Bates College Chemical Hygiene Plan (CHP)

Chemical Hygiene Plan

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1.0 INTRODUCTION

1.1 Purpose

Bates College has created this Chemical Hygiene Plan (CHP) as guidance to faculty, staff and students who work with hazardous chemicals in laboratories. This plan complies with the requirements laid forth in 29 CFR 1910.1450, frequently referred to as the OSHA "laboratory standard." The plan is intended to outline a program to protect the health and safety of laboratory workers.

1.2 Reference Documents

- Prudent Practices in the Laboratory; The National Academies Press: Washington DC, 2011.
- OSHA, Occupational Exposure to Hazardous Chemicals in Laboratories, 29 CFR 1910.1450.

1.3 Contacts

Department/Title	Name	Location	When to Call	Phone Numbers
Security and Campus Safety	Dispatch	245 College St. Lewiston, ME 04240	Emergency	207-786-6111
			Non-Emergency	207-786-6254
EHS Director	James Morrison jmorriso@bates.edu	220 College St. Lewiston, ME 04240	Emergency	608-395-4775
			Non-Emergency	207-786-8226
Chemical Hygiene Officer	Jonathan Witt jwitt@bates.edu	45 Campus Ave. Lewiston, ME 04240	Emergency	207-756-5485
			Non-emergency	207-786-6294
Lewiston Fire Department	Dispatch	2 College St. Lewiston, ME 02420	Emergency	911
			Non-Emergency	207-784-5713

1.4 Scope

The program and standards laid out in this document apply to all Bates College faculty, staff, students and student employees working in laboratories with hazardous chemicals. This includes both teaching laboratories and research laboratories. The primary locations where these laboratories are currently operating on campus are Carnegie Science Hall, Bonney Science Center and Dana Hall, though other locations may be subject to the plan as well.

1.5 Definitions

Chemical Hygiene Plan (CHP) - a written program developed and implemented by the employer which sets forth procedures, equipment, personal protective equipment and work practices that are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular workplace.

Chemical Hygiene Officer (CHO) - an employee who is designated by the employer, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan.

OSHA Laboratory Standard - The Occupational Exposure to Hazardous Chemicals in Laboratories standard (29 CFR 1910.1450), commonly referred to as the Laboratory standard, requires that the employer designate a Chemical Hygiene Officer (CHO) and have a written Chemical Hygiene Plan (CHP), and actively verify that it remains effective.

Globally Harmonized Standard (GHS) - The GHS includes criteria for the classification of health, physical and environmental hazards, as well as specifying what information should be included on labels of hazardous chemicals as well as safety data sheets.

Safety Data Sheets (SDS) – Documents provided by a chemical supplier that lists occupational health and safety information about a chemical or substance.

Personal Protective Equipment (PPE) – Clothing, gloves, eyewear or other equipment worn by an individual to provide a protective physical barrier against chemical exposure.

Secondary/Workplace Containers – Containers other than original manufacturer containers used to store pure chemicals, mixtures, or solutions.

Particularly Hazardous Substances (PHS) – Substances whose characteristics necessitate a high level of control. PHS are classified as either a select carcinogen, reproductive toxin or as having a high degree of acute toxicity.

Hazardous Waste – Waste chemicals that are either specifically mentioned in the P, U, F or K EPA lists, or that qualify as ignitable, corrosive, reactive, or toxic.

Main Accumulation Areas (MAA) – The central storage area for hazardous waste. There are currently three MAAs on campus. They are located in Bonney Science Center, Carnegie Science, Dana Hall and Cutten.

Satellite Accumulation Areas (SAA) – Collection points for hazardous waste that are located in the same room where the waste is being generated.

Flammable Liquid – Flammable liquids are classified according to their boiling point and flash point.

Class IA - Liquids having a flash point below 73°F (23°C) and having a boiling point below 100°F (38°C).
Examples: pentane, pentene, ethyl ether, petroleum ether, methyl ethyl ether, acetaldehyde
Class IB - Liquids having a flash point below 73°F (23°C) and having a boiling point at or above 100°F (38°C).
Examples: acetone, acetonitrile, benzene, ethyl acetate, ethanol, hexanes, toluene, tetrahydrofuran, methanol, isopropanol, methyl ethyl ketone.
Class IC - Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).
Examples: xylene, styrene, dibutyl ether

2.0 RESPONSIBILITIES

In order for the chemical hygiene plan to make a meaningful impact on chemical safety at the college, many people will need to actively participate. Below is a list of roles and responsibilities for those affected by the plan.

Dean of Faculty/Senior Leadership shall:

- Be responsible for the approval of all campus policies, including those enumerated in the Chemical Hygiene Plan (CHP).
- Support the enforcement of the policies outlined in this document.

- Inform the CHO when new faculty who will be subject to this plan are hired.
- Actively participate with EHS/CHO and others to create and reinforce a positive safety culture in college laboratories.

Chemical Hygiene Officer (CHO) shall:

- Be the primary agent of the college that is responsible for the development, maintenance and implementation of the Chemical Hygiene Plan (CHP).
- Be the primary contact for academic laboratory safety matters.
- Maintain a barcoded inventory of chemicals as well as a library of Safety Data Sheets (SDS).
- Establish policies for Hazardous Waste storage and disposal in concert with EHS.
- Inspect eye wash stations, chemical showers, spill kits and other safety equipment and supplies.
- Provide basic laboratory safety training to students, staff and faculty before they initially work in Bates College laboratories and at least annually for all existing personnel.

Environmental Health and Safety Director (EHS) shall:

- Have ultimate authority on issues of regulatory compliance.
- Provide backup and support for the CHO.
- Be responsible for assessing chemical exposures in the workplace.
- Approve the use of particularly hazardous substances.

Laboratory Supervisors/Principle Investigators shall:

- Have ultimate responsibility for the health and safety of the people working in their laboratories.
- Ensure compliance with all safety measures in this plan.
- Create lab and procedure specific SOPs for hazardous chemical experiments. The CHO will provide support for the development of these procedures, but the ultimate responsibility resides with the LS/PI.
- Ensure students have sufficient knowledge and safety training before allowing them to work in the laboratory.
- Follow institutional guidelines on the accumulation of hazardous chemical waste.
- Provide adequate personal protective equipment as described in the CHP.
- Actively support a positive safety culture in academic and teaching labs.

Laboratory Employees and Students shall:

- Review and comply with the safety measures in this plan, as well as any lab/process specific measures adopted in their lab.
- Undergo safety training by the CHO and sign an agreement that acknowledges this training.
- Actively support and participate in a positive safety culture.

3.0 CHEMICAL HAZARD IDENTIFICATION

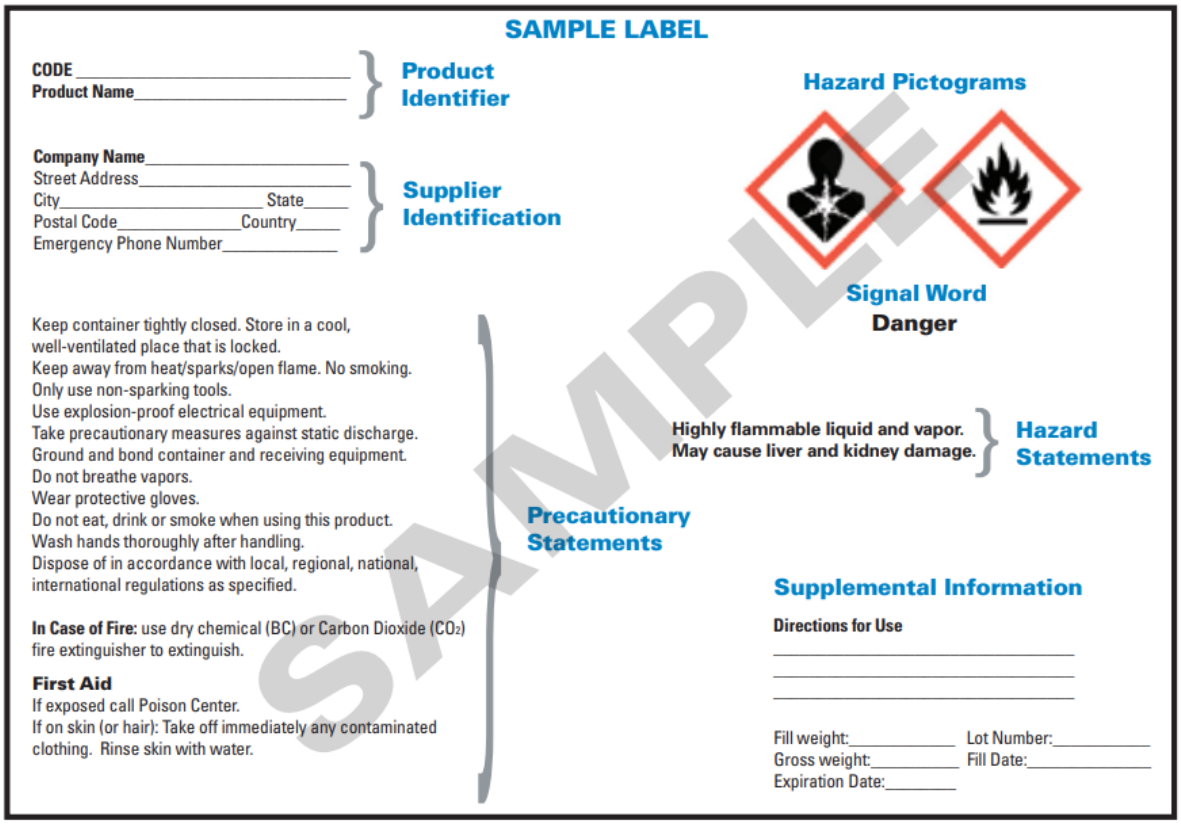
Several mechanisms provide for the identification of chemical hazards. Chemical users should familiarize themselves with these indicators. The United Nations has established a Globally Harmonized Standard (GHS) for the classification and communication of chemical hazards. More recently the OSHA Hazard Communication Standard has been changed to be compatible with the GHS. Therefore, a single unified standard exists that encompasses visual and written descriptions of chemical hazards.

3.1 Labels

Any chemical container that is purchased from a chemical vendor is required to have a label that contains the following information:

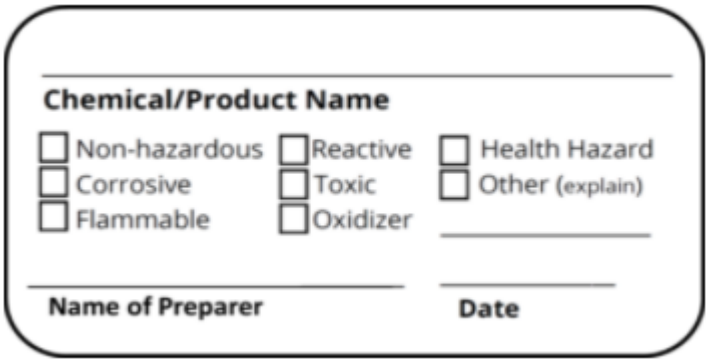
- Product identifier (CAS Number/Name)
- Signal Word
- Hazard Statements
- Pictograms
- Precautionary Statements
- Information about the manufacturer

The following is an OSHA example of a label that meets the unified GHS/Hazard Communication Standard.



Secondary or “workplace” containers are often used in the laboratory to hold smaller amounts of pure chemicals, mixtures or solutions. There is more flexibility concerning how these containers need to be labeled. OSHA requires that secondary containers identify the chemical or solution and communicate the hazards associated with it. The identification does not have to follow GHS standards for original chemical containers. It can consist of words, pictures or symbols that effectively communicate the chemical hazards.

The following is an example of a label that would satisfy these requirements:



3.2 Safety Data Sheets (SDS)

Safety Data Sheets (SDS) are documents provided by a chemical manufacturer or vendor that describe the hazards associated with a particular substance. SDS follow a set format adopted with the Globally Harmonized Standard. SDS contain important information such as health and physical hazards, composition, reactivity and toxicity. These documents are intended to provide hazard identification and awareness for laboratory workers or first responders to a chemical involved incident.

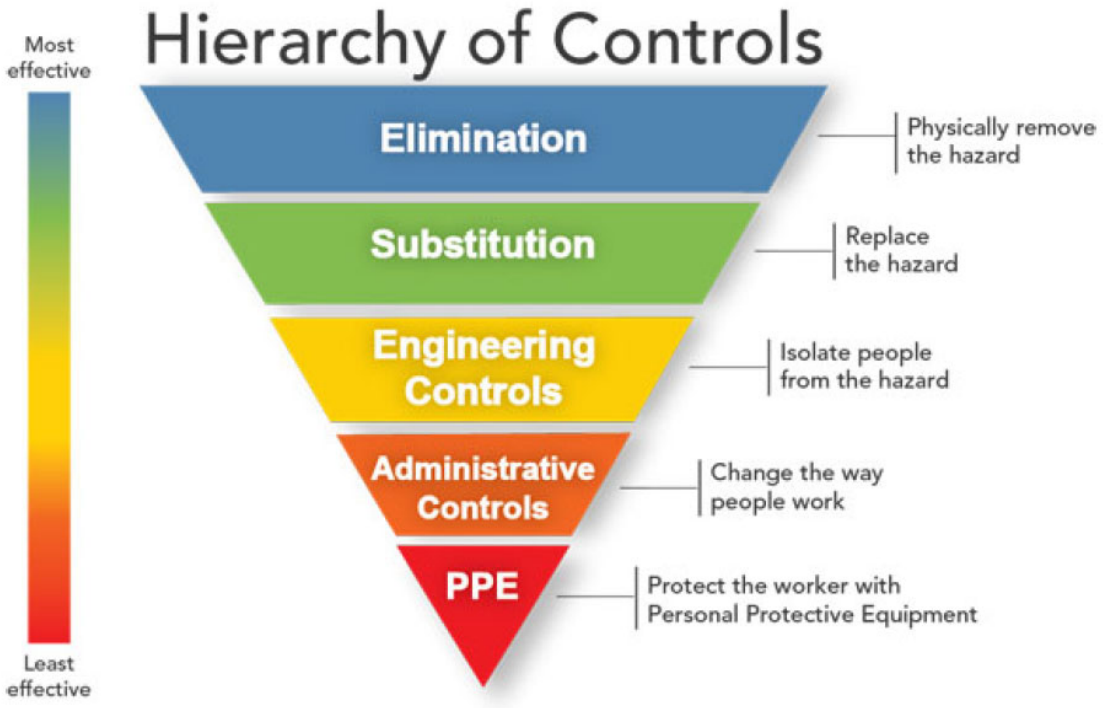
There are a number of ways that you can access an SDS. They can normally be obtained on a vendor's website. The Chemical Hygiene Officer (CHO) also maintains electronic SDS for the chemicals in inventory.

3.3 Door Signs

Door signs are a way to communicate the hazards in a particular lab. Each teaching or research lab should have a door card that specifies chemical, biohazard and radiation hazards. These cards also indicate the level of PPE that is required in a particular lab. Safety equipment that can be found in the lab as well as emergency contact info should also be found on this card.

4.0 GENERAL STRATEGIES FOR THE SAFE USE OF CHEMICALS

The basic strategy to ensure that laboratory personnel are safe depends on the adoption of controls. Controls can be organized in a hierarchy, as they don't all provide the same level of protection. Some controls are completely effective while others are less effective.



4.1 Elimination or Substitution

The most effective control measures are elimination and substitution because they completely remove the hazard. If there is another less harmful chemical or process that can achieve the same experimental result, then it should be used. In teaching labs or demonstrations, the least hazardous possible chemicals and processes should be used. If the same principle can be taught with multiple experiments, the least hazardous should be selected. Some examples of this type of control are:

- Replacement of mercury thermometers with alcohol thermometers.
- Substitution of Carosafe or other preservative in place of formalin for the storage of animal specimens.
- Use of precast polyacrylamide gels.

4.2 Engineering Controls

Engineering controls are designed to mitigate chemical hazards in the workplace before the worker can come in contact with them. These controls are lower on the hierarchy because elimination and substitution completely preclude the possibility of exposure or incident.

4.2.1 Fume Hoods

Chemical fume hoods are the most important type of engineering control for hazardous gases and aerosols. They are typically used when dealing with volatile chemicals or chemicals with a strong odor. If there is a risk of ingestion by inhalation, a fume hood should be used. General rules for using a fume hood are:

- Chemical fume hood exhaust fans should be left on at all times.
- When working in a chemical fume hood, the sash should be kept as low as is practical. If using a horizontal sash, the opening should be kept as narrow as possible. This will maximize the efficiency of the fume hood.
- Chemicals should be kept at least 6 inches from the front of the hood. This is the minimum distance required to ensure no fumes will escape.
- Close and open the sash slowly. If the sash is opened too quickly, the motion can create turbulence that will interfere with the efficacy of the fume hood.
- Keep the fume hood clean and uncluttered.
- Keep the sash closed when the fume hood is not in use.
- If performing a reaction that requires cooling with water, make sure that the tubing is attached to the glass with copper wire. The flow of water should be as slow as possible.

4.2.2 Snorkel Exhaust

Snorkel exhausts provide ventilation for small point sources of fumes or other harmful substances. They are particularly useful for capturing contaminants in circumstances in which a fume hood cannot be used. For example, they can be used to capture fumes from a large piece of equipment that cannot be kept in a fume hood. In order to be effective, the snorkel must be within approximately 2 inches of the fume source.

4.3 Workplace (administrative) Controls

Administrative controls consist of standard operating procedures which seek to change worker behavior to enhance safety. Standard procedures for procuring, receiving, transporting and storing chemicals are included in this section. Also included are standard housekeeping procedures for chemical laboratories.

4.3.1 Procurement

Procurement control is a useful administrative instrument that mitigates hazards by scrutinizing

chemical orders before purchasing. Before ordering, the following should be considered:

- Is the chemical already in stock somewhere on campus? If so, an effort should be made to borrow the chemical before ordering a new container.
- What is the minimum amount needed for the experiment? Chemicals should be ordered in the smallest practical quantities.
- Can the chemical be ordered in a less hazardous form (i.e. 6M HCl vs. concentrated HCl)?
- Is this chemical a Particularly Hazardous Substance (PHS)? If it is, a chemical specific SOP should be created by the PI and approved by EHS before the chemical is ordered.

4.3.2 Receiving Chemicals

The following guidelines apply to chemicals that are received on campus.

- All chemical orders will be shipped directly to Bonney Science Center.
- Chemicals should not be delivered to Post and Print whenever possible.
- Items that will stay in Bonney should be unpacked. Items that need to be distributed to another campus location should remain in the original manufacturer packaging.
- The purchasing agent, or stockroom manager, will add the chemical container to the Chemwatch chemical inventory. and generate a barcode for each item. An SDS should be linked to the container record.
- Kits, enzymes, or small chemical containers (e.g. 0.25 mL ampules) are not entered into the inventory system or barcoded for practical reasons.
- For items that have been unpacked, the barcode should be applied to the container. For items that need to stay in the original packaging for safe transportation, a barcode will be attached to the package that can be applied to the container by the end user.

4.3.3 Relocating Chemicals

If a chemical container is moved for longer than one week, one of the following procedures should be followed:

The preferred method is for the person who needs to *permanently* relocate a chemical to request it from the stockroom manager. The stockroom manager will pull the container from inventory and transfer the container to the new location in our inventory software.

A second method can be used if the person requesting the transfer does not have time to reach out to the stockroom manager. In this case, the person requiring the chemical should remove it directly from the stockroom. They should then immediately notify the stockroom manager by email of the barcode and final destination of the container. The stockroom manager will formally transfer the container to the new permanent location.

4.3.3 General Chemical Storage Guidelines

- A date should be recorded on the chemical container when it is first opened. This is the responsibility of the end user. In some cases, the date the container was opened is more significant than the date it was received (e.g. ethyl ether).
- Whenever possible, sturdy shelves with a solid surface and a lip should be used.
- Chemicals should not be stored above eye level whenever possible.
- Heavier items or larger liquid containers should be stored closer to the ground.
- Chemicals can be organized alphabetically, but only if incompatible chemicals are stored separately.
- Containers should be inspected regularly. If a container is compromised (rusting, dented, bulging etc), the chemical should be disposed of as hazardous waste.
- Chemicals should not be left out for extended periods in hoods or on the benchtop.
- Chemicals should be returned to storage after each laboratory session. This decreases the likelihood of a spill.

4.3.4 Storage Groups

Chemicals can be sorted into storage groups, according to their chemical compatibility. Each chemical group should ideally be stored in a separate cabinet. If this is not possible, chemicals from different storage groups should be stored in separate secondary containers.[1]

[1] https://ehs.weill.cornell.edu/sites/default/files/chemstorage.pdf

Code	Storage Groups	Examples
A	Compatible Organic Bases	BIS TRIS, Diethylamine, Imidazole, Triethanolamine
B	Compatible Pyrophoric and Water Reactive Materials	Tert-Butyllithium, Sodium Borohydride,
C	Compatible Inorganic Bases	Sodium Hydroxide, Ammonium Hydroxide
D	Compatible Organic Acids	Acetic Acid , Maleic Acid
E	Compatible Oxidizers including Peroxides	Hydrogen peroxide, Permanganates, Halogens
F	Compatible Inorganic Acids not including Oxidizers or Combustibles	Phosphoric Acid, Hydrochloric Acid, Sulfuric Acid
G	Not Intrinsically Reactive or Flammable or Combustible	Acrylamide, Sodium Bisulfate, Coomassie Blue, Sugars, Dyes, Buffers, Dilute Aqueous Solutions, Amino Acids
I	Compatible Strong, Oxidizing Acids	Chloric acid, Chromic acid, Nitric acid, Perchloric acid, Selenic acid, Nitrosulfuric acid
J	Poison Compressed Gases	Ethylene Oxide, Hexafluoropropylene, Sulfur Dioxide, Trifluoromethyl Iodide
K	Compatible Explosive or other highly unstable materials	Picric Acid Dry, Tetrazole, Ammonium Permanganate
L	Non-Reactive Flammables and Combustibles, including solvents	Hydrocarbons (saturated and unsaturated), Alcohols, Ketones, Aldehydes, Benzene, Toluene, Methanol, 1-Butanol, 1-Propanol, Acetic Anhydride , Acrolein, Formamide, Sigmacote

4.3.4.1 Acid Storage (group D, F, I)

- Acids must be separated from bases in general.
- Group D organic acids should be stored away from oxidizing mineral acids. Organic acids may be stored with flammables.
- Group F Non-oxidizing inorganic acids
- Group I Oxidizing acids must be separated from organic acids (e.g. acetic acid, ethanoic acid) and flammable materials. These acids should be stored in their own cabinet whenever possible.

4.3.4.2 Base Storage (group A, C)

- Bases should be stored in corrosives cabinets whenever possible.
- Inorganic bases and organic bases should be stored separately.

4.3.4.3 Flammable and Combustible Storage (group L)

- Whenever possible, flammable materials should be stored in a vented flammable cabinet (underneath a hood or in a free-standing flammable cabinet).
- Keep flammable substances away from ignition sources at all times.
- Flammable materials should never be stored in a commercial refrigerator or freezer. Commercial refrigerators and freezers have many internal ignition sources. A flammable-proof or explosion-proof refrigerator should be used. Flammable-proof refrigerators have no internal ignition sources. This is sufficient for all of the spaces on

campus. An explosion-proof refrigerator also has no ignition sources on the outside of the unit. This type of refrigerator would be used in the context of a workplace where high concentrations of flammable gas are in the same space as the refrigerator.

- Flammable chemicals should be stored separately from oxidizing chemicals.

4.3.4.4 Pyrophoric and Water-Reactive Storage (Group B)

- Water-reactive chemicals should be stored in water tight cans away from any possible contact with water (under sinks, exposed to sprinklers).
- Pyrophoric compounds must be stored in air tight containers under inert gas. Ideally, a glove box should be used to store these materials.
- These compounds should be stored away from flammable and combustible materials.

4.3.4.5 Compatible Oxidizers Including Peroxides (Group E)

- This category includes nitrates, chromates, permanganates, inorganic peroxides.
- Must be stored away from flammables, reducing agents.

4.3.4.6 Poison Compressed Gases (Group J)

- Poison gases are not compatible with any other group. Special considerations and procedures may be necessary. Contact the CHO before working with poison gas.

4.3.4.7 Compatible Explosive or other highly unstable compounds (Group K)

- Explosives are not compatible with any other group. Special considerations and procedures may be necessary. Contact the CHO before working with explosive or unstable materials.

4.3.5 Transport

The following practices should be observed when moving hazardous chemicals. Similar protocols apply to transporting chemicals within a lab or building and transferring them between buildings.

- Anyone who transports chemicals must be familiar with the hazards of the substances they are moving. They also must know what to do in the event of a spill.

- Secondary containment is mandatory. For a single 1 liter or 4 liter bottle, an appropriately sized bottle carrier can be used. If more than one container is being transported, a cart and plastic bin should be used. The cart must have a 2 inch solid lip.
- A lab coat and goggles may be prudent.
- Gloves should never be used when transporting chemicals. This is the case even if your gloves are clean.
- The route should be planned ahead of time, considering any obstacles. Chemicals should be moved when there will be the least number of people in the hallways (during classes).
- Elevators should always be used for transporting chemicals.
- Smaller bottles can be transported in a zip lock bag.
- Gas cylinders must be moved using an appropriate hand cart designed for moving cylinders and which features a chain for securing the cylinder. Before moving a gas cylinder, whether or not it is empty, remove the regulator and replace it with a cylinder cap.

4.3.6 Housekeeping

There is a correlation between the condition of a lab and the level of safety in a lab. A disorganized laboratory space creates additional safety concerns. The following general housekeeping rules should be followed:

- Do not obstruct access to exits or to safety equipment (spill kits, fire extinguishers etc.)
- Bench tops and hood areas should be free of clutter.
- Glassware should be washed promptly.
- Chemicals should be stored in an organized fashion, with the labels turned outwards so that they are visible.
- Bags, coats and other personal items should be stored outside of the lab.
- Secondary (non-vendor) containers need to be properly labeled. Please see section 3.1 for more detailed requirements.
- Keep containers away from the edge of the bench to reduce the possibility of an accident.
- Food, drink, smoking and vaping are never allowed in the laboratory.

4.4 Personal Protective Equipment

Personal Protective Equipment is the least reliable method of protection in the hierarchy. This

is mainly because it depends upon workers' behavior. However, PPE is still an important aspect of laboratory safety. The three basic aspects of PPE that are recommended in all Bates chemical laboratories are eye protection, gloves and a lab coat.

4.4.1 Eye Protection

Some form of eye protection is mandatory while in research labs containing chemicals. This is true even if the individual is not actively working on an experiment. Either safety glasses or goggles conforming to the ANSI Z87.1 standard should be used. Safety goggles should be worn when there is a risk of splashing chemicals or explosion because they provide a higher level of protection.

4.4.2 Gloves

Gloves should always be worn in the laboratory. However, they should never be worn outside the laboratory, while holding a phone or typing on a computer, or while interacting with anything that should not be contaminated with chemicals.

Gloves are intended to provide a layer of protection between chemicals and the hand. However, typical gloves used on a daily basis in chemistry labs are not designed to protect the user during continuous exposure. They are intended to be used to briefly protect the hand in case of accidental contact.

Gloves are made out of many different polymers. Each type works well depending upon the situation and chemicals being used. However, **no glove material provides ideal protection against all chemicals.** The two common types of gloves used in Bates chemical laboratories are:

- Nitrile gloves (at least 4 mils thick) are the most frequently used gloves at Bates. They provide some degree of protection against organic chemicals. These are appropriate for day-to-day experiments using organic or inorganic chemicals. Though they offer better protection than latex gloves to organic chemicals, many solvents will permeate the glove within seconds. Gloves only buy time.
- Latex gloves provide good protection when working with aqueous chemicals. They are less resistant to organic chemicals than nitrile gloves. Latex gloves are known to cause sometimes serious allergic reactions. **Laboratory workers with known latex allergies should never use latex gloves.**

4.4.3 Lab Coats

Lab coats are not mandatory in chemical laboratories at Bates. Some principal investigators choose to use them in their labs. It is important that the lab coat material is compatible with the work being performed. Many lab coats are made out of cotton or polycotton blends. These offer fair protection against chemical contact or splashes, providing another barrier between the hazard and the skin. However, they are known to be highly flammable. If an experiment requires the use of large amounts of flammable solvent or use of pyrophoric agents, a flame resistant lab coat should be used.

4.5 Exposure Monitoring

In a small laboratory equipped with fume hoods, it is relatively rare for workers to be exposed to chemicals at a level that is problematic in terms of federal regulation. However, OSHA maintains a list of Permissible Exposure Limits (PEL) for a large number of chemicals. If the PI feels that lab workers could be exposed to a chemical with a low PEL value, additional monitoring should be put in place before the work begins.

5.0 PARTICULARLY HAZARDOUS SUBSTANCES (PHS)

Certain substances are considered to be particularly hazardous and therefore require more rigorous control measures. There are three types of chemical that fall in this category. A PHS is classified as either a “select carcinogen”, “reproductive toxin”, or a substance with a “high degree of acute toxicity.” If any of these substances are being used in a lab, a “designated area” where this substance will be used must be specified.

5.1 Select Carcinogens

Select carcinogens are found in the following lists:

- OSHA list of regulated carcinogenic chemicals (29 CFR 1910 Subpart Z).
- List of substances “known to be a carcinogen” in the National Toxicology Program *Report on Carcinogens*. Chemicals that are on the “reasonably anticipated to be carcinogen” list may be considered select carcinogens if statistically significant tumor incidence has occurred in animal models.
- International Agency for Research on Cancer (IARC) Group 1 carcinogens. Group 2A or 2B carcinogens may also be considered select carcinogens if statistically significant tumor incidence has occurred in animal models.

Select carcinogens can usually be identified by the hazard identifications on a Safety Data Sheet (SDS). Section 2 of the SDS typically includes either H350: May Cause Cancer, or H351: Suspected of Causing Cancer.

5.2 Reproductive Toxins

Reproductive toxins are substances that affect reproductive capabilities. Specifically, they are chemicals that create chromosomal abnormalities, or teratogens which cause the malformation of fetuses. Unlike select carcinogens, there is no consistent standard for what chemicals qualify as reproductive toxins. Chemicals that are known or suspected of being reproductive toxins include organic solvents, lead, ethylene glycol ethers, carbon disulfide, and ethylene oxide.

5.3 High Degree of Acute Toxicity

Like reproductive toxins, there is no set definition of what constitutes a substance with high acute toxicity. A standard that is sometimes employed is based upon the median lethal dose (LD_{50}) of a substance. A substance with an $LD_{50} < 50$ mg is typically considered to have high acute toxicity.

5.4 Designated Areas

Any area designated for use of a particularly hazardous substance requires the following:

- Clearly mark the designated area with appropriate signage. The area may be an entire laboratory, an identified area within a laboratory or an isolating device such as a glove box or fume hood. The area or device signs should read “DANGER (Specific Agent), Authorized Personnel Only”.
- Emergency response procedures specific to the hazardous substance must be posted near the site.
- Detection/monitoring equipment may be required in laboratories where highly toxic chemicals (especially poisonous gases) are used. If uncertain, contact the CHO/EC.

5.5 Containment Devices

When working with particularly hazardous substances in fume hoods and glove boxes:

- Exhaust air from ventilation systems in which work is performed with carcinogens, reproductive toxins and acutely toxic chemicals may require scrubbing before release

to the atmosphere. OSHA Permissible Exposure Limits or other regulatory standards may not be exceeded.

- Ventilation efficiency and operational effectiveness of containment devices used to manipulate or contain hazardous substances must be evaluated regularly according to a schedule determined by the Laboratory Supervisor. Proper use, maintenance and hygiene will ensure maximum protection from this equipment.
- Compressed gas cylinders containing acutely toxic chemicals must be stored in ventilated gas cabinets.

5.6 PHS and Lab Specific SOPs

If a laboratory must work with a Particularly Hazardous Substance, the PI for that lab must develop a lab specific SOP. An outline for a lab specific SOP can be found in appendix C. Before work with a PHS is started, a copy of the lab specific SOP must be submitted to the CHO and the director of EHS.

6.0 EMERGENCY PROCEDURES

6.1 Chemical Spills

One of the major hazards associated with chemicals is the risk of a spill. The correct response to a spill depends upon the nature of the chemical and the size of the spill. Small chemical spills can often be managed by the personnel in the lab, while larger spills may require outside assistance.

6.1.1 Small Chemical Spills

Small chemical spills (less than 1 gallon of liquid, 1 pound for solid) can frequently be managed by lab personnel. Each space that contains chemicals will have its own spill kit consisting of the following:

- (3) 3” x 42” Absorbent “Socks”
- (5) 15” x 20” Absorbent Pads
- Nitrile Gloves
- Splash Proof Goggles
- 2 lb Sodium Bicarbonate (Baking Soda)
- 2 lb Citric Acid

- Heavy Duty Plastic Bags
- Bucket

The general procedure is as follows:

- The laboratory supervisor and workers should determine the magnitude of the spill and any hazards related to it (fumes, fire, broken glass).
- In the case of volatile solvent, pay particular attention to the quantity of solvent that has evaporated. It may be hazardous to breathe the fumes from a solvent spill.
- If the PI or laboratory workers conclude that they can proceed safely with immediately available PPE, they should swiftly begin the cleanup. Lab workers should never attempt to clean up a spill of a substance they are unfamiliar or uncomfortable with.
- The spill should be contained using absorbent "socks" or other means to create a physical barrier around the spill.
- If the spill is a strong acid or base solution, a neutralizing chemical should be used. Sodium bicarbonate can be use to neutralize acid, while citric acid can be used to neutralize base.
- Adsorbent pads should be used to soak up the spilled liquid.
- The pads should be collected and deposited in the plastic bags provided.
- The plastic bags should be sealed in the provided bucket.
- The bucket or container should be treated as hazardous waste and immediately deposited in the MAA, following normal documentation procedures for hazardous waste.

6.1.2 Large Chemical Spills

Large spills (greater than 1 gallon for liquid, 1 pound for solid) should not be handled by lab personnel. This also applies to smaller spills of materials that are determined to be too toxic or otherwise hazardous to be handled safely. In this situation, the following emergency procedure should be followed.

- Quickly leave the area and close the door.
- Alert campus security (207-786-6111) and EHS (608-395-4775) immediately.
- Alert the CHO (207-786-6294 or 207-756-5485).

6.2 Chemical Exposure and Related Injuries

6.2.1 General Guidelines

A range of accidents and injuries can occur while working with chemicals in the lab. These include chemical burns and irritation to the skin, eyes, and lungs. Safety equipment and procedures are in place to address each of these risk factors. General safety procedures include:

- All lab personnel should be informed prior to any experiment of the potential safety hazards associated with the chemicals being used. SDS are available to students, faculty and staff as needed. They should also be aware of what should occur if an accident happens (use of eye washes, showers etc).
- In the event of a spill that contaminates a member of the lab, the affected person should be treated immediately. Spill clean up can occur after the injury has been addressed.
- Small chemical exposures can frequently be addressed by lab personnel. A small exposure of the skin or eyes may resolve itself after flushing with water.
- If a large or severe chemical exposure occurs, Safety and Security and EHS should be notified immediately. If necessary contact 911.

6.2.1 Small Chemical Skin Burns

In the case of a small area of chemical exposure, whether to corrosive, irritating, sensitizing or otherwise harmful chemical, the affected area should be immediately flushed with water. The affected area should be held under a steady stream of water for a minimum of 15 minutes.

6.2.2 Lung Exposure

In the case of accidental exposure of the lung to a corrosive or irritating chemical, the first step is to immediately remove the person to the outside. Fresh air is sometimes sufficient to resolve the situation. If the exposure is severe, or if the individual is still affected after 15 minutes of fresh air, contact EHS and 911 immediately.

6.2.3 Eye Burns

In the event of chemical exposure of the eyes, the emergency eye wash should be used. There are several types of eye wash stations on campus. The type that are in place in the Bonney Science Center have these designs:

For the eyewash station on the left, pull the lever on the left to activate the water. For the eyewash station on the right, push the red vertical button. For either type:

- Hold your eyes open, or ask someone to help you with this.
- The eyes should be rinsed for 15 minutes.
- If the burn is severe or if the water is not helping, contact campus security and EHS. If necessary contact 911.

6.2.4 Large Skin Burns

If a large area of the skin or clothing comes into contact with a toxic or corrosive chemical, the safety shower must be used.

- Activate the shower either by pulling the lever if in Bonney Science Center, or the chain if elsewhere on campus.
- Remove any clothing that has been contaminated.
- Remain under the shower for at least 15 minutes to ensure the chemical has been sufficiently washed off.
- Contact campus security and EHS immediately in the event of a large chemical exposure. Contact 911 if necessary.

6.2.5 Hydrofluoric Acid Burns[2]

Hydrofluoric Acid (HF) is a highly corrosive and toxic chemical. It can cause severe chemical burns and severe pain. Special first aid and emergency procedures must be used. HF not only causes severe skin corrosion, but readily enters the body creating systemic issues.

6.2.5.1 HF Skin Contact

- Immediately have someone contact 911 then campus security and EHS.
- Flush the area with large amounts of water.
- Remove contaminated clothing while continuing to flush. Flush with copious amounts of water for 5 minutes.
- Apply 2.5% calcium gluconate gel to the wound. Massage the gel into the affected area. Reapply gel every 15 minutes until medical help arrives.
- Depending upon the concentration of the HF solution, symptoms can be immediate or take hours to manifest. **Regardless of the concentration, the exposed area should be treated immediately and thoroughly.**

6.2.5.2 HF Eye Contact

- Immediately have someone contact 911 then campus security and EHS.
- Hold the eyelids open and use the eyewash station to flush the eyes thoroughly with water for 15 minutes.
- The victim should seek immediate medical help, ideally from an eye specialist.
- Ice can be applied to the eyes while awaiting medical treatment.

6.2.5.2 Inhalation

- Immediately have someone contact 911 then campus security and EHS.
- Move the victim to fresh air.
- Await medical help.

[2] https://ehs.unc.edu/wp-content/uploads/sites/229/2015/09/hfaexposure.pdf

7.0 INCIDENT REPORTS, MEDICAL CONSULTATIONS AND EXAMINATIONS

7.1 Incident Reports

An incident report must be filled out for any injury or exposure that happens in a lab. These are examples of cases when an incident report should be used:

- A chemical exposure occurred, including inhalation, ingestion, and skin exposure.
- An employee or student develops signs and symptoms associated with the hazardous material to which they may have been exposed,
- A release (spill, leak or explosion) occurs in the work area which creates the likelihood of a hazardous exposure.
- A cut, burn, or other trauma not caused by chemicals.

7.2 Medical Examinations

Call the EHS office at 786-8226 or contact jmorriso@bates.edu to coordinate medical examinations and consultations. Every potential exposure must be documented. Use the Incident Report Form in (Appendix G) and submit the completed form to the Chemical Hygiene Officer and Human Resources within 24 hours of the incident. Medical examinations and consultations must conform to the following:

- Must be performed by or under the supervision of a licensed physician. Occupational Medicine practitioners are most likely to have training in recognizing signs and symptoms of exposure to chemicals. The Bates preferred occupational health clinic is Concentra in Lewiston, Maine (telephone 784-1680).
- Must be conducted at a time and place which is reasonable for the student or employee, preferably during normal working hours. Acute symptoms may require an immediate visit to the nearest emergency room. Examination and consultation must be provided at no cost to the employee or student. It is within the employee or student's rights to refuse examination or consultation.

Medical examiners will need as much information as possible about the potential exposure. The Laboratory Supervisor must collect information from the affected person and others present in the work area immediately for transmittal to medical providers. The information must also be submitted to EHS and Human Resources. The information must include, at a minimum:

- The identity (including generic and trade names) of any hazardous chemicals to

which an employee or student may have been exposed.

- A description of the conditions in which the exposure occurred. Quantities of chemical present and an estimate of the quantity directly involved are important.
- A description of the employee's/student's reaction, i.e. signs and symptoms, especially if the affected person(s) is unable to communicate. Interviewing others present soon after the event can yield important information.

8.0 CHEMICAL AND RELATED WASTE

8.1 Types of Waste

- Hazardous Chemical Waste
- Non-hazardous Chemical Waste
- Universal Waste
- Radioactive Waste and Biological Waste

8.2 Hazardous Chemical Waste

In 1976, the legislature passed the Resource Conservation and Recovery Act (RCRA). This law directed the EPA to establish a regulatory framework for the handling and ultimate disposal of hazardous chemicals. This framework, which tracks waste from the point of generation through transportation, treatment and disposal, is referred to as the "cradle to grave" system. Hazardous waste generators are classified according to the volume of waste that they generate. Bates College is a Large Quantity Generator (more than 100 kg per month). This means that we are required to adhere to the most rigorous standards.

There are two ways that a chemical can be determined to be hazardous within the RCRA framework.

- The chemical is a "listed" waste. This means that the chemical is found on either the P, U, F or K EPA lists.
- The chemical has one of the following characteristics:
    - Ignitability (flash point below 60 °C)
    - Corrosivity (pH<2 or pH>12)
    - Reactivity (substance may react violently under normal conditions)
    - Toxicity (substance that is toxic and has the ability to leach into the ground if deposited in a land fill)

More detail on hazardous waste identification can be found in the annual hazardous waste training. Hazardous waste accumulation and disposal are regulated at both the state and federal level. The Maine state laws that regulate hazardous waste can be found in CMR Chapters 850-857. Bates College accumulates waste in four Main Accumulation Areas (MAAs). They are located in Bonney Science Center, Carnegie Science Building, Dana Hall and Cutten Maintenance. These storage areas are maintained by the CHO and EHS.

Lab spaces that generate hazardous chemical waste on an ongoing basis should make use of Satellite Accumulation Areas (SAAs). SAAs are allowed by the state in the interests of convenience. There are several important features of SAAs:

- They must be inspected once a week. *This is the sole responsibility of the person in charge of the lab space*.
- The date that a container starts accumulating hazardous waste must be clearly documented on an SAA log sheet. Do not ever put a date on the container unless you intend to bring it to the MAA within 72 hours.
- The container must have a “hazardous waste” sticker.
- The contents of the container must be recorded.
- Incompatible hazardous waste must be separated. For example, strong acids and bases should never be accumulated in the same container.
- Halogenated organic waste must be separated from general organic waste.
- Containers must be closed at all times unless waste is being added.
- When the container is full, it should be taken to the MAA in the same building. A sticker listing the contents should be applied to the container. A neon hazardous waste sticker with the date should be applied to the container. The date and pertinent information about the container should be recorded in the logbook.

8.3 Non-Hazardous Chemical Waste

8.3.1 Definition of Non-Hazardous Waste

Some of the waste that is generated in labs on campus is not hazardous, and in some cases this waste can go down the drain. Examples of this type of waste include:

- Aqueous solutions of pH 5.0-12.4 that do not contain any hazardous substances. Nitric, perchloric and chromic acid must be sent out as hazardous waste.

- Buffers containing no hazardous materials (PBS, Tris, SDS etc). These buffer solutions may only go into the drain at their final dilution to be used in the experiment. Concentrated stock solutions should not go down the drain.
- Non-toxic salt solutions. Combinations of these cations and anions can be disposed of in the drain.[3]

CATIONS			
Al^{3+}	NH_4^+	Ca^{2+}	Cs^+
H^+	Li^+	Mg^{2+}	K^+
Na^+	Sr^{2+}	Sn^{2+}	Zr^{2+}
Fe^{2+}/Fe^{3+}		Ti^{3+}/Ti^{4+}	

ANIONS			
HCO_3^-	HSO_3^-	BrO_3^-	Br^-
CO_3^{2-}	ClO_3^-	Cl^-	OH^-
IO_3^-	I^-	NO_3^-	NO_2^-
O^{2-}	PO_4^{3-}	SO_4^{2-}	SO_4^{3-}
BO_3^{3-}	$B_4O_7^{2-}$	OCN^-	SCN^-

8.3.2 Treatment or Dilution of Hazardous Waste

Generally speaking it is not permissible to treat or dilute hazardous waste on campus. Bates is not permitted as a hazardous waste treatment facility. Therefore, we are not allowed to treat or dilute chemicals in almost all cases. Examples of procedures that are not allowed:

- Quenching of organometallic reagents.
- Quenching of peroxides.
- Dilution of strong acid/strong base solutions to meet the drain disposal allowed pH.
- Dilution of ethanol solutions.

Aqueous solutions up to 500 mL can be treated to adjust the pH for drain disposal. It is not permissible to either dilute or treat waste of a larger volume. This waste must be disposed of with the hazardous waste.

8.4 Universal Waste

[3] https://www.acs.org/content/dam/acsorg/education/policies/guidelines-teaching-mshs-chemistry/disposal_chart_aact.pdf

The rules regarding universal waste are more lenient than the rules governing hazardous waste. This category of waste was created to streamline the storage and disposal of certain common types of waste. You may encounter this type of waste in your laboratory. We collect this waste and send it with our waste contractor. There are five categories of universal waste.

- Batteries
- Pesticides
- Mercury-containing equipment
- Lamps (light bulbs etc.)
- Aerosol Cans

If you have universal waste that you need to dispose of please contact either the CHO or EHS.

8.5 Radioactive Waste and Biological Waste

Radioactive and biological waste are not addressed in this document. For more information about how to handle this type of waste, please contact the CHO.

9.0 TRAINING

9.1 Safety Training for Teaching Labs

The Assistants in Instruction (AI) and professors overseeing the lab course are responsible for delivering safety information to students or other employees who are present. At a minimum, this information should include:

- The hazards associated with the experiment being performed.
- The location of the emergency equipment and the procedure for different types of emergency.
- How to access the CHP and SDS.

9.2 General Lab Safety Training for Research Students

All students who will be performing independent chemical research, either for a thesis or another reason, must attend an in-person training session before starting work. This training must be repeated on an annual basis. The training program includes:

- Introduction to the CHP and CHO.
- How to locate and interpret SDS for chemicals.
- PPE.
- Hazard communication and chemical labels.
- Hazardous waste management.
- Emergency procedures.

9.3 General Lab Safety Training for Faculty and Staff

All new faculty and staff must undergo a virtual safety training before they can begin working in a lab. The virtual training consists of a Powerpoint presentation annotated with speakers notes. This training must be repeated on an annual basis.

Appendix A – Eyewash and Shower Locations

Carnegie

Room	Type
B6	2 32oz
B8	2 32oz
B8	2 32oz
B10	1 16oz
B14	2 32oz
B15A	DH
B21A	DH
B22	2 32oz
132	ES
By 146	C
143	2 32oz
206	DH
207A	2 32oz
208	DH
By 214A	ES
214A	2 32oz
215	2 32oz
By 305	C
305	1 16oz
307	DH
310	2 32oz
314	1 32oz
325	1 32oz
344	DH
By 401	C
404	ES
412	DH

Room	Type
413	1 16oz
417	2 32oz
425	2 32oz
430	ES
431	ES
437	2 32oz
512	1 32oz
522	C
524	C
533	2 32oz
534	ES

C = Combination Eye Wash/Shower
DH = Drench Hose
ES = Eye Station
32 Oz = 32 Oz of Saline Solution for Eyes
ED = Eye Drench

Bonney

Room	Type
MB21	C
By B32	C
B42	ED
B62A	ED
111	C
111	ED
121	ED
143	C
223	C
223	ED
By 250	C
260	C
260	ED
265	C
265	ED
270	C
323	C
325	C
327	C
340	C
360	C
360	ED
361	C
363	C
369	C
370	C
370	ED

C = Combination Eye Wash/Shower
DH = Drench Hose
ES = Eye Station
32 Oz = 32 Oz of Saline Solution for Eyes
ED = Eye Drench

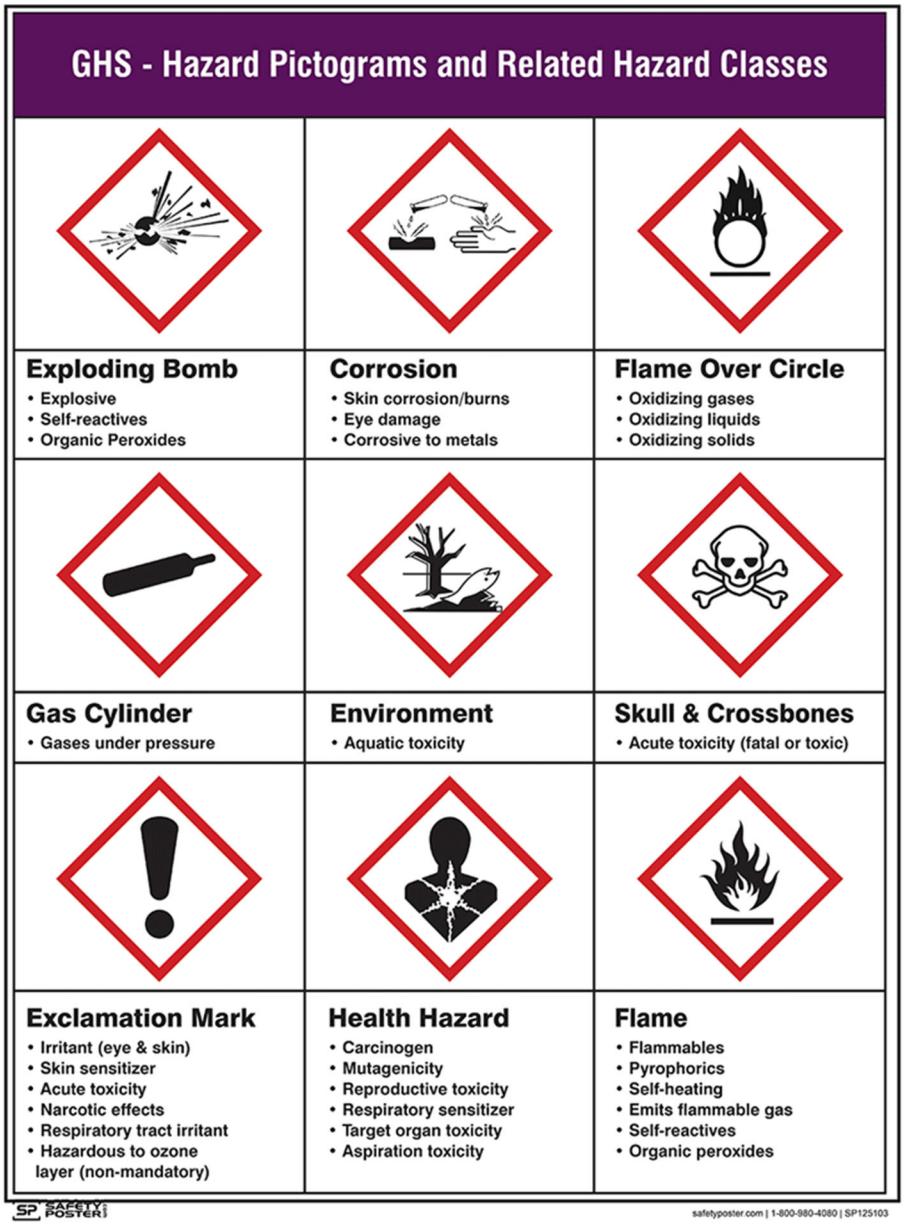
Dana

Room	Type
119	C
106	C
123	ED
116	ED
304	C
306	C
319	ED

C = Combination Eye Wash/Shower
DH = Drench Hose
ES = Eye Station
32 Oz = 32 Oz of Saline Solution for Eyes
ED = Eye Drench

Appendix B -GHS Pictograms

Globally Harmonized System (GHS) pictograms are commonly found on manufacturer chemical containers and throughout the lab environment. Each pictogram represents a certain hazard such as flammability, toxicity, or health related hazards. Each pictogram applies to one or more specific hazard classes.



Appendix C – Lab Specific SOP Outline

Lab specific SOPs can cover chemicals or processes that are relevant to a particular research lab. There is no specific format that must be used. This outline is only intended to communicate the information that is required. Principal investigators are encouraged to develop these SOPs for all of the unique practices in their lab. However, a detailed SOP is always required when a lab is working with a Particularly Hazardous Substance (PHS).

Title

This should include the name of the process, specific chemical or class of chemicals covered by this procedure.

Example: STANDARD OPERATING PROCEDURE FOR WORKING SAFELY WITH HYDROGEN FLUORIDE

Hazards

This section should cover health hazards and physical hazards associated with the particular chemical(s) or process. This information is available on Safety Data Sheets (SDS).

Exposure Control

This section should explain any engineering and administrative controls used to provide protection. An example of an engineering control would be a chemical fume hood. An example of an administrative control would be to designate a certain storage area for each type of chemical to prevent inadvertent use of the wrong material.

Storage and Transportation

This section should address the safe methods and conditions for storing and transporting a specific hazardous chemical. This could include the use of secondary containment, ventilation, segregation, or position in cabinets or on shelves.

Personal Protective Equipment (PPE)

This section should cover eye wear, gloves, face protection, footwear and clothing required when working with the specific materials for which this SOP is prepared. SDS will be the primary source of information for this data.

Details of the Process

This section should cover the specific steps or practices used when dealing with the hazardous substance. This could be a very detailed description of a particular process that is used repeatedly, or a general outline of the work practices that are used when working with the chemical in a variety of experiments.

First Aid

This section will cover basic first aid procedures for exposure to the chemical(s) or processes covered by this SOP. SDS can provide information to meet these requirements and recommend any special response kits which must be maintained in the laboratory.

Emergency Equipment and Procedures

This section should include information about the emergency equipment and procedures that should be in place when dealing with this specific chemical or process.

Waste Disposal

This portion of the SOP should describe the steps necessary to ensure proper labeling, storage and removal of wastes resulting from use of the specific chemical. The waste products must be clearly identified to allow proper waste determinations. They must be stored in secondary containers within the Satellite Accumulation Area (SAA) and must be transferred to the Main Accumulation Area (MAA)
when containers of waste become full.

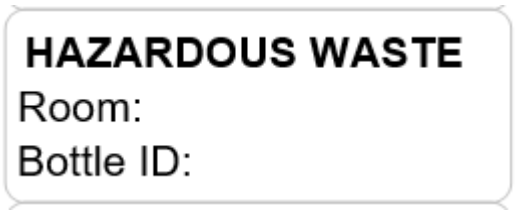
Appendix D - SAA Overview

An SAA is an optional way to accumulate waste at the point of generation (teaching or research labs). This is often more convenient than taking the waste to the main accumulation area (MAA) every time you create waste.

Procedures for SAA use

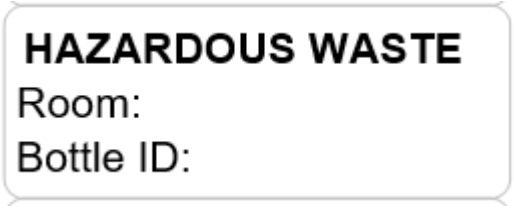
Starting a New Waste Container

1) Obtain a waste container from the stockroom.
2) Place one of these labels on the container:

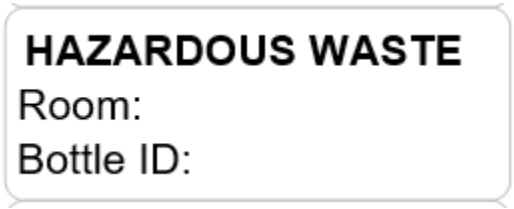


3) Fill in the building and the room number and an ID number for the bottle. The ID number consists of a letter followed by a number (e.g. A090622). The number is determined by the date: day, month, year. *Though the date is used to generate the bottle ID, the bottle ID is not a date but rather an identification code*. The letters are used to differentiate between containers that began accumulating on the same day.

   For example, if a PI whose lab is in Bonney 123 wants to create a new waste bottle on 09/06/22, the label would look like this:



   If the PI wants to create a second container on the same date, the label would look like this:



4) Create a waste log sheet for the container.

SAA Log Sheet

Bottle ID: _____ Start Date: _____

Building/Room: _____ End Date: _____

Chemical Name	Common Name	Concentration (if applicable)	Volume/Mass	Total Vol/Mass

Fill in the bottle ID, building and room. Also fill in the start date. This is the date you begin accumulating waste in this container.

Logging Chemical Waste

Whenever you add waste to the container, fill in a line on the SAA log sheet. Be as specific as possible.

SAA Log Sheet

Bottle ID: _____ Start Date: _____

Building/Room: _____ End Date: _____

Chemical Name	Common Name	Concentration (if applicable)	Volume/Mass	Total Vol/Mass

Inspections

The SAA must be inspected each week by law. This is the responsibility of the PI or AI who is in charge of the research or teaching lab space. The responsible party must inspect the SAA on a weekly basis. The SAA must conform to the standards listed below, according to state regulations.

Satellite Accumulation Area

Weekly Inspection Log

MONTH: _____YEAR: _____

Building: _____ Room/Lab Hood #: _____

Each SAA must be inspected each week to ensure all of the following:

- Is each container labeled "HAZARDOUS WASTE";
- Is all waste stored in a secondary container/s;
- Are wastes stored properly, in acceptable containers:
- Are all containers tightly closed except when hazardous waste is being added;
- Waste containers are not rusting, leaking, or bulging;
- Are incompatible hazardous wastes accumulated separately;

Inspections must include the date and name of the person conducting the inspection.

DATE /SIGNATURE YES NO

_____Conforms to Above Conditions ___ ___

What to do when your container is full

1) Write the end date on the log sheet for the container.

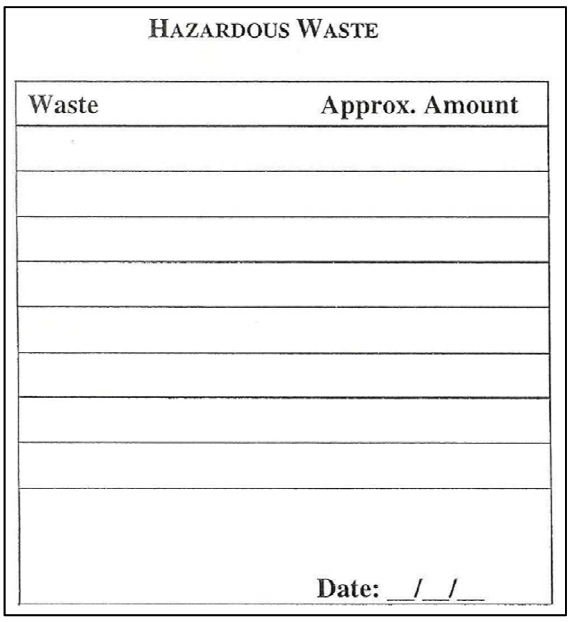
SAA Log Sheet

Bottle ID: _____ Start Date: _____

Building/Room: _____ End Date: _____

Chemical Name	Common Name	Concentration (if applicable)	Volume/Mass	Total Vol/Mass

2) Copy the log sheet for the container onto this sticker and fill in the date. Apply the sticker to the waste container.



3) Add a piece of labeling tape to the container with a general description of the waste (e.g. organic waste, halogenated waste, aqueous basic waste).

Taking the Waste to the MAA

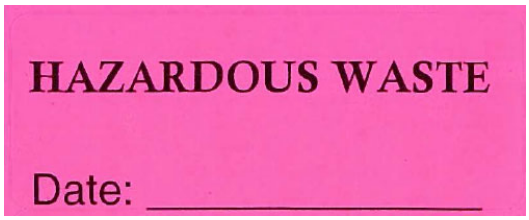
1) Once a container is full, **it must be moved to the MAA within 72 hours**. The Carnegie MAA is located in 527. The Bonney MAA is located in Bonney 147.

2) Enter your container into the MAA log book. Item refers to the bottle ID. The chemical field should be filled in with a general description of the waste (e.g. organic waste, halogenated waste, aqueous basic waste).

HAZARDOUS WASTE STORAGE RECORD

DATE	ITEM	CHEMICAL	QUANTITY	ORIGIN	BY WHOM (INITIALS)

3) Write the date on one of the neon stickers in the MAA logbook and apply to the container.



Appendix E – SAA Log Sheet

SAA Log Sheet

Bottle ID: _____ Start Date:_____
Building/Room: _____ End Date: _____

Chemical Name	Common Name	Concentration (if applicable)	Volume/Mass	Total Vol/Mass

Appendix F – SAA Inspection Form

Satellite Accumulation Area

Weekly Inspection Log

MONTH: _____ YEAR: _____

Building: _____ Room/Lab Hood #: _____

Each SAA must be inspected each week to ensure all of the following:

- Is each container labeled "HAZARDOUS WASTE";
- Is all waste stored in a secondary container/s;
- Are wastes stored properly, in acceptable containers:
- Are all containers tightly closed except when hazardous waste is being added;
- Waste containers are not rusting, leaking, or bulging;
- Are incompatible hazardous wastes accumulated separately;

Inspections must include the date and name of the person conducting the inspection.

DATE /SIGNATURE		YES NO
_____	Conforms to Above Conditions	___ ___
_____	Conforms to Above Conditions	___ ___
_____	Conforms to Above Conditions	___ ___
_____	Conforms to Above Conditions	___ ___
_____	Conforms to Above Conditions	___ ___

Date of SAA Closure: _____

NOTES:

Keep Monthly Inspection Form at each SAA and file completed forms for one year.

Appendix G-Injury or Incident form

Bates Injury or Incident Report Form

Part I – Employee Information (can use for Student/Faculty/Staff/Visitor)

Name of injured employee: Date of injury:

Employee ID #: Time of injury:

Job title: Department:

Best way to contact this employee:

Employee email address: Employee phone number:

Supervisor name: Supervisor phone number:

Not Work Related, reported as FYI

==========

Part II – Description of Injury or Incident

Location on Campus where the incident occurred:

Job task at the time:

Are you reporting a work related injury? YES NO

Nature of Injury:

Body parts involved:

First aid required? YES NO

Care provided by:

Any additional information you can provide, including witnesses (if any):

Revised August 2022

Bates

Injury or Incident Report Form

==========

Part III – Supervisor Comments

Incident reported to me on: _____ How were you notified: _____

If there was a delay in reporting this incident, why the delay? _____

What can be done to prevent this type of incident from happening again?

_____

==========

Part IV – Signatures

Employee signature: _____ Date: _____

Supervisor signature: _____ Date: _____

==========

Part V – INSTRUCTIONS

If this is an emergency call Bates Security 207-786-6111 or 911 for assistance.

If it is not an emergency, or following the immediate medical need being satisfied:

- Ensure this complete form is immediately submitted to HR, by email to Jim Morrison, Safety Department jmorisso@bates.edu and Brenda Sawyer Worker's Compensation Contact BSawyer@Bates.edu . OK to type and email, handwrite/scan/email, or handwrite/deliver to HR office at 5 Andrews Rd.
- If your employee requires medical attention, contact Jim or Brenda for assistance
- If you need blood spill cleanup, contact Security at 207-786-6254 to page an on-call blood spill team member for assistance

Jim will contact you/the employee regarding an injury or incident investigation, if required.

Brenda will contact the employee if additional information is needed for worker's compensation and regarding medical care, if any.

Date report sent to HR: 

Revised August 2022