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## 1. Purpose

University of Alaska Anchorage (UAA) employees, student workers, faculty, staff, and outside contractors who perform work on UAA property may be required to procure, work with or work near hazardous materials. This Hazardous Materials Management program is intended to ensure workers are knowledgeable about the hazardous materials they are working with in order to protect themselves and others.

## 2. Objective

UAA, in its continuing effort to provide personnel with safe, healthful working conditions, and to comply with the Occupational Safety and Health Act is implementing the following program for hazardous materials management to protect people working at the University, by helping employees, student workers, faculty, staff, and outside contractors better understand the systems available to better protect themselves.

## 3. Scope

This policy applies to UAA employees, student employees, faculty, staff, and outside contractors working on UAA equipment who are exposed to hazardous materials as part of their work requirements.

## 4. Definitions

Biocides - Type of chemical or microorganism that can deter, render harmless or exert a controlling effect on harmful organisms by chemical or biological means

Biohazardous Agent - Agent that is biological in nature, capable of self-replication and possesses the capacity to produce deleterious effects upon biological organisms

Biological Safety Level (BSL) - a set of biocontainment precautions required to isolate dangerous biological agents in an enclosed laboratory facility. The levels of containment range from the lowest biosafety level 1 (BSL-1) to the highest at level 4 (BSL-4)

Carcinogen - Any substance, radionuclide, or radiation that promotes carcinogenesis, the formation of cancer

Corrosivity - Chemical solutions with a pH less than or equal to 2, or greater than or equal to 12.5

Flammable Liquid - any liquid having a flashpoint at or below 199.4 °F (93 °C). Flammable liquids are divided into four categories as follows:

- Category 1 shall include liquids having flashpoints below 73.4 °F (23 °C) and having a

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boiling point at or below 95 °F (35 °C)

- Category 2 shall include liquids having flashpoints below 73.4 °F (23 °C) and having a boiling point above 95 °F (35 °C). 3
- Category 3 shall include liquids having flashpoints at or above 73.4 °F (23 °C) and at or below 140 °F (60 °C). When a Category 3 liquid with a flashpoint at or above 100 °F (37.8 °C) is heated for use to within 30 °F (16.7 °C) of its flashpoint, it shall be handled in accordance with the requirements for a Category 3 liquid with a flashpoint below 100 °F (37.8 °C)
- Category 4 shall include liquids having flashpoints above 140 °F (60 °C) and at or below 199.4 °F (93 °C). When a Category 4 flammable liquid is heated for use to within 30 °F (16.7 °C) of its flashpoint, it shall be handled in accordance with the requirements for a Category 3 liquid with a flashpoint at or above 100 °F (37.8 °C)
- When liquid with a flashpoint greater than 199.4 °F (93 °C) is heated for use to within 30 °F (16.7 °C) of its flashpoint, it shall be handled in accordance with the requirements for a Category 4 flammable liquid

Halogenated Materials - Chemical compound or mixture that contains halogen atoms, i.e. fluorine, chlorine, bromine, or iodine. Bonding to carbon the halogens form a class of compounds call covalent halides, i.e. they are not electrolytic in nature.

Hazardous Materials - Any material or substance which, if improperly handled, can be damaging to personal health and the environment. Hazards associated with a material may be determined by reviewing the Safety Data Sheets (SDS), the product label, or the shipping papers. Federal and State regulations determine if a material is hazardous through specific listings and definitions addressed in EPA regulation 40 CFR 261 and CDPHE regulation 6 CCR 1007-3, Part 261. The final tool in determining if a material is hazardous is personal knowledge; an individual may have created the materials or have specific information about the material's ingredients.

Ignitability - A chemical waste is ignitable if it has a flash point below 140 degrees Fahrenheit, if it is an ignitable compressed gas, or if it is a substance that readily yields oxygen to stimulate combustion

Mutagen - physical or chemical agent that changes the genetic material, usually DNA, of an organism and thus increases the frequency of mutations above the natural background level

Oxidizer - A substance that has the ability to oxidize, or cause another substance to lose electrons

P-Listed Waste - Discarded commercial chemical products, manufacturing chemical intermediates, and off-specification commercial chemical products that contain certain

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ingredients, and any soil or debris contaminated by spills of those products or intermediates  
The P-list can be found at 40 CFR section 261.33

Principle Investigator - Lead scientist for a particular research project. If the PI has staff and/or students working for them, then they are also responsible for the training and safety of their subordinates. The PI shall be proficient in all protocols associated with their lab and research, and the PI of a lab is responsible for their lab facilities

Radioactive - Giving off, or capable of giving off, radiant energy in the form of particles or rays, as alpha, beta, and gamma rays, by the spontaneous disintegration of atomic nuclei. said of certain elements

Teratogen - substances that may cause birth defects via a toxic effect on an embryo or fetus

Safety Data Sheet (SDS) - A detailed informational document prepared by the manufacturer or importer of a chemical. The intent of the SDS is to communicate chemical information to downstream transporters and users of the material. The SDS includes information such as physical properties, health and environmental hazards, protective measures, and precautions for handling, storage and transportation.

Sharps - Term for devices with sharp points or edges that can puncture or cut skin

Toxic waste - Poisonous materials that pose a threat to groundwater, which can have long term effects to human health and the environment. This is different from the first three characteristic groups, which the EPA views as containing immediate and firsthand dangers. There are 60 contaminants on the toxicity characteristics list. These contaminants are identified solely through a test method called Toxicity Characteristic Leaching Procedure or TCLP

Very Small Quantity Generator (CESQG) - A business or entity that generates no more than 220 lbs. (100 kg) of hazardous waste per month.

## 5. Authority and Responsibilities

In addition to the roles and responsibilities outlined in the UAA Training Program, the following apply to the Hazardous Materials Management Program.

### EHS/RM

- Develop and periodically review the Hazardous Materials Management Program
- Provide assistance to departments for hazard determinations, safe storage, inventory management, PPE selection, and waste disposal methods
- Develop content and provide hazardous materials management training upon request

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Supervisor/ Principle Investigators (PI)/ Research Lab Supervisors (RLS) / Department Lab Coordinators

- Conduct assessments to ensure hazardous materials are identified in their department
- Ensure the proper PPE is made available to personnel in their department for work with hazardous materials
- Ensure personnel are properly trained for the hazardous materials in their area
- Conduct periodic observations of hazardous material handling in their department to verify required procedures are followed
- Conduct periodic inventories of hazardous materials in their department to ensure accurate count and remove unnecessary or out of date materials
- Identify when new hazardous materials are introduced which may require additional training
- Ensure hazardous material releases are properly cleaned and reported

Chemical Hygiene Officer

- Assist departments who use hazardous chemicals to ensure they are used in a safe manner as well as in compliance with all applicable regulations
- Work with Principle Investigators, Supervisors, and other lab personnel to develop, review and approve chemical handling procedures involving hazardous materials and waste
- Provide guidance on personal protection equipment selection and use involving hazardous materials
- Profile and arrange disposal of all hazardous wastes leaving UAA campus unless other procedures have been established and approved by EHS/RM

Department Safety Coordinator

- Assist in department hazardous material assessment
- Conduct periodic inspections to identify hazardous materials in their department
- Notify supervisor when there is a deficiency identified in the program

Employees

- Assess all work to identify hazardous materials prior to each job
- Visually inspect PPE prior to every use for defects and damage
- Work in hoods or other approved well ventilated areas while handling hazardous materials
- Alert department supervisor when additional hazardous materials are identified

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### Outside Contractors

- Perform all work in compliance with their company's hazardous materials management program as approved by the EHS/RM department
- If the company does not have a program, they must comply with this program

## **6. Hazards**

Hazardous Materials hazards at UAA may include the following:

- Spills of unknown waste materials
- Fires or explosions from mismanagement of waste streams
- Aged inventory resulting in chemical reaction
- Personnel unaware of the hazards of chemicals in use
- Employee exposure to harmful chemicals
- Equipment damage from chemical exposure
- Misidentification and misuse of chemical causing chemical exposure, injury or fire
- Impact to the environment when hazardous materials are not disposed of properly

## **7. Engineering Controls**

Engineering controls are design plans or changes to the working environment to prevent or reduce personnel exposure to hazards. The following example of engineering controls should be considered to minimize hazardous material handling and PPE requirements:

- Design and installation of equipment to minimize chemical exposure
- Installation of adequate hood space to minimize exposure to personnel
- Installation of a continuous mechanical exhaust ventilation system inside all chemical storage rooms
- Accessibility of proper handling tools and equipment to be used in place of PPE
- Utilization of electronic chemical tracking software to assist in tracking hazardous material use

## **8. Administrative Controls**

Administrative controls are safe work practices and procedures designed to reduce the risks associated with workplace hazards. PPE will be implemented as an additional means for protection

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or only when engineering and administrative controls are not feasible. Examples of administrative controls include the following:

- Train personnel who handle hazardous materials work
- Routine inspections and inventory of work areas to identify hazardous materials
- Plan jobs, research and experiments involving hazardous materials and conduct pre-work briefings
- When possible, substitute hazardous materials with other safer alternatives

## 9. Procedures

The following procedures will be followed regarding hazardous material management work at UAA

### **Hazardous Material Acquisition**

Supervisors and Principle Investigators have the responsibility to ensure the following:

- All hazardous materials are ordered under the proper purchasing object code. Hazardous materials fall under the following object codes:
  - 4455 Hazardous Chemicals
  - 4111 Fuel
  - 4113 Lubricants
  - 4152 Custodial/Janitorial Supplies
- There is a legitimate need for ordering the hazardous material
- A less hazardous material cannot be substituted
- Order quantities will not result in a surplus of material when the job is completed
- Identify approximate constituents and quantities of hazardous waste generated from the material and work with EHS/RM to budget for its disposal
- Procure SDS and send to EHS/RM Chemical Hygiene Officer if one can not be found in the Online SDS Database
- If the material is not already in Online SDS Database, the SDS must be sent to the EHS/RM for review prior to purchasing
- Hazardous materials cannot be ordered and purchased using the UA ProCard (Mastercard) system without prior EHS/RM and Procard Administrator approval.

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Prior to purchasing hazardous materials personnel must reference the list of P and U-Listed chemical. The P-list can be found at 40 CFR section 261.33 and the U-list wastes can be found at 40 CFR section 261.33. All P and U-listed items found on either list must be reviewed by EHS/RMS prior to purchasing. Employees should be prepared to justify the need for the listed compounds and provide procedures to assure that the compounds can be safely and securely stored on site. In addition, procedures must be developed to safely use the compound. Evidence of end process detoxification or total consumption of the listed compound must be provided prior to purchasing listed compounds. A procedure template can be found in Appendix A.

### **Storage**

All hazardous materials must be stored in approved containers, cabinets, and storage areas. Containers, cabinets, and storage areas will have proper labeling. Materials must not be transferred to unapproved, unlabeled containers, except for actual use or limited lab work. Safe procedures will be used for transferring materials from bulk (spill protection, ventilation, grounding, etc.). The department head should verify proper storage is available prior to ordering a hazardous material.

UAA has the responsibility for complying with the reporting requirements of the Superfund Amendment and Reauthorization Act (SARA Title III). EHS/RM will coordinate and assist with these reporting requirements and may request information from departments when completing the required reports.

Departments should keep accurate inventories of hazardous materials to assist UAA EHS/RM for the completion of the annual Community Right To Know program that is submitted to the local fire department and the State of Alaska. Upon request, departments should be able to supply the location and quantities of all stored hazardous materials. The Chemical Hygiene Officer in EHS/RM serves as the archiving agent at UAA.

### **Chemical Emergencies**

UAA will rely on local available state, municipal, or private emergency services to safely contain and clean-up hazardous material spills or leaks which progress beyond the ability of department staff to safely control. Departments must contact EHS/RM to ensure the proper clean-up method, and or to contact a Hazardous Materials Clean up contractor to manage the spill. All spills regardless of size must be reported to the EHS/RM Chemical Hygiene Officer.

### **Hazardous Waste Disposal**

UAA is classified as a Very Small Quantity Generator Waste (VSQG), which allows UAA to operate with fewer regulatory restrictions, and greatly reduces waste costs. With proper management, the Anchorage campus can retain this classification and ability to economically

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dispose of wastes at Municipality of Anchorage Solid Waste Services, Anchorage Regional Landfill Household Hazardous Waste facility.

The University is required to comply with federal standards promulgated under the Resource Conservation and Recovery Act (RCRA) and other regulations. These regulations require documentation of the transfer of hazardous waste from the point of generation to final disposal. To reduce the risks and costs associated with hazardous material management and disposal, it is the policy of this university to reduce the amount of hazardous waste generated by employing waste minimization principles. EHS/RM personnel play a critical role in coordinating the following activities:

- Strict procurement and inventory control
- Interdepartmental exchanges of surplus materials
- Department level disposal by approved methods for certain hazardous materials, including evaporation, neutralization, etc. as these procedures are incorporated into experimental designs.

Recognizing that even with maximum waste minimization in effect, there will always be some hazardous waste in need of management and formal, external disposal. It will be the responsibility of supervisors and principal investigators with the assistance of EHS/RM if requested for the following:

- Budget for the generation of hazardous waste in their areas
- Identify the hazardous waste generated
- Prepare hazardous waste for shipment
- Notify EHS/RM that waste is ready for pick-up

**NOTE:** EHS/RM must be notified of all hazardous material disposal including biological, radioactive and other hazardous materials, regardless of the department organizing disposal. This will allow EHS/RM to manage and track hazardous waste disposal amounts for hazardous waste generator status, and reporting.

### **Disposal Guidelines**

Wastes generated at UAA must be disposed of properly using procedures outlined in the UAA Waste Management Program. Personnel are prohibited from circumventing these procedures by removing the waste from site and disposing material as household generated hazardous waste generated by an individual or household, or improperly disposing of chemicals in the general trash, or down a drain to the sanitary sewer. Contact EHS/RM with any waste related questions or guidance.



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### **Use of Chemical Carcinogens, Teratogens, and Mutagens**

Control practices must be used for the prevention of occupationally acquired cancer and for the protection of the general environment. These practices are to be used in all activities involving known or suspected carcinogens, teratogens, and mutagens.

Some of these compounds are fairly common materials used in many laboratories, such as chloroform, carbon tetrachloride, benzene, dioxane, hydrazine, thiourea, and o-toluidine. There are over 2000 other chemicals for which there is allegedly some degree of evidence for carcinogenicity. Many of these also warrant careful planning and control procedures. EHS/RM should be consulted when questions arise about the carcinogenic potential of certain chemicals handled in laboratories.

Principal Investigators are responsible for assuring that laboratory personnel are trained in safe practices, for reporting exposures or potential exposures to chemical carcinogens, and for the submission of a safety plan for the research under their direction to EHS/RM. The safe handling procedures should describe the procedures that will be used to insure the safe handling of chemical carcinogens, an assessment of the potential risks, the need for medical surveillance, procedures for handling spills, and waste disposal methods.

Exposures of personnel to chemical carcinogens, such as a concentrated contaminated aerosol through research procedures, spills, or inoculation with a contaminated needle, are to be immediately reported to EHS/RM (786-1120) and then reported using the online incident reporting tool.

### **Use of Biohazardous Agents**

Biohazardous agents are infectious microorganisms, or their toxins, which cause or may cause human disease. Control practices for the prevention of laboratory acquired infections and for the protection of the general environment will be included in all research programs involving biohazardous agents.

Principal Investigators are responsible for assuring that laboratory personnel are trained in safe practices; biohazardous exposures and potential exposures are reported, and a safety plan for research under their direction is submitted to EHS/RM. The safety plan is to describe the procedures that will be used to insure the safe handling of biohazardous agents, an assessment of the potential risks, the need for medical surveillance, procedures for handling accidental spills and waste disposal methods.

Prior to initiation of work, the Principal Investigator is to notify EHS/RM of the agents used and the location of the laboratory. There are no facilities on campus appropriate for working with Biological Safety Level 3 or 4 viruses, so work involving these agents is prohibited.

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Exposures of personnel to biohazardous agents, such as exposure to a concentrated contaminated aerosol from research procedures, spills, or inoculation with a contaminated needle, should be reported to EHS/RM immediately and then reported using the online incident reporting tool.

### **Flammable and Combustible Material Storage and Use**

Special storage guidelines apply to substances which have the following flammable and combustible characteristics. However, the tables below can sometimes be misleading as the recent adoption of the International Fire Codes allows doubling and tripling of amounts when certain conditions exist (sprinkling, cabinetry, zoning).

	Flammable			Combustible	
Classes	IA	IB	IC	II	III
Flash Point	<73F	<73F	73F – 100F	100F-140F	>140F
Boiling Point	<100F	>100F	N/A	N/A	N/A

The potential fire hazard depends on the flash point and the quantity of liquid being used. The following table gives the maximum size container allowed for each class of liquid per 40CFR 1910.106.

	Class				
Container Type	IA	IB	IC	II	III
Glass or Plastic	1 gal.	1 gal.	1 gal.	1 gal.	1 gal.
Metal	1 gal.	5 gal.	5 gal.	5 gal.	5 gal.
Safety Cans	2 gal.	5 gal.	5 gal.	5 gal.	5 gal.
Lab Chemical Containers	1 gal	1 gal	1 gal	1 gal	1 gal

The potential fire hazard also depends on the total quantity of flammable and combustible liquids present within a fire zone and the type of containers in which the liquids are stored. The maximum quantity allowed per unit is as follows:

Shelf or open storage:

- Glass, plastic, or cans 10 gal.
- Safety cans 25 gal.

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Approved storage cabinets (maximum of two per fire zone)

- Class I & II 60 gal.
- Class III 120 gal.

Inside Storage Room (meeting NFPA Code recommendations)

- With sprinkler 4 - 10 gal/sqft
- Without sprinkler 2 - 4 gal/sqft

It should be emphasized that quantity of flammables on hand must be kept to a minimum and that only in unusual circumstances (and with the approval of EHS/RM) will the larger quantities be acceptable. The following guidelines should be followed:

- If a one-gallon quantity of one specific liquid represents more than a 90-day supply of a Class IA or IB flammable, one-pint (IA) or one-quart (IB) shall be used.
- Multiple cans and/or bottles of any one specific flammable will not be permitted in a laboratory in open storage or storage cabinet if it represents more than a 90-day supply of that flammable.
- Quantities stored in inside storage rooms shall not exceed a 180-day supply for that building.

Gasoline must be stored and transported on campus in safety cans. The use of safety cans in laboratories is encouraged where practicable.

Class I liquids shall not be transferred between metal containers unless the containers are electrically interconnected by direct bonding or by indirect bonding through a common ground. The maximum impedance of the bond shall not exceed 6 ohms.

Storage cabinets constructed to NFPA and/or UL standards should be used when required by quantity limits. A central storage room is preferable to storage cabinets in each laboratory. This central storage alternative should be considered especially by departments which have centralized supply rooms. Storage cabinets should conform to the following:

- Each cabinet should be conspicuously labeled “Flammable Keep Fire Away”
- Not more than 120 gallons of flammable or combustible liquid may be stored in a single cabinet. Not more than 60 of the 120 gallons may be Class I and II liquids.
- Storage cabinets are not permitted in hallways
- Only flammable and combustible liquids should be stored in the cabinet. Acids, caustics, and other non-flammable hazardous materials should not be stored in the cabinet

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- Do not store incompatible chemicals together to prevent a reaction and potential explosion
- Do not store paper-based packaging materials like cardboard inside a cabinet
- Vents on cabinets are not required, but they are often provided. If vents are provided and not used, the vent openings must be sealed with the bungs supplied with the cabinet or with bungs supplied by the manufacturer of the cabinet. If the cabinet is vented, flame arrestors should be provided on the openings. Also, the vents should be extended to a safe location, generally outside the building
- Preferably, doors should be kept closed and latched. Automatic closing doors should be checked for complete closing upon release of the fusible link
- All flammables must be stored in sealed containers

Where approved storage cabinets or rooms are not provided, inside storage will comply with the following basic conditions:

- The storage of any flammable or combustible liquid shall not physically obstruct a means of egress from the building or area
- Containers of flammable or combustible liquids will remain tightly sealed except when transferred, poured or applied. Remove only that portion of liquid in the storage container required to accomplish a particular job
- If a flammable and combustible liquid storage building is used, it will be a one-story building devoted principally to the handling and storing of flammable or combustible liquids. The building will have 2-hour fire-rated exterior walls having no opening within 10 feet of such storage.
- Flammable paints, oils, and varnishes in 1 or 5 gallon containers, used for building maintenance purposes, may be stored temporarily in closed containers outside approved storage cabinets or room if kept at the job site for less than 10 calendar days.

Inside chemical storage rooms will be equipped with a continuous mechanical exhaust ventilation system. To prevent the accumulation of vapors, the location of both the makeup and exhaust air openings will be arranged to provide, as far as practical, air movement directly to the exterior of the building and if ducts are used, they will not be used for any other purpose.

All flammable storage areas are to be designated and properly signed to reflect their nature.

Flammable and combustible liquids require careful handling at all times. The proper storage of flammable liquids within a work area is very important in order to protect personnel from fire and other safety and health hazards.

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- Storage of flammable liquids shall be in NFPA approved flammable storage lockers or in low value structures at least 50 feet from any other structure. Do not store other combustible materials near flammable storage areas or lockers
- Bulk drums of flammable liquids must be grounded and bonded to containers during dispensing
- Portable containers of gasoline or diesel are not to exceed 5 gallons
- Safety cans used for dispensing flammable or combustible liquids shall be kept at a point of use
- Appropriate fire extinguishers are to be mounted within 75 feet of outside areas containing flammable liquids, and within 10 feet of any inside storage area for such materials
- Storage rooms for flammable and combustible liquids must have explosion-proof light fixtures
- Bulk storage of gasoline or diesel are kept in above ground tanks. Tank areas are diked to contain accidental spills. Tanks shall be labeled with the tank specifications to which it was manufactured. All tank areas shall be designated no smoking - no hot work - no open flame areas
- No flames. Hot-work or smoking is not permitted in flammable or combustible liquid storage areas
- The maximum amount of flammable liquids that may be stored in a building are 20 gallons of Class IA liquids in containers 100 gallons of Class IB, IC, II, or III liquids in containers 500 gallons of Class IB, IC, II, or III liquids in a single portable tank
- Flammable liquid transfer areas are to be separated from other operations by distance or by construction having proper fire resistance
- When not in use, flammable liquids shall be kept in covered containers
- Class I liquids may be used only where there are no open flames or other sources of ignition within the possible path of vapor travel. Flammable or combustible liquids shall be drawn from or transferred into vessels, containers, or portable tanks within a building only through a closed piping system, from safety cans, by means of a device drawing through the top, or from a container or portable tanks by gravity through an approved self-closing valve. Transferring by means of air pressure on the container or portable tanks shall be prohibited
- Maintenance and operating practices shall be in accordance with established

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procedures which will tend to control leakage and prevent the accidental escape of flammable or combustible liquids. Spills shall be cleaned up promptly

- Combustible waste material and residues in a building or unit operating area shall be kept to a minimum, stored in covered metal receptacles and disposed of daily
- Rooms in which flammable or combustible liquids are stored or handled by pumps shall have exit facilities arranged to prevent occupants from being trapped in the event of fire
- Inside areas in which Class I liquids are stored or handled shall be heated only by means not constituting a source of ignition, such as steam, hot water or forced central systems located away from the area

### **Compressed Gases**

This program applies to all compressed gasses. All compressed gas cylinders must be handled and stored in compliance with the UAA Compressed Gas Cylinder program.

## **10. Inspections**

Inspections of Hazardous Materials Management program should occur:

- Periodically EHS/RM department, supervisors and safety coordinators will observe personnel performing work with hazardous materials during the course of their job. Personnel will be coached on the proper procedures and practices if necessary and it should be determined if the procedures followed and PPE selected is adequate for the area or task.
- Prior to every use, workers will visually inspect their workplace, equipment, and PPE, ensure proper working condition. All PPE must be intact, hoods operational and adequate to protect from expected chemical exposure hazards.

## **11. Training**

UAA will provide training to all personnel who in the course of their job assignment will work with hazardous materials. Training will familiarize personnel with the safety related work practices and procedures to provide protection from hazardous material exposure associated with their job duties.

Prior to new procedures associated with new research, Supervisors and Principals Investigators are responsible to ensure personnel working on the research have the appropriate procedures, PPE and workplace available and are trained in the proper use.

Training must be performed before personnel are assigned tasks requiring hazardous materials.

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### **Retraining**

When the employer has reason to believe that personnel that have already been trained does not have the understanding and skill required to properly adhere to this program they shall be retrained. Retraining should take place in the following conditions:

- Changes in hazardous materials used that render previous training obsolete
- Changes in the procedures or PPE, to be used
- Inadequacies in affected personnel's knowledge of hazardous materials indicate that personnel have not retained the requisite understanding or skill.

### **12. Program Evaluation**

The Hazardous Materials Management program shall be evaluated on an annual basis utilizing the protocols set forth by EHS/RM. The evaluation team will consist of a department safety coordinator and a designee from EHS/RM. EHS/RM will define the scope of the evaluation. The final report will be developed by the EHS/RM utilizing the information received during the evaluation. The deficiencies determined in the report will be documented and corrective action plans will be developed.

### **13. References**

- OSHA and NFPA regulations that apply to hazardous materials are included below.
- EPA
- 40 CFR Part 112, 261, 262, and 265 EPA Hazardous Waste
- OSHA
- 49 CFR 1910.120
- 49 CFR 1910 Subpart H

### **14. Revision History**

<b>Revision Number</b>	<b>Date Revised</b>	<b>Description of Change</b>	<b>Revised By</b>	<b>Approved By</b>
0	12/14/2018	Initial Issue		
1	06/09/21	Formatting and wording	N VanG	
2				
3				

## Appendix A UAA Hazardous Materials Management Procedure Template

Material to be Used:	
Scope of Work to be Performed:	

List all chemicals and reagents used in this SOP. Add more rows as needed.

Chemical/ Reagent name	CAS# (if none, enter 'see SDS')	GHS Non-hazardous? Y or N

### Safety Considerations:

List all potential hazards and precautions to take to mitigate them here. Add more rows as needed

Hazard	Precautions

### Tools and Equipment:

The following tools and equipment are needed to handle this material. Add more rows as needed

Tools/Equipment	Use (if explanation is needed)

Incident History: List any incidents here that have occurred while handling this material. Add more rows as needed

1	
2	
3	



Storage Requirements: Include special instructions for storage area, container type, labeling, storage quantities, etc. Add more rows as needed:

1	
2	
3	

Handling Procedures: Step by step actions to be taken while handling this material. Add more rows as needed.

Steps	Action
1	
2	
3	
4	

Waste Disposal Procedures:

List steps to be taken for proper decontamination and disposal if all material will not be consumed during the process. Add and adjust steps as necessary.

Steps	Actions
1	Decontaminate disposable items (e.g. pipet tips, plates) and empty chemical containers by triple rinsing with a liquid that will dissolve the material.
2	If water is the solvent, the first rinsing only must go into an appropriate waste container, the remaining rinses contain de minimus quantities of hazardous material and may go in the sink with the water running.
3	If a non-aqueous solvent is used, all rinses must go into an appropriate waste container and the rinsed container placed in a fume hood to allow remaining vapors to be drawn up the hood. Decontaminated items can go in non-hazardous trash.
4	Identify amounts of waste anticipated and appropriate disposal procedures. Segregate waste by hazard class (flammable, corrosive, etc.), state (liquid, solid) and, for organic solvents halogenated and non-halogenated. Store waste appropriately for the hazard class. Contact the CHO or CAS Stockroom Manager if you need assistance.
5	Affix hazardous waste label on all waste containers as soon as the first drop of waste is added to the container.
6	Store hazardous waste in closed containers, in secondary containment, and in your laboratory's designated location. Waste containers <b>MUST</b> be closed at all times, except when waste is being added to the container. Waste containers are considered <b>FULL</b> when they contain approximately 75% of the maximum volume. <b><u>DO NOT OVERFILL</u></b> – this is an exposure hazard for all persons handling and disposing of the waste.
7	Call EHS or Lab Support (CAS only) to have full waste containers picked up for disposal by EHS

**Documentation of Training and Proficiency**

Add additional lines as necessary.

**I have read and understand the content of this SOP.**

Name - Print	Signature	Date	PI's Initials

Approvals:

Written by:	Date:
Approved by:	Date: