UNIVERSITY OF SOUTH ALABAMA CHEMICAL HYGIENE PLAN

POLICY STATEMENT OF THE UNIVERSITY OF SOUTH ALABAMA

The University of South Alabama is committed to providing a safe work environment and believes its employees have the right to know about any health and safety hazards associated with their workplace. This Chemical Hygiene Plan includes policies, procedures and responsibilities designed to develop an awareness of any potentially hazardous situations in the workplace and to train USA employees in appropriate, safe working practices.

It is important that all supervisors and employees assume equal responsibility for workplace safety. All employees must have access to pertinent safety information through their supervisory staff. The people working in any given area are best able to detect potential hazards either in the facility or in work procedures. When safety concerns arise, employees are responsible for contacting their supervisor.

INTRODUCTION

The purpose of the University of South Alabama Chemical Hygiene Plan is to define work practices and procedures that should help ensure that workers at the University of South Alabama are protected from health and safety hazards associated with the hazardous chemicals they work with.

A hazardous chemical is defined, as "a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees." In addition, a laboratory is defined as "a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis." Finally, a worker is defined as "any individual employed in an area that may be exposed to hazardous chemicals in the course of his/her assignments."

THE USA CHEMICAL HYGIENE PLAN AND THE LABORATORY STANDARD

Employees and supervisors each have responsibilities to conform to this standard.

SUPERVISORS AND MANAGERS have the following duties:

1. Implementation and enforcement of all safety and environmental regulations for their specific work areas.
2. Enforce the use and have available the appropriate personal protective equipment. All University employees (supervisors, managers, lab personnel, etc.) are responsible for knowing the hazards associated with workplace chemicals and ensuring they are properly used, stored and disposed of.
3. Provide chemical safety information and training for faculty, staff, and students. Training must be accomplished prior to beginning a job and whenever any new chemicals are introduced into the work place. Documentation of employee training is vital to help mitigate liability and training records must be kept for a minimum of 3 years.

Information available for any employee must include:

- The Lab Standard "Occupational Exposures to Hazardous Chemicals in Laboratories" [29 CFR 1910.1450].
- USA's Chemical Hygiene Plan
- Safety Data Sheets (SDS) and other reference materials. These references must include Permissible Exposure Limits (PELs) or Threshold Limit Values (TLVs) and signs and symptoms associated with chemical exposure.

EMPLOYEES must receive training in:

- Physical and health hazards associated with any chemicals that they may be exposed to.
- The work practices, emergency procedures and personal protective equipment to be used for protection against exposure.

Employees or supervisors can request training assistance from the Safety and Environmental Compliance Department (SEC). Department personnel can help answer health and safety questions, deal with chemical, biological hood and ventilation problems, asbestos, waste storage and disposal (chemical and biological), etc., by contacting the department's Training Coordinator at 460-7070

All individuals including contract employees, working in areas in which they may be exposed to hazardous chemicals, must be apprised of the hazards present in their work area. This information and training must be provided prior to starting work. Equipment necessary for the safe handling of hazardous substances must also be available. Upon request, the SEC will give training concerning general and laboratory safety practices. However, hazard specific training for any individual lab is the responsibility of the supervisor. The supervisor shall conduct refresher training at least once a year or if duties/hazards change.

CHEMICAL HYGIENE PLAN

All areas using hazardous chemicals must develop and implement a site-specific Chemical Hygiene Plan based on hazards exclusive to their workplace. This requirement is based on the Federal "Occupational Exposure to Hazardous Chemicals in Laboratories" Standard.

At minimum, a site-specific chemical hygiene plan must include the following eight subjects:

- Standard operating procedures.
- Criteria to determine and implement specific control measures such as engineering controls and personal protective equipment.
- A requirement that ventilation hoods and other engineering controls are functioning properly.
- Information and training requirements.
- A description of circumstances under which laboratory operations would require prior approval before starting work for the University.
- Provisions for medical review.
- Designation of a Chemical Hygiene Officer/Safety Representative.
- Provisions for additional protection for work with select carcinogens, reproductive toxins and substances with a high degree of active toxicity.

The SEC Department has created a general Chemical Hygiene Plan for the University and copies of this plan and the Lab Standard are available on the department's web site. This plan may be adopted unchanged by a laboratory; however, it may be required to add components to the plan that are site specific to an individual laboratory.

STANDARD OPERATING PROCEDURES

"Standard operating procedures relevant to safety and health considerations are to be followed when laboratory work involves the use of hazardous chemicals."

This plan represents the **MINIMUM** guidelines for the handling of hazardous chemicals on all USA campuses. Individual laboratories or research groups are required to develop procedures that are more detailed as their specific situation warrants. In all situations, individual faculty or staff will be responsible for enforcing safety measures in the laboratories they supervise. Additional assistance from the SEC Department is available.
Because few chemicals are without some kind of hazard, general precautions for handling any chemical should be adopted to include minimizing exposure and assuming that any mixture of hazardous chemicals is more toxic than its most toxic component.

Unattended experiments/Working alone

- Leaving any experiment or hazardous system unattended is not an acceptable practice.
- When working with hazardous materials, it is advisable to have a second person present or at minimum, maintain surveillance via telephone contact.
- Primary Investigators must be aware of when an individual comes in to work, especially after hours and when they leave.

Food, drink and cosmetics:

- NO eating, drinking or smoking in chemical storage or usage areas. Do not use refrigerators, glassware or utensils found in these areas for food or drinks.
- Refrigerators should be posted with a sign stating "NO FOOD OR DRINK"
- Wash hands thoroughly and remove lab coat and gloves before leaving the laboratory.
- If a lab coat becomes contaminated remove it immediately. It is best to have a lab coat cleaned by a professional company. DO NOT wash a lab coat with household laundry.

Housekeeping

- Keep the work area clean (**daily clean up**) and keep as uncluttered as possible. Chemicals and equipment must be labeled, stored and functioning properly. Clean up your work place upon completion of an operation and at the end of the day
- Place appropriate warning signs on the door. Provide names and telephone numbers of persons to be contacted in case of emergency.
- Provide for containment of hazardous substances in the event of utility service failure during unattended operation.
- Have the appropriate spill kits on hand.
- Be aware of unsafe conditions and make corrections when problems are detected. Do not assume that someone else will take care of the problem.

Equipment

- Apparatuses that can discharge toxic chemicals (vacuum pumps, distillation columns, etc.) should be vented into exhaust devices to avoid inhalation of chemicals.
- Inspect gloves, personal protective equipment and lab equipment before beginning any work.
- Do not allow release of toxic substances in cold/warm rooms since these rooms have atmospheres that are re-circulated.
- Make sure that the ventilation system is appropriate for the chemicals being used.
- Handle and store laboratory glassware with care. Never use damaged glassware. Use extra care with Dewar flasks and other evacuated glass apparatus. Shield or wrap them to contain chemicals and fragments should implosion occur. Use equipment only for its designated purpose.

- Use a properly functioning chemical fume hood for operations that might result in a release of hazardous fumes, vapors or dust. Confirm adequate hood performance before use. The hood face must be kept down at all times except when adjustments to equipment within the hood are being made. [**Maximum 18" high**].
- Do not store equipment in a fume hood. Do not allow equipment to block vents or airflow.
- Leave fume hood running when it is not in active use if hazardous chemicals must be left inside.

Personal Protection/Hygiene

Personal protection and personal hygiene are two very basic aspects of laboratory safety. Wearing appropriate personal protection and practicing good personal hygiene will minimize exposures to hazardous chemicals during routine use and in case of an accident. Types of PPE can be located on the SEC Departments web site.

- Confine long hair and loose clothing. Wear clothing appropriate to the situation. Do not wear shorts and tank tops. No bare chests. Wear closed-toe, impervious shoes at all times in the laboratory. Do not wear sandals or shoes made of canvas.
- Wear appropriate eye and face protection for the work being done. Eye protection should be provided for all workers and visitors in areas where chemicals are stored and handled.
- If a worker or student wears contact lenses, the laboratory supervisor must be informed so proper actions can be taken in case of accident.
- Wear the proper gloves for the work being done. Inspect the gloves before and during work for possible damage. Replace them periodically during work.
- Use respiratory protection that is appropriate for the work being done. Inspect and fit test the respirator before each use. Clean and store properly after use. Annual fit testing must be preformed by the SEC department.
- Use any other protective and emergency apparel/equipment as appropriate.
- Seek information and advice about any hazards connected with any new operation. Plan appropriate protective procedures and location of emergency equipment before starting a project.
- Workers must know where the closest eye wash and safety shower is located prior to beginning work.

Mouth pipetting, Needles & Sharps

- Mouth pipetting is strictly forbidden in all USA laboratories.
- The use of needles and sharps should be limited to only necessary applications.
- Re-sheathing of needles is normally forbidden. When re-sheathing is required, special, hand-protection devices must be used.
- To prevent needle stick injuries, the following procedures must be followed:
    a. Needles should **NOT** be re-capped, purposely bent, sheared, cut or broken by hand.
    b. After use, all sharps, needles, razors, etc., must be place in an approved plastic sharps container located as close to the work area as practical.
    c. A sharps container (no more than ¾ full) should be sealed and treated as bio-hazardous waste.

Accidents and Spills

- *Eye Contact:* Promptly flush eyes with tepid water for a minimum of 15 minutes, lifting up the eyelid occasionally. Seek prompt medical attention and notify your supervisor.
- *Skin Contact*: Promptly flush contaminated skin with tepid water for a minimum of 15 minutes and remove all contaminated clothing. Use a safety shower [minimum 15 minutes] if contamination is extensive. If symptoms occur after decontamination, seek prompt medical attention.
- *Clean up:* As soon as safe and practical, begin cleaning up a spill using the proper protective apparel and equipment. Keep absorbents on hand (sodium bicarbonates, sand, etc.) appropriate for chemicals being used in the laboratory. Dispose of spill debris as hazardous waste.
- *Accountability*: After spill cleanup operations have been completed, the situation will be reviewed with the Laboratory Manager and a representative from the Safety and Environmental Compliance Department. A written report shall be forwarded to the Office of Risk Management. Emergency procedure plans should be reviewed and adjustments made to correct any problems encountered.

Always notify the area supervisor and complete an "Employee Accident/Incident Report Form" and submit the completed form to the Risk Management Department. This form is found on the USA Risk Management Web Site

Hazardous Materials Storage and Handling

Storage of hazardous chemicals presents an ongoing safety problem. Hazardous chemical storage must be kept as small as practical--no more than a week's worth of chemicals in a lab is recommended. Use of appropriate storage cabinets for each type of hazardous chemical can significantly reduce risks, whereas inappropriate storage increases the dangers. Wooden storage cabinets for acids are safer and more durable than metal cabinets, unless a metal cabinet is treated with a corrosion-resistant coating. Likewise, specially designed fireproof metal cabinets are preferable for storage of flammable materials, since they can maintain flammable liquids below vaporization temperatures, even during a fire. Non-fire rated steel cabinets commonly found in many labs are highly inappropriate for storage of flammables. They allow heat from a fire to be quickly transferred to the cabinet shelf resulting in rapid vaporization of the flammable liquid, bottle breakage and acceleration of a fire. Time sensitive chemicals, such as peroxide-formers and those that must be kept wet, must be inspected on a regular basis and discarded when expired.

Container Labeling

Federal regulations require all chemical containers to be labeled by the manufacturer, importer or distributor. Bags, bottles, boxes, cans, cylinders, drums and storage tanks all must carry labels. CHEMICALS PLACED IN OTHER STORAGE CONTAINERS MUST BE IMMEDIATELY RELABELED WITH THE FULL NAME AND ANY WARNINGS. Labels should be chemical resistant and marked with waterproof/chemical resistant ink. The new label must contain the proper chemical name, information about the hazards, plus the strength of the contents. If you see a chemical container without a label or the label has become damaged (torn, faded, etc.), replace it immediately with a new label. Labels should be covered with chemical resistant tape to avoid damage to the label from spillage. New chemical containers should be marked with the date received and the date opened.

Federal regulations require labels to include the following specific information:

- Identity of the chemical.
- Name and address of the chemical manufacturer.
- Warnings about the chemical's specific physical and health hazards.

A label may also include brief information on:

- Basic safety procedures, protective clothing and equipment.
- Handling and storage instructions.
- First aid instructions.
- Special instructions concerning children.

ALWAYS READ THE CHEMICAL CONTAINER'S LABEL AND SDS PRIOR TO BEGINNING TO WORK WITH IT.

Satellite Waste Accumulation Areas and Logs [*ADEM Chapter 335.14.3-. 03]*

Alabama Department of Environmental Management (ADEM) Land Division--Hazardous Waste regulations state that individual laboratories that collect hazardous waste (chemicals) for disposal are considered to be "Satellite Waste Accumulation Areas". Each investigator, no matter how small his waste accumulation is, will be required to monitor their individual "satellite waste area". Fines for non-compliance with these regulations can be directly assessed to the principal investigator as well as his/her Department, their College and the University. A weekly inspection log must be maintained by each individual laboratory accumulating chemical waste. Additional information regarding the requirements of a Satellite Accumulation Area can be found on the SEC Website.

USA Satellite Waste Accumulation Areas Policy [ADEM Chapter 335-14-3-. 03]

Individual laboratories that collect hazardous waste chemicals for disposal are considered a "Satellite Accumulation Area."

To prepare for EPA and ADEM inspections and to prevent the issuance of "Notice of Violations" and fines, each investigator is required to keep a weekly log monitoring their individual "satellite accumulation areas". Penalties for non-compliance to these regulations can be directly assessed to the principal investigator as well as the University.

This log must include:

1. The date of inspection (once every 7 days)
2. Building, department and room number
3. Name of wastes being collected
4. Number of containers being kept on site
5. Condition of containers
6. A description of any spill, leak or problem with the container and what clean-up procedures were taken.
7. Whether the container is closed except when materials are being added.

The person doing the inspection must sign the log. The name of the area's responsible party (primary investigator [PI]), his telephone number and an alternate contact person should be on the front of the log. The log must be located where it is easily accessible should an inspector come into the area.

EACH CONTAINER MUST BE CLEARLY MARKED WITH THE NAME (S) OF THE MATERIALS BEING COLLECTED.

We ask that investigator's not mark directly on the container, rather, use an orange "CHEMICAL WASTE" label to list the contents of the waste bottle. The 5-gallon containers and the orange "WASTE CHEMICAL" labels are provided by the Safety & Environmental Compliance Department. These containers are cleaned and re-distributed whenever

possible. All containers must be kept closed when not actively being filled. An open unmarked container is a violation of the law. A health and fire hazard can result in a substantial fine to the individual investigator and the University.

Each laboratory is responsible for marking chemical waste storage areas. Areas used to store bio-hazardous or chemical waste should be kept separate and clearly marked. Signs should be posted near these areas identifying them.

When a chemical waste container is full and ready for disposal please contact the Safety & Environmental Compliance Department at 6-7070 Removal and disposal of bio-hazardous materials is the responsibility of the individual investigator. This waste should be taken to the designated area and placed into the red containers-making sure the lid is properly closed.
Chemical waste containers should not be accumulated for more than 365 days. Contact the SEC office to make arrangements for pick-up and disposal once the container if full or it is nearing the 365-day limit, whichever comes first.

Laboratory Chemical Inventory *[40 CFR 311 (Superfund, Emergency Planning and Community Right-To-Know)]*

A chemical inventory must be completed annually for each area using and storing chemicals. This inventory is required by and is submitted to the Local Emergency Planning Commission. Chemicals inventoried are those classified as hazardous by the Department of Transportation (DOT), the Environmental Protection Agency (EPA), or displaying a 2 or greater number in any section of the National Fire Protection Association (NFPA) diamond.

This inventory should include:

- A listing of all chemicals in the laboratory in alphabetical order.
- The average quantity in storage on a monthly basis.
- The physical state (solid, liquid, gas).
- Hazards.
- Location of materials (building/room, under the sink, fire cabinet, etc.).
- Name of the responsible person and department

Inventories should be computerized, to allow for sorting/reporting according to different criteria. A complete chemical inventory is located in the SEC office.
Although a chemical inventory is only required to be submitted to the SEC office once a year, individual inventories should be updated on a regular basis throughout the year.

Safety Data Sheets

The SDS (Safety Data Sheet) is an important tool. Always check the SDS to find information on a specific chemical. Over time, the format of the SDS has been improved to make it easier understand and use this valuable information. Always read the SDS prior to starting any new job involving the use of chemicals.

If more information is needed, your supervisor and the SEC Department can provide copies of the University's Safety and Environmental Compliance policies and procedures. A Right-To-Know Manual and training films are available through the office of SEC. Safety Data Sheets must be

available within each Department that uses hazardous materials and chemicals. The location of SDS's must be known by all persons working in that area.

Check with the University's online SDS repository, available through the SEC web site and notify the SEC office if a specific SDS needs to be added.

FUME HOODS AND OTHER ENGINEERING CONTROLS

The chemical fume hood is the primary ventilation system for protecting most laboratory personnel from exposure to hazardous chemicals.

Chemical Fume Hood Air Flow

Air flow patterns are affected by many factors, including traffic patterns, room make-up air, doorways, room size, hood location, work practices, objects inside the hood, baffle adjustment and sash opening. These should all be considered when designing, installing and using a fume hood. Ideally, the air should flow into the lab from the hallway and exit through the ventilation hood. Turbulence at the hood face must be limited as much as possible to avoid contaminated air returning to the laboratory. The hood should have sufficient face velocity to draw air from the room but not spill contaminated air out of the hood.

General Hood Classification Guidelines

The average face velocity of optimally performing hoods should be between 80 and 150 feet per minute (FPM) when measured with the sash raised to the 18" mark. The average face velocities and the date of survey will appear on the inspection certification.

Chemical Hood Work Practices

1. All work involving volatile and/or toxic by inhalation chemicals must be performed inside a fume hood.
2. Before work begins check to be sure the hood fan is turned on and working properly.
3. Check the inspection certification to determine if a current inspection has been performed and what the airflow was.
4. A chemical fume hood should be used with the sash positioned at a maximum of 18" or lower for optimal performance and as a protective shield.
5. All equipment and materials should be located at least 6" inside the hood sash face.
6. Large items should be elevated at least 2" off the work surface to insure airflow to the opening at the rear of the hood.
7. Do not use fume hoods as storage cabinets. Excessive storage obstructs airflow and cause areas of low air velocity on the work surface.
8. Do not put your head or face inside the chemical hood.
9. Minimize traffic and other sources of cross drafts (i.e., open windows, doors, fans, etc.) that may push contaminated air out of the hood.
10. When using electrical equipment inside the hood take extra precautions to prevent sparks and only use grounded equipment. All electrical connections should be made outside the hood.
11. Do not use Perchloric Acid in a fume hood unless it is a specifically designed Perchloric Acid Hood with a properly functioning wash down system.
12. If a chemical fume hood is not available, a properly-fitted respirator with the appropriated cartridges should be worn. Respirators must be fit-tested by the SEC department must be fit tested prior to use.

13. Emergency plans should be understood by all hood users in case fire or explosion in the hood.
14. When assistance is needed in regards to a chemical fume hood, contact the Safety and Environmental Compliance Department@ 6-7070 during office hours or call Campus Police if an emergency requires our assistance.

PRIOR APPROVAL

The responsibility for approval of the acquisition and use of hazardous chemical agents rests ultimately with the laboratory manager/supervisor. Certain materials, including radioactive materials, recombinant DNA, highly toxic and unstable chemicals and certain bio-hazardous materials require prior University Committee approval (Radiation Safety Department, Bio-Safety Committee, etc.). If there are questions concerning the need for approval, the Safety and Environmental Compliance Department and the governing committee must be consulted.

MEDICAL REVIEW

An opportunity to receive medical review may be provided under the following circumstances:
- If an employee develops any symptoms thought to arise from chemical overexposure.
- After an event such as a major spill, leak or explosion that may have resulted in an overexposure.

Following notification of overexposure, a medical release must be given before an individual may return to work.

NOTE: In the event of an accident leading to serious or life-threatening injury, the employee should be taken directly to the closest USA Hospital.

SPECIAL PROVISIONS FOR SELECT CARCINOGENS, REPRODUCTIVE TOXINS AND ACUTELY TOXIC CHEMICALS

In addition to the general safety guidelines mentioned throughout the Chemical Hygiene Plan and appendixes, special precautions are necessary when handling carcinogens, reproductive toxins, and acutely toxic chemicals. A minimum set of guidelines that should be followed is listed below. The PI should ensure that these and other precautions designed to minimize risk of exposure to these substances are taken.

1. Quantities of these chemicals used and stored in the laboratory should be kept to a minimum, as should their concentrations in solutions or mixtures.
2. Work with carcinogens, reproductive toxins or acutely toxic chemicals should be performed within a properly functioning chemical fume hood, biological safety cabinet ventilated glove box, sealed system or other system designed to minimize exposure to these substances. (The exhaust air from the ventilation systems may require scrubbing before being release into the atmosphere.) In all cases, work with these types of chemicals will be done in such a manner that the permissible exposure limits or similar standards are not exceeded.
3. Compressed gas cylinders, which contain acutely toxic chemicals such as arsine and nitrogen dioxide, must be kept in ventilated gas cabinets.
4. The operational efficiency of the mechanical and electrical equipment used to contain these substances should be evaluated periodically by the laboratory personnel. The interval of

evaluating these systems may vary from weekly to bi-annually depending upon the frequency of usage, quantities employed and the level of hazard.

5. Each laboratory using these substances must designate an area for this purpose and must mark this area with an appropriate hazard warning. The designated area may be the entire laboratory, an area of the laboratory or a device such as a ventilation hood or glove box. The designated area should be marked with a DANGER, specific agent name, AUTHORIZED PERSONNEL ONLY or comparable warning sign.
6. All laboratory personnel, working in a laboratory using carcinogens, reproductive toxins or acutely toxic chemicals, must be informed of the signs and symptoms of over-exposure to these substances. Training is the responsibility of the laboratory supervisor. Training must be done prior starting work with any of these materials.
7. Laboratory personnel working with these chemicals must have access to appropriate protective equipment and clothing (available at no expense to the worker) and must be trained on how to properly use the safety equipment.
8. Detection equipment may be required in laboratories where chemicals (especially poisonous gases) with a high degree of acute toxicity are utilized to alert personnel in the event of a leak.
9. All materials contaminated with these substances should be collected and disposed of as hazardous waste.
10. The designated working area shall be thoroughly decontaminated and cleaned at the conclusion of the work interval.

CONTROLLING CHEMICAL EXPOSURES

There are three major routes of entry for a chemical to enter the body: inhalation, skin and eye contact and ingestion. Three types of controls for prevention of these various routes of entry include engineering controls, personal protective equipment and administrative controls. Each route of entry a chemical can take to enter the body can be controlled by a number of varying controls as explained below:

Inhalation hazards

Inhalation of chemicals is the most common route of entry into the body. To avoid significant inhalation exposure, substitution of a less volatile/toxic chemical or substitution of a liquid or solid chemical for a gaseous one is the best means of control. If substitution is not practical, engineering controls, such as ventilation hoods, biological safety cabinets, vented glove boxes and other local exhaust systems are often required to minimize exposure to hazardous chemicals. Dilution ventilation may be used to reduce exposure to non-hazardous nuisance odors. For extremely toxic chemicals such as those classified as poison gases (e.g., arsine, phosgene), the use of closed systems, vented gas cabinets, failsafe scrubbing, detection or other stricter controls may be required.

If both substitution and engineering controls are unavailable, the use of personal protective equipment may be required to reduce inhalation exposures. Respiratory protection, including supplied air respirators and self-contained breathing apparatus may be utilized. If a laboratory employee must wear a respirator, training in the proper selection and use of respirator is required. Screening to ensure the user is capable of wearing a respirator, and fit testing to ensure that the respirator fits properly is also required. A lab worker or his/her supervisor should contact the Safety and Environmental Compliance Department in the event that respiratory protection is utilized to control exposures to hazardous chemicals.

Finally, administrative controls can be utilized to reduce the risk of overexposure to hazardous chemicals. Some examples include:

- Minimization of exposure time for individual employees.
- Restricted access to an area where a hazardous chemical is used.
- Allowing a process that produces nuisance odors to be done only after typical office hours, when most of the staff in the buildings has gone home. If any work is done after normal working hours, it should only be done under proper supervision or a co-worker should be informed when the work has been completed.
- Proper signage on lab doors to indicate special hazards within, a list of lab supervisor and occupants of the lab who should be contacted in the event of an emergency and appropriate telephone numbers.

Skin/eye contact hazards

To reduce the risk of a chemical entering the body via skin and eye contact, control measure includes substitution and appropriate ventilation as described above in inhalation hazards. The more obvious means of preventing skin and eye contact is wearing appropriate personal protective equipment such as eye protection, face shield, gloves, appropriate shoes, lab aprons/coats and other protective equipment appropriate to the hazard.

Ingestion

Ingestion of chemicals is the least common route of entry into the body. However, a laboratory worker can easily ingest chemicals into the body via contaminated hands placed in the mouth. Some controls for preventing this route of exposure include engineering controls, such as isolating the hazardous substance (i.e., glove box), personal protective equipment (i.e., gloves) and administrative controls (good personal hygiene standards) and a designated well-marked non-chemical area, outside of the laboratory area, where eating, drinking and the cosmetic application is allowed.

CHEMICAL HYGIENE OFFICER

The Chemical Hygiene Officer/Hazardous Materials Specialist for the University of South Alabama has been designated as a member of the SEC Department.

Academic divisions/departments should appoint their own Safety Representative to help implement safety plans in their own areas.

Responsibilities of Chemical Hygiene Officer/Hazardous Materials Specialist include:

- Work with administrators, department chairs, and other employees to develop and implement appropriate chemical hygiene policies and practices.
- Provide oversight to the performance of protective equipment.
- Monitor use and disposal of chemicals used in laboratories.
- See appropriate audits are maintained.
- Help develop precautions.
- Know the current legal requirements concerning regulated substances.

Responsibilities of the Departmental Safety Representative include:

- Ensure that workers know and follow the chemical hygiene plan guidelines that protective equipment is available and in working order and that appropriate training has been provided.
- Provide regular, safety inspections including routine inspections of emergency equipment.
- Know the current legal requirements concerning regulated substances.
- Determine the required level of protective apparel and equipment.
- Ensure any material and training is adequate for chemicals being used in the laboratory.

Responsibilities of the Laboratory Employee include:

- Planning and conducting each operation in accordance with the institutional chemical hygiene procedures
- Developing good personal chemical hygiene habits.

IN CASE OF CHEMICAL/BIOLOGICAL/FIRE EMERGENCIES

To be posted in USA facilities

During Office Hours: 8 am to 5 pm--Monday-Friday

Safety & Environmental Compliance Main Telephone Number		251-460-7070
	Fax	251-460-7278
		safetyandenv@southalabama.edu

After Offices Hours:

William Guess, Director, Safety & Environmental Compliance	Cell	251-709-7783
	Office	251-460-6673
Anne Foster, Asst. Director, Safety & Environmental Compliance	Cell	251-680-8448
	Office	251-460-6714
Debbie Bryars, University Fire Marshal	Office	251-460-6676
Lindsay Schambeau, Environmental Regulatory Compliance Officer	Office	251-341-4973
Savannah Wallace, Mgr. Occupational Safety & Industrial Hygiene	Office	251-460-6971
Lisa Cobb, Training Coordinator	Office	251-460-6677
Roger Croley, Life Safety Specialist	Office	251-460-7106
Cedric Crawley, Safety & Environmental Specialist II	Office	251-460-7556
Thad Collins Safety & Environmental Specialist I	Office	251-460-4974
Alexis Andry, Emergency Mgt & Safety Officer	Office	251-460-7583

USA EMERGENCY NUMBERS

USA University Police		**251-460-6312**
USA Central Utilities Plant	24-hr Number	251-460-7047
USA Maintenance Department	Normal Working Hours	251-460-7111
	After 3 pm.	251-460-7047
Radiation Safety Department		251-460-7063
USA Weather Coastal Research Center		251-460-6999
USA Baldwin County	Main number	251-928-8133
	Fairhope Volunteer Fire Department (Emergency)	911
	Fairhope Volunteer Fire (Non-Emergency)	251-928-2385
Free Standing Emergency Dept.	Main Number	251-341-3800
USA University Hospital	Main Number	251-471-7000
USA Providence Hospital	Main Number	251-633-1000
USA Children & Women Hospital	Main Number	251-415-1000
Dauphin Island Sea Lab	Main Number	251-861-2141

Mobile City Fire/Rescue Department	
Emergency Number	911
Non-Emergency Number	251-208-7311
Mobile Police Department	
Emergency Number	911
Non-Emergency Number	251-208-7211
Mobile County Emergency Management	251-460-8000
Baldwin County Emergency Management (Eastern Shore)	251-990-4605
Coast Guard National Response Center	1-800-424-8802
Alabama Department of Environmental Management	1-334-271-7700
Alabama Highway Patrol (State Troopers-Mobile Division)	1-251-660-2300
EPA Region 4 (Atlanta-Southeast Division) Main	1-404-562-9900
Toll-free	1-800-241-1754

Reviewed & Revised: July, 2026