Designated areas shall be posted and their boundaries clearly marked. Only personnel trained to work with inimical chemicals will use them.
- Use the smallest amount of chemical that is consistent with the requirements of the work to be done.
- Use high-efficiency particulate air (HEPA) filters or high-efficiency scrubber systems to

- protect vacuum lines and pumps.
- Decontaminate the area when work is completed.
- Prepare wastes from work with inimical chemicals for waste disposal in accordance with specific disposal procedures consistent with the Resource Conservation and Recovery Act (RCRA) and as outlined in the Weber State Hazardous Waste Management Plan.
- When not in use in designated areas, inimical chemicals will be stored in locked areas accessible only to workers properly trained in their handling and use.
- Those working with inimical chemicals will wear appropriate protective clothing.
- Departments or units will identify all inimical chemicals used in their operations and develop decontamination procedures to be employed following each use. The list of inimical chemicals used, and locations of designated areas for their use, will be included in Appendix A for each department or unit.

3 Criteria for reasonable suspicion of exposure

- It is the policy of Weber State University to promptly investigate all incidents in which there is a possibility of employee overexposure to a toxic substance.
- Events or circumstances that might reasonably constitute overexposure include, but are not limited to:
 - A hazardous chemical leaked or was spilled or was otherwise rapidly released in an uncontrollable manner.
 - A laboratory employee had direct skin or eye contact with a hazardous chemical.
 - A laboratory employee manifests symptoms, such as headache, rash, nausea, coughing, tearing, irritation or redness of eyes, irritation of nose or throat, dizziness, loss of motor dexterity or judgment, etc., and some or all of the symptoms disappear when the person is taken away from the exposure area and breathes fresh air, and the symptoms reappear soon after the employee returns to work with some hazardous chemicals.
 - Two or more persons in the same laboratory work area have similar complaints.

3.1 Exposures

All complaints and their disposition, no matter what the ultimate disposition is, will be documented. If no further assessment of the event is deemed necessary, the reason for that decision will be included in the documentation. If the decision is to investigate, a formal exposure assessment will be initiated.

3.2 Exposure assessment

In cases of emergency, exposure assessments will be conducted after the victim has been treated. It is not the purpose of an exposure assessment to determine that a failure on the part of the victim, or others, to follow proper procedures was the cause of an exposure. The purpose of an exposure assessment is to determine that there was, or was not, an exposure that might have caused harm to one or more employees and, if so, to identify the hazardous chemical or chemicals involved. Other investigations might well use results and conclusions from an exposure assessment, along with other information, to derive recommendations that will prevent

or mitigate any future overexposures. However, exposure assessments determine facts; they do not make recommendations. Unless circumstances suggest other or additional steps, the following steps constitute an exposure assessment:

- Interview the complainant and also the victim, if not the same person.
- List essential information about the circumstances of the complaint including:
 - Chemical of suspicion.
 - Other chemicals in use by victim.
 - Other chemicals being used by other in the immediate area.
 - Other chemicals stored in that area.
 - Symptoms.
 - How symptoms compare to information in the Material Safety Data Sheets for the chemicals in the area.
 - Were control measures, such as fume hoods and personal protective equipment, used and used properly?
 - Are any air sampling or monitoring devices in place or available?
- Sample air of the area for suspected chemicals and notify employees of results within 15 working days of obtaining results.
- Determine how the victim's symptoms compare to the information on the MSDS of suspected chemicals.
- Decide whether or not to send the victim for medical evaluation.
- Review the adequacies of present control measures and safety procedures, and make changes in CHP as needed to correct inadequacies.

3.3 Medical consultation and examination

When, as the result of an exposure assessment, it is suspected or known that an employee has been overexposed to one or more hazardous chemicals, the employee is entitled to receive, at no cost, a medical consultation from or under the direct supervision of a licensed physician. When warranted by the consultation results, such an employee is also entitled to receive a medical examination at no cost. The medical examination will be done by or under the supervision of a licensed physician. The medical professional providing the service should be experienced in treating victims of chemical overdose, and should also be knowledgeable about which tests or procedures are appropriate to determine if there has been an overexposure; these diagnostic techniques are called "differential diagnoses."

The following provisions apply:

- Medical consultations and examinations for laboratory employees of Weber State University will be provided by or under the supervision of:

Workmed Occupational Health Clinic
1355 W 3400 S
Ogden, UT
Phone: 627-1273

- Laboratory employees who work with hazardous chemicals will be provided a medical consultations and, when warranted, an examination when:
 - The employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory.
 - Monitoring, routine or otherwise, suggests that there could have been an exposure above the action level, or PEL if there is no action level, for a chemical for which a substance-specific standard has been established.
 - The employee has been in the immediate vicinity of a spill, leak, or other uncontrolled release of a hazardous chemical.
- The physician performing or supervising consultations and/or examinations will be provided with the following in writing:
 - The identity of the hazardous chemical or chemicals to which the employee may have been exposed.
 - The exposure conditions.
 - The signs and symptoms of exposure the victim is experiencing, if any.
- The physician performing or supervising consultations and/or examinations will submit the following in writing to Weber State University:
 - Recommendations for follow-up, if determined to be pertinent.
 - A record of the results of the consultation and, if applicable, of the examination and any tests that were conducted.
 - Conclusions concerning any other medical condition noted that could put the employee at increased risk.
 - A statement that the employee has been informed both of the results of the consultation and/or examination and of any medical condition that may require further examination or treatment.
- The written statements and records from the physician will not reveal any specific findings of the consultation and/or examination that are not related to the occupational exposure that led to the consultation and/or examination.
- All memos, notes, and reports related to a complaint of actual or possible exposure to hazardous chemicals will be maintained as part of a permanent record of the complaint.

4 Records and record keeping

The OSHA laboratory standard requires that an accurate record be established and maintained for each employee involved in any exposure incident. This record must contain the results of any measurements taken to monitor employee exposures and any medical consultation and examination including tests or written opinions. These records must be maintained for at least 30 years and they must be accessible to employees or their representatives. While not required by law, it is recommended records be kept. The following procedures apply.

Required records

- A record will be established and maintained for each employee involved in an exposure incident and complaint regardless of the ultimate outcome of the complaint. All of the following that are produced as a result of the incident or complaint will be included in the record:
 - Air concentration monitoring results
 - Exposure assessments
 - Medical consultation results
 - Medical examination results
 - All other memos, notes, and reports related to the incident and complaint.
- Such established records will be maintained for a minimum of 30 years.
- In the event that lost work time resulted from the exposure, an OSHA form 200 will be used to record the lost workdays. A copy of the completed form will become a part of the permanent maintained record.

5 Employee information and training

OSHA requires that employees be provided with both information and training concerning OSHA laboratory regulations, the employer's chemical hygiene plan and the hazardous substances they will work with while doing their jobs. The term "information" is used to describe specific data such as lists, charts, etc. "Training" refers to educational processes where employees are taught about the topics required by the OSHA laboratory regulations.

Laboratory Safety Training sponsored by the Environmental Health & Safety Staff will be taught on a regular, as needed basis. It is the responsibility of supervisors and department chairs to ensure their laboratory staff attends this training.

Because of the diversity of chemicals used in the various laboratories of Weber State University, each department or unit covered by this plan will provide details of how they will accomplish dissemination of information and training specific to the individual laboratory environment. These details are included in Appendix A.

Employees must be informed of the following:

- The OSHA laboratory rule and its appendices (29 CFR 1910.1450 and appendices). A

- complete copy is included as Appendix C of the Chemical Hygiene Plan.
- The existence, location, and availability of the Chemical Hygiene Plan (CHP) for Weber State University laboratories.
- The permissible exposure limits (PELs), threshold limit values (TLVs) and other applicable recommended exposure limits for hazardous chemicals used by the employee in the laboratory. A list of OSHA PELs, NIOSH RELs and ACGIH TLVs is included in this CHP as Appendix D.
- Signs and symptoms associated with exposure to hazardous chemicals used in the laboratory. These are typically found on the MSDS, in the NIOSH REL list or in standard reference books.
- The location and availability of MSDSs and other pertinent reference materials.

Employees must be provided with training that includes the following:

- The methods and observations that may be used to detect the presence or release of a hazardous chemical (such as monitoring devices, visual appearance or odor of hazardous chemicals when being released).
- The hazards associated with the chemicals used in the applicable laboratories.
- The measures employees can use to protect themselves from these hazards, including specific procedures such as appropriate work practices, personal protective equipment to be used, and emergency procedures.
- Applicable details of this chemical hygiene plan.

6 Department/Unit contributions to this plan

Because of the diversity of chemicals used in the different laboratories and units of Weber State University, each such department or unit will provide details that relate specifically to their activities. These details will be included as Appendix A of this plan. The following should be addressed as well as any additional topics deemed appropriate for specific departments or areas:

- Each department or unit subject to this CHP will prepare and maintain:
 - A current inventory listing of all chemicals used, prepared and maintained in the department. (See form in Appendix 6.).
 - A separate list of inimical chemicals used. Inimical chemicals may be designated on the current inventory form. (See Section 2.10 for definition of inimical chemicals.).
- The locations of any areas in which inimical chemicals are used within a department or unit will be listed and included in Appendix A.
- Any special procedures or precautions that will be taken when using inimical chemicals.
- Procedures (if any) that require prior approval.
- Details of how laboratory or department-specific information and training will be provided to employees.
- The names of employees who use formaldehyde or formaldehyde-containing solutions.