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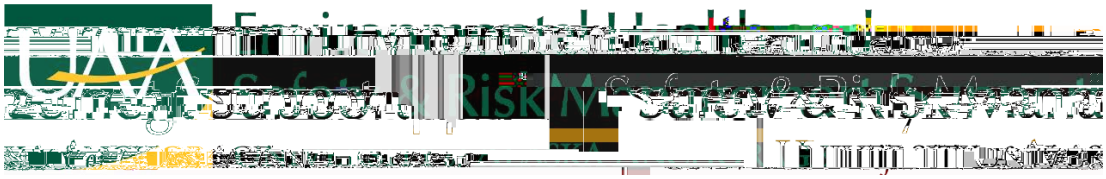

2022

Chemical Hygiene Plan

PREPARED BY THE CHEMICAL SAFETY COMMITTEE

REVISED DECEMBER 2022

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2 PURPOSE

The Chemical Hygiene Plan (CHP) for the University of Alaska Anchorage (UAA) provides written policies for the establishment of a Safety-First Approach (SFA) and is designed to meet the requirements outlined in the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), 29 CFR Parts 1910.1450 - Occupational Exposure to Hazardous Chemicals in Laboratories, and other applicable regulations. In addition, this plan shall comply with any requirements outlined in Occupational Exposures to Hazardous Chemicals in Laboratories as adopted by the State of Alaska. These regulations are commonly known as the Laboratory Standard.

The SFA will encourage and support the use of Prudent Practices in the Laboratory (2011 updated edition) in all laboratory facilities and classrooms where hands-

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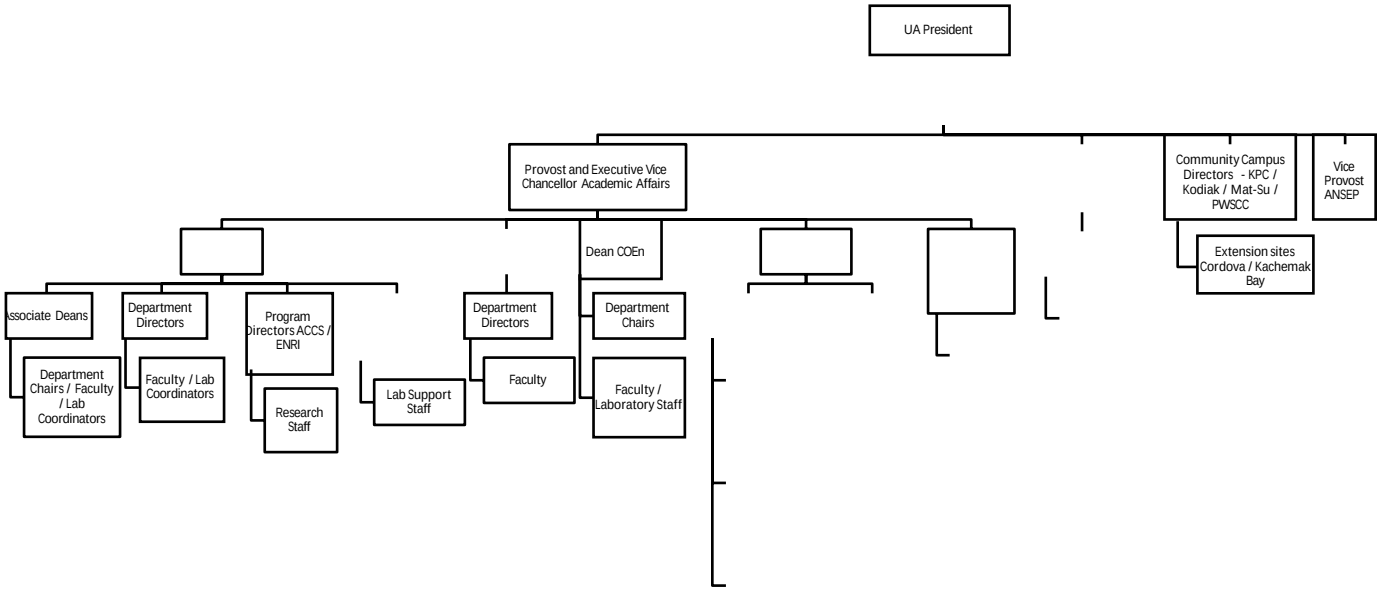
4 SCOPE

For this document, the following users are identified:

4.1 Employee

An employee is any person receiving a paycheck directly from UA.

The CHP covers all employees who us


UA President
Provost and Executive Vice Chancellor Academic Affairs
Community Campus Directors - KPC / Kodiak / Mat-Su / PWSCC
Vice Provost ANSEP
Dean COEn
Extension sites Cordova / Kachemak Bay
Associate Deans
Department Directors
Program Directors ACCS / ENRI
Department Directors
Department Chairs
Department Chairs / Faculty / Lab Coordinators
Faculty / Lab Coordinators
Research Staff
Lab Support Staff
Faculty
Faculty / Laboratory Staff

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necessary for facilities personnel, vendors, and / or contractors who, upon entering any lab, might be exposed to a hazardous chemical or an on-going hazardous procedure.

All general safety training for each employee shall be documented and records shall be kept in a readily retrievable form for the length of employment plus 3 years.

6.1 OSHA-Mandated Training

The training of an employee shall take place:

- x immediately upon hire,
- x annually,
- x prior to the teaching of any laboratory class,
- x prior to starting a research project,
- x upon occurrence of a reportable incident,
- x upon regulation changes, and
- x upon direction from EHSRMS-EM.

Training must occur for any current employee:

- x initiating a new laboratory procedure or

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Chemical

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- Subpart H – Hazardous Materials, including compressed gases, acetylene, hydrogen, and oxygen, flammable liquids, and anhydrous ammonia
- Subpart O – Machinery and Machine Guarding
- Subpart P – Hand and Portable Powered Tools and Other Hand-Held Equipment
- Subpart Q – Welding, Cutting, and Brazing

Retention of training records may or may not be specified in a particular subpart. If no retention time is mentioned, best practice is to keep the 3 most current records.

8 STANDARD OPERATING PROCEDURES (SOPs) [29 CFR 1910.1450(e)(3)(i)]

All faculty, staff, students, and non-employee / non-students must adopt an SFA by following the general laboratory SOP outlined below to minimize their overall health and safety risks, and to decrease the probability of incidents.

8.1 General Laboratory SOPs

This section applies to all laboratory spaces as defined by the CSAP. Some items

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q) Facilities personnel, vendors, and contractors should be informed of any lab-specific hazards prior to their working on or repairing any building facilities (electrical, plumbing, etc.) or specialized equipment (refrigerators, freezers, etc.). Any identified hazard should be minimized to provide a safe working environment.

r) Contact the University Police Department (UPD) at 907-786-1120 to remove individuals who pose a danger to themselves or others by being under the influence of any drug, inhibiting medication, or

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b) JHAs are typically generated for equipment and processes.

c) SOPs are generally accepted practices for the use of chemicals in particular situations and can be based on any of the following:

- Processes (e.g., distillation, synthesis, chromatography, instrumental)
- Individual chemicals (e.g., benzene, nitric acid, potassium cyanide)
- x2688(c)]TJ 4.1 pa014ff90 Tw0 (TdJ [(0)F0.7(e)]TJT 0(T)TjTj Tw0.1024 Tj T0.05 5.58(3)(e)4.9(7)(.)7.8J0 Tj TE3V20)sTc1 [(0)e0.06

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Report all exposures of carcinogenic or acutely toxic materials immediately through Origami.

8.6.5 Restricted Chemicals

Chemicals that fall under the restricted category are all P-listed chemicals, controlled substances, and other chemicals that require very specialized safety / hazard assessments to ensure safety to employees and students when used.

a) DEA-Controlled Substances

DEA-controlled substances shall be stored in a limited-access controlled area with a sign indicating 'controlled substance' storage. Additionally, these substances shall be inside a locked lockbox, inside a locked cabinet. The keys to the cabinet and lockbox shall be kept in a location separate from the cabinet and lockbox and both shall remain locked unless in immediate use.

Current UAA policy is outlined in the Administrative i

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manager. Exceptions to the 2-year rule can be granted by the CHO. A note will be placed in the CIMS reflecting the exception.

8.6.9 ChemicaHazardAssessment

Laboratory personnel and students must have a clear understanding of the physical, chemical, and toxicological properties of any chemical they will use or come in contact with. All employees and students must review the SDS for each new chemical they will be using or come in contact with **PRIOR** to actually beginning any work.

Theauthority or their designee is responsible for completing Chemical Hazard Assessments (CHA) for their research laboratory. Each lab coordinator or the authority or their designee in charge of a teaching lab is responsible for completing CHAs for their teaching lab. A CHA must be completed for each chemical with any GHS Health Hazard Category 1, 2, or 3, as identified in section 2 of the SDS for the chemical and must be submitted to the CHO for review.

A template for CHAs is located on the EHSRMS-EM Intranet Hazardous Chemical Exposure Information page.

8.6.10 BiologicalAgentUse

8.6.10.1BiologicalAgents

All research laboratories that use biological agents, biological toxins, or recombinant materials must be registered with EHSRMS-EM in order to comply with federal guidelines and regulations. Theauthority is responsible for ensuring that their lab is registered with the UAA Biosafety Committee and EHSRSM-EM, and that the lab is in compliance with all federal guidelines and regulations. The authority is responsible for determining if the recombinant DNA molecules used in their research are exempt from NIH guidelines and if registration with the UAA Biosafety Committee and EHSRMS-EM is not required.

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- Reactive or instability
- Toxic or poisonous
- Carcinogenic, mutagenic, or a

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11 EMERGENCY SITUATIONS AND EVACUATIONS

Emergency situations can occur from natural disasters such as earthq asiBePTh( )10.5(s)-1.3(u)2.3(c)-1.9(h)2.2(as)-1.3(e)-3(ar

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12 REFERENCES

a) Occupational Exposure to Hazardous Chemicals in Laboratories, Department of Labor, Occupational Safety and Health Administration, 29 CFR Part 1910.1450, Federal Register

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13 LIST OF

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14 DEFINITIONS

Acutely Hazardous/ Acutely Toxic

Fatal to humans or animals at low doses (40 CFR 261.11(a)(2)). See P-listed and U-listed wastes.

Authority, The authority:

F aut rityyyyyya2 reWte1 Tc -0.E2-4. (y) d5 Tc -o4[(a2c)6 0 Tw 4.0.005453 60 Td(-)-301 , Td-6.j/TT2 14EF y7c 0.012 Tw

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Acute hazardous waste from discarded commercial chemical products, manufacturing chemical intermediates, and off-specification commercial chemical products that contain certain 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.

Principal Investigator (PI):

The principal investigator is the lead researcher and, therefore, the authority for a particular research project. If the PI has staff and/ or students working for him or her, then he or she is also responsible for the training and safety of his or her subordinates. The PI shall be in p(of)[(3)]TJ 1.3(30.00-43(l0.02.3(0.84 Tw reTJg)f)10ar

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protective are: 1. Elimination – physically remove the hazard, 2. Substitution – replace the hazard with something safer, 3. Engineering Controls – isolate people from the hazard, 4. Administrative Controls – change the way people work, and 5. Personal Protective Equipment – require people wear equipment protective against the hazard.

Risk Assessment:

A risk assessment is performed by the authority or their designee with assistance from EHSRMS-EM when requested. A risk assessment involves the identification and evaluation of estimated levels of risk involved in the use of a protocol that may involve environmental, chemical, biological, physical, or radioactive hazards. An estimation of severity of consequences and likelihood of occurrence occurs with the aid of a risk assessment (see Appendix A).

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.

Safety First Approach (SFA):

The attitude of avoiding unnecessary risks and acting to prevent harm to oneself, other persons, property, and the environment. The action of performing a hazard analysis of the procedure, evaluating the potential risks and how they are to be mitigated, and maintaining situational awareness while engaging in laboratory activities. Safety training is needed to become cognizant of the potential hazards inherent in laboratories.

Shall/ Must/ Will:

Indicates a mandatory requirement; something that must be done.

Should/ May/ Could/ Can:

Indicates a recommendation that

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Student Worker/ Employee:

For the purpose of this document, a student worker is a UAA student employed in the "Student Worker" category with lab-specific duties. Teaching laboratories employ two types of student workers that work inside the lab - students who set up lab equipment oq thc 0.001 Tw 0.20 Tw 3 I n[2c 0.00 r33(u)2.3(d)13.1(e).304 2 2

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15.4 The Buddy System

The Buddy System is designed to ensure the safety of individuals working alone in labs/shops/studios, especially when hazardous chemicals or situations are present that may pose a threat to human health or physical safety.

A Safety Contact is someone who meets the following requirements:

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15.5 The Buddy System Hazard Matrix

Buddy System Requirements Based on Hazard

NOTE: Follow the requirements of the highest hazard category of all the elements included in your activity.

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