SOUTHERN UNIVERSITY SYSTEM

Office of Human Resources
J.S. Clark Annex Bldg. 1st
Floor Baton Rouge, La 70813
Phone : (225) 771-2680

TO: Southern University Land Mass Employees

FROM: Tracie J. Woods, Esq.
Southern University System Human Resources

RE: Safety Program

DATE: January 13, 2023

The Southern University System (System) is committed to providing a safe work environment for all employees. To that end, please find attached the System's general safety statement and policies as a reminder of our commitment and your responsibility to work safely.

The Southern University Land Mass designated agency safety manager is listed below.

Robert Nissen
Director
Environmental, Health, Safety and Risk Management
Southern University and A&M College
Benjamin Kraft Bld. Rm. 113
P.O. Box 9311, Baton Rouge, Louisiana 70813
Office: 225-771-3101 Fax: 225-771-2528

Please review the following:

- The attached Management Policy Statement,
- The attached General Safety Rules,
- The attached System Drug Free Workplace and Environment Policy,
- The attached Hazardous Materials Policy, and
- The Bloodborne Pathogens training video at http://wwwprd.doa.louisiana.gov/orm/Courses/BBP/launch.htm.

If you have any policy questions, please contact Human Resources at (225) 771-2680. Contact Robert Nissen for safety related concerns.

Southern University and A&M College System
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Office of The
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January 13, 2023

SOUTHERN UNIVERSITY SYSTEM GENERAL SAFETY PROGRAM

Management Policy Statement

It is the policy of the Southern University System to provide a safe work environment for its employees in order to protect them from accidents that not only directly impact their quality of life but also has the added benefit of reducing System's insurance costs. This dual benefit ensures the safety and health of System employees and the protection of the taxpayer's hard-earned dollars by keeping insurance costs down.

Therefore, each employee of this System is instructed to devote daily attention to making his or her activities and/or operations as safe and accident free as possible by complying with this policy and the System's safety/loss prevention program. As such, each employee must immediately report potentially unsafe conditions and work practices and take effective temporary actions to minimize the risk to himself/herself and others. Each supervisor will be held accountable for the actions of his/her employees and is responsible for ensuring that his/her employees follow all safety rules, policies, and procedures.

The purpose of this policy is to authorize the implementation of a safety program for all employees that will promote a safe, productive work environment for all employees and prevent injuries that are painful and potentially disabling. Since this policy and program have cost savings potential to both this System and the taxpayers of this state, this policy shall be applicable to all employees and all sections/units of this System.

Because we take safety matters seriously, failure to follow the System's safety/loss prevention program could result in discipline up to and including termination. If you need training to safely perform any of your job tasks, please notify your supervisor or respective safety manager.

All safety issues and concerns will be investigated by the respective campuses' safety manager or his or her designee.

All questions concerning this policy should be directed to the personnel listed below for each respective campus, which is each campuses' designated safety manager.

Baton Rouge Campus, Law Center, and Agricultural Research and Extension Center

Robert Nissen
Director
Environmental, Health, Safety, and Risk Management
(P) 225-771-3101

New Orleans

Derrick James
Director
Facilities/Safety and Transportation
(P) 504-286-5295

Shreveport

Joseph LaCour
Director
Facilities and Risk Management
(P) 318-670-9378

Dennis J. Shields, President-Chancellor

GENERAL SAFETY RULES

A. Introduction:

1. The following general safety rules have been developed to provide a safe and healthy working environment for all Southern University employees. These safety rules apply to all work activities and are to be followed by all applicable departments.

B. Responsibilities:

1. Environmental Health and Safety Department:

    a. Develop and implement all general safety rules to be followed by employees.

    b. Evaluate the general safety rules annually or as needed to ensure they are up to date.

    c. Be a resource for any employee with questions on general safety rules.

    d. Create and implement training programs for general safety rules.

2. Manager's, Supervisor's, and Department Heads:

    a. Abide by all general safety rules set forth in the Safety Manual.

    b. Ensure all employees attend training sessions as required.

    c. Guarantee that employees are following all general safety rules and provide disciplinary action when necessary if they are not.

3. Employees:

    a. Abide by all general safety rules set forth in the Safety Manual.

    b. Attend any training sessions online or in the classroom as required by your supervisor or the Environment, Health and Safety (EHS) Department.

    c. Provide any additional items that may need to be addressed under general safety rules.

C. Policies, Practices, and Procedures:

1. General Safety Rules:

    a. Observe and abide all warning signs and safety notices.

    b. Smoking is prohibited everywhere on Southern University property.

Southern University is now a smoke-free facility.

c. No running or horseplay is allowed in the workplace.

d. Guard all floor openings and edge of working platforms greater than 3 feet to prevent a fall.

e. Do not take unsafe short cuts or by-pass any safety devices or controls.

f. Never throw debris, tools or other objects from any height.

g. Report all unsafe acts, unsafe conditions or incidents/accidents to your supervisors/ safety personnel and/or Work Control at (225)771-4571.

h. Refer to Safety Data Sheet (SDS) before handling any hazardous materials.

i. For any hazardous work, safe operating procedure/safe work procedures must be referred and adhered to.

j. Label all chemical containers and store them in designated chemical storage area.

k. Do not deface or change any manufacturer's labels on incoming chemicals or industrial products.

l. Know the location of the nearest emergency equipment including fire extinguishers, fire alarms, fire blankets, eye wash stations, safety showers, AED's, etc.

m. Familiarize yourself with the emergency evacuation procedure and the location of the nearest exits and muster points. A list of muster point locations for each building can be found in Southern University's Annual Clery Report on the Safety and Security portion of the Southern University website.

n. Do not obstruct or block any exits, escape passage way or any emergency response equipment.

o. Follow the manufacturer's operating instructions when working with machinery.

p. Report all work related illness and injuries right away and submit an accident report.

2. General Tool and Device Safety:

The employer is responsible for the safe condition of tools and equipment used by employees but the employees have the responsibility for properly using and maintaining tools.

a. All electrical tools will be in good repair.

b. Saw blades, knives, or other tools should be directed away from aisle areas and other employees working in close proximity. Knives and scissors must be sharp. Dull tools can be more hazardous than sharp ones.

c. Appropriate personal protective equipment, e.g., safety goggles, gloves, etc., should be worn due to hazards that may be encountered while using portable power tools and hand tools.

d. Floors should be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

e. Keep all tools in good condition with regular maintenance.

f. Use the right tool for the job.

g. Examine each tool for damage before use.

h. Operate according to the manufacturer's instructions.

3. Power Tools and Devices:

The following general precautions should be observed by power tool users:

a. Never carry a tool by the cord or hose.

b. Never yank the cord or the hose to disconnect it from the receptacle.

c. Keep cords and hoses away from heat, oil, and sharp edges.

d. Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.

e. All observers should be kept at a safe distance away from the work area.

f. Secure work with clamps or a vise, freeing both hands to operate the tool.

g. Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.

h. Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.

i. Be sure to keep good footing and maintain good balance.

j. The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts and should not be worn when working with machinery or equipment.

k. All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."

l. These general practices should be followed when using electric tools to avoid electrocution:

i. Electric tools should be operated within their design limitations.

ii. Gloves and safety footwear are recommended during use of electric tools.

iii. When not in use, tools should be stored in a dry place.

iv. Electric tools should not be used in damp or wet locations.

v. Work areas should be well lit.

4. Electrical Safety:

a. Cords will be of the three-wire grounded type whenever possible.

b. All temporary power circuits will be equipped with a Ground Fault Circuit Interrupter. Use of an extension cord is considered temporary power.

c. All temporary lighting fixtures will be equipped with bulb guards.

d. Extension Cords:

i. Extension cords will not be used as a substitute for permanent wiring. Contact Facilities Management to install more electrical outlets if necessary.

ii. Extension cords will not be plugged into each other in succession in order to reach an outlet.

iii. Extension cords will not run through, behind, or in walls, ceilings or floors or other concealed space. Nor will they be run in or through ventilation ducts.

iv. Do not place extension cords under carpets, under doors, or other locations that subject the cord to abrasion or other damage.

v. Avoid creating a tripping hazard; do not place extension cords across walkways. If it is unavoidable, tape the cord to floor or walkway in order to negate the tripping hazard.

vi. Discard extension cords with broken wires or damaged insulation; splicing or taping is not allowed.

vii. Where hazardous atmospheres may exist, due to the presence of flammable gases or vapors or explosive dusts, extension cords will not be used.

viii. The combined length of the appliance cord and extension cord that is used on portable equipment, such a floor scrubber, projectors and hand tools, will not exceed 100 feet.

ix. Uncoil long cords when in use, to avoid overheating.

x. Replace short appliance cords with a longer one when appropriate.

xi. Select a cord with proper insulating materials if there will be exposure to moisture, oil or other chemicals.

xii. Frequently check the cord insulation, plug and connector for damage.

5. Personal Housekeeping:

a. Good housekeeping is one of the best indications that a department is being well controlled and efficiently run. Poor housekeeping contributes to a host of hazards ranging from trip hazards to fire hazards.

b. It is the responsibility of every person in each department to correct poor housekeeping. A continuous effort to eliminate trip hazards, and generally keep the work area free of hidden hazards, will contribute greatly to the job efficiency and the safety of faculty staff and work study students.

c. Good housekeeping rules include but are not limited to:

i. Dispose of all garbage and food items in the proper receptacles in a timely manner. Do not leave food in your work area.

ii. Do not leave rags lying around work areas.

iii. Keep a neat and orderly workstation.

iv. Close all drawers and cabinet doors after you have accessed them.

v. Make sure all containers are donning their lids and are stored properly.

vi. Immediately clean up any spills in your work area, big or small.

vii. Keep all exits, aisles and walkways clear at all times.

6. Lifting:

a. Southern University personnel will not lift objects which appear too heavy or awkward to be lifted properly. The limit under normal conditions is fifty (50) pounds, but may be less under differing conditions.

b. Employees will use lifting assistance devices when an object is clearly too heavy to be lifted, including: hand trucks, pallet jacks, forklifts, and hoists, and follow all safety regulations pertaining to these devices.

c. When lifting, follow these guidelines:

i. Stop and think before you lift to evaluate the load, don't rush.

ii. Keep heavy objects close to your body.

iii. When lifting heavy objects: spread your feet wide apart, stick out your chest and tuck in your chin, tighten your stomach muscles, keep your back upright, bend at the knees and not your back, keep your shoulders parallel to the floor as much as possible.

iv. When carrying a load a long distance, occasionally shift it from one side to the other.

v. Do not lift and twist your back at the same time.

vi. Do not lean forward without bending your knees.

vii. Avoid lifting objects above shoulder level.

7. Vehicle Operation:

a. Material being transported, on or off campus, will be done with the following precautions by licensed drivers:

i. All material will be secured in place prior to departure.

ii. Tailgates will be in place.

iii. All personnel will wear seat belts at all times.

iv. Personnel will not ride in the bed of any vehicle or location that is not equipped with approved safety belts.

v. All state and federal traffic laws will be observed.

8. Machine and Equipment Guarding:

a. Guarding will be provided for all machinery or equipment that has exposed moving parts that can cause injury, such as pulleys, gear, fly wheels, etc. The guarding must be designed to prevent any inadvertent contact with these hazards. Contact Environment, Health and Safety (EHS) for assistance in determining sufficient guarding.

b. Machine guarding may not be removed or modified in any way due to safety hazards, failure to comply with this rule will result in disciplinary action as it puts other employee's at high risk for injury.

9. Defective or Broken Equipment:

Any equipment that is found to be broken or defective will be removed from use. To ensure that no one is injured by defective or broken equipment the following actions should be taken:

a. Identify equipment with a tag or sign that states:

i. DANGER - In need of repair, do not use

ii. The name of the person who found the equipment broken.

iii. The nature of the defect (i.e. bare wire on electrical cord).

iv. The date that the equipment was removed from service.

b. Notify your supervisor that the equipment is defective and place a work order with the online Facilities work order system for the item(s) to be repaired or replaced.

10. Safety Suggestions/Hazardous Condition Reporting:

a. Please contact the Environment, Health and Safety (EHS) Department to make suggestions regarding health or safety issues including: occupational safety (work procedures, equipment), and environmental health (health concerns inside or outside buildings).

11. Training:

    1. All new hires will receive training that is commensurate with their jobs and will receive annual re-fresher training as required by OSHA.

POLICY TITLE
Drug Free Workplace and Environment

POLICY NUMBER
7-001

Responsible Unit: *Southern System Office of Human Resources*	**Effective Date:** *10/23/2020*
Responsible Official: *Associate Vice President for Human Resources*	**Last Reviewed Date:**
Policy Classification: *Human Resources*	**Origination Date:** *1998*

I. POLICY STATEMENT AND RATIONALE

Recognizing that drug use poses health and safety hazards to employees/students and to the community at large, Southern University and A & M System considers the abuse of drugs to be a very serious matter, one that cannot be tolerated in the workplace or classroom. Therefore, it is the policy of the Southern University and A & M System to maintain a drug free workplace and environment conducive to the learning process.

II. POLICY SCOPE AND AUDIENCE

This policy applies to all System employees, appointees and students, as well as candidates for employment, appointees, and all other persons having an employment relationship with the System. This includes but are not limited to classified, unclassified, student employees, student interns, full-time, part-time or temporary.

All employees are notified that it is unlawful to manufacture distribute, dispense, possess, or use any illegal or unauthorized drugs or alcohol or to abuse controlled substances in the workplace and classroom or other related areas associated with the learning process including dormitories. Such actions are prohibited on all System property and at any other location where employees are conducting System business.

III. POLICY COMPLIANCE

1. All System employees are expected to comply with the policy's terms. An employee who violates this Policy shall be subject to disciplinary action up to and including termination. The disciplinary actions may include but not limited to counseling, written or oral reprimands, or suspensions with or without pay in accordance with the established rights of the employee including the right to due process. All System employees paid by a grant or work under the terms of a grant from Federal government agency shall as a condition of employment be required to:
    a. Acknowledge receipt of and comply with the terms of the System's drug-free policy;
    b. Report to work in a condition that maximizes your ability to perform assigned tasks in a competent and safe manner. Employees are prohibited from reporting to work impaired by alcohol or drugs; and
    c. Submit to a drug and alcohol test upon request by the appointing authority, his/her designee, or as specified by this policy.
2. System employees will be required to notify their supervisor, prior to or immediately upon reporting for duty, when he/she has reason to believe that prescribed or over the counter medication may impair his ability to perform customary job duties or otherwise create a safety hazard. Even though the employee will be required to report how long he/she is on the medication, **employees should know that it is not necessary to disclose the medication being taken nor the condition for which it was prescribed.**
3. System employees will be required to notify his/her supervisor on the first scheduled workday of any arrest or conviction for a criminal, drug related offense which occurs on or off duty, including Driving While Intoxicated (DWI) arrests and convictions;
4. When the supervisor is notified as described in #3, the supervisor will notify HR and any granting agency within ten (10) days of receiving the notice.
5. When the supervisor is notified of a conviction as listed in #3, within thirty (30) days of receiving such notice, the supervisor shall:
    a. Notify Human Resources to impose disciplinary action up to and including termination; or,
    b. Require the employee to satisfactorily complete a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
6. Civil Service employees will be subject to disciplinary action in accordance with Civil Service Rules Chapter 12 and the System's Policies and Procedures. Each violation and alleged violation of this Policy will be handled on an individual basis, considering all data, including the risk to self, fellow employees, students and the general public. The Appointing Authority may grant exceptions to this Policy for rational business reasons.
7. Any grant's principal investigator, project, or contract from a Federal agency is required to ensure that each employee working on grant be given a copy of this Policy and be required to acknowledge receipt of the policy.
8. System employees will not be allowed on System property and at any other location where employees are conducting System business under the influence of drugs, alcohol, or any abused controlled substance.

IV. POLICY DEFINITIONS

1. Drug – any substance which when inhaled, injected, consumed, or introduced into the body in any manner, alters mood or function. Includes any illegal drugs, legal drugs, prescription drugs not being used in accordance with the prescription or in excess of the prescription; or any substance which affects the employee abilities.
2. Drug Abuse – any continuing use of an illegal or unauthorized drugs, alcohol, or controlled substance which produces problems for the user, his/her family or society at large.
3. Unlawful Manufacture – to unlawfully plant, cultivate, harvest, process, make, prepare, or otherwise engage in any part of the production of a drug by propagation, extraction, chemical synthesis, compounding, or any combination of the same and includes packaging, repackaging, labeling, and other activities incidental to production.
4. Distribute – to deal in, ship, transport or deliver. This does not include the administering or dispensing of a drug by a person authorized or qualified to do so (i.e. physician, pharmacist, etc.)
5. Dispense – to sell, leave with, give away, dispose of, or deliver.
6. Possess or Possession – having control over a thing or substance. Possession may not be inferred solely from mere access to the thing or substance through ownership or occupation of the premises upon which the thing or substance is found.
7. Use – the taking, partaking or utilizing of a drug or other controlled substance.
8. Drug Abuse Offense – corrupting another with drugs, trafficking in drugs, abusing drugs (including abuse of alcohol), possessing drug abuse instruments, permitting a dangerous drug, processing drug documents illegally, abusing harmful intoxicants, or dispensing drug samples illegally; violating any state or federal law that is substantially equivalent to any of the above offenses; violating any state law in which planting, cultivating, harvesting, processing, making, manufacturing, producing, shipping, transporting, delivering, acquiring, possessing, storing, distributing, dispensing, selling.
9. Controlled Substance - a drug, compound, mixture, preparation, or other substance as defined in 40:961 to 40:995 of the Louisiana Revised Code, or as defined by applicable statutes of other states and the Federal government.
10. Reasonable Suspicion – a belief based on objective and documented facts to lead a prudent System authorized supervisor to suspect that employee is using drugs or alcohol.
11. NON-DOT Safety Sensitive Position – Contract positions in which job performance can affect the safety, security or national security of the employee or others.
12. NON-DOT employee pool – any individuals who will be considered purchased service for contracted requirements.

V. POLICY IMPLEMENTATION PROCEDURES

The System authorized supervisor has the right to conduct on the spot searches and inspections of employees and their personal effects as described above if said supervisor has a "reasonable suspicion" or the employees are in violation of this policy.

1. Drug Testing Searches and inspections under this Policy may also include unannounced Urine Drug Screening. This test may be used under the following circumstances:

a. For pre-employment examinations.

b. When an authorized System supervisor has a reasonable suspicion or just cause that an employee/student is intoxicated, using or under the influence of controlled drugs.

c. When an employee/student is found in possession of a suspected controlled substance or a controlled substance is found in an area controlled by the employee/student.

d. Following a serious accident or incident in which safety precautions were violated or careless acts were performed.

2. Drug Testing for NON-DOT Safety Sensitive Positions
   a. Pre-employment: All candidates for NON-DOT safety sensitive positions must submit to pre-employment testing as a condition of employment. Negative results must be received prior to hire, transfer, or assignment to any safety-sensitive job.

   b. Reasonable Suspicion: Employees will be subject to reasonable suspicion drug and/or alcohol testing if a manger observes physical or behavioral indicators of potential drug or alcohol impairment. Employees is lab based and employees will be removed from service and provided transportation pending results.

   c. Random: Employees who perform safety sensitive job duties as defined above will be subject to random NON-DOT Breath Alcohol & NON-DOT Drug Testing.

   d. Post-Accident: Employees must undergo drug and/or alcohol testing when an accident or incident has occurred.

   e. Return-to-duty/Follow-up: Employees eligible to return to work following a drug free workplace program violation, will be required to pass a return to duty drug and/or alcohol test before being allowed to return to work. Once returned to work, they will be subject to unannounced follow-up testing.

VI. POLICY RELATED INFORMATION

The System, in adopting and implementing this policy pursuant to the Drug Free Workplace Act of 1988, further certifies that it will make a good faith effort to maintain a drug-free workplace and to respect the privacy rights of its employees. Drug Testing pursuant to this Policy shall be for the presence of drugs in accordance with La. R.S. 49:1001, et seq. All drug testing and all drug testing of samples shall be performed in SAMHSA-certified or CAP-FUDT-certified laboratories.

VII. POLICY HISTORY AND REVIEW CYCLE

This is an existing policy that was last reviewed in 1998. This policy is subject to a five-year Policy Review Cycle.

VIII. POLICY URL

The information regarding the Drug Free Workplace and Environment Policy will be posted to the System Board's website under Board Policies at *www.sus.edu*.

IX. POLICY APPROVAL

The effective date of this policy is determined by the approval date of the President-Chancellor of the Southern System and A&M College System and the Board of Supervisors of the Southern System and A&M College System.

Ray L. Belton, Ph.D. — ***Effective Date of Policy***
President-Chancellor, Southern System and A&M College System

The Honorable Attorney Domoine D. Rutledge — ***Effective Date of Policy***
Chair - Southern System Board of Supervisors

Southern University
Hazard Control and Mitigation Procedures

To report a hazardous condition in this building, one of the following procedures should be followed:

To report an item that needs to be repaired call (225)771-4751(Work Control). Please indicate that this is a Safety Issue that needs to be addressed. Also, there is a link under Facilities Services on the Systems Web site for entering Work Orders.

If this is an issue that is of immediate concern or you feel that your Safety Issue is not being addressed in a timely manner, please contact the Environmental, Health and Safety Office.

Robert Nissen (225) 771-3101
Environmental, Safety, Health and Risk Management Director
Baton Rouge Landmass

If this is an immediate threat to Life or Property (i.e. fire, physical threat, gas leak), please contact University Police.

Southern University System Operations

Hazardous Material Communications Policy

The purpose of this policy is to define how Southern University will comply with all applicable regulatory requirements imposed by the U.S. Department of Transportation (DOT) and International Air Transportation Association (IATA) regarding hazardous materials and dangerous goods transportation-related activities.

The Environmental Health & Safety Office will manage and facilitate the Hazardous Materials Transportation and assist all Southern University departments to in compliance. As such all departments are required to maintain and have available for review Material Safety Data Sheets for all hazardous materials located in the workplace. Individual employees must also be trained on those materials that they might be exposed to. It is the supervisor's responsibility to insure that this training is conducted and to insure that the Material Safety Data Sheets are available.

Hazardous Materials

The need to have a hazardous materials program is not based on the quantity of certain chemicals, but on the exposure potential for employees to those chemicals.

Each agency shall conduct and document:

- A complete inspection of all facilities, grounds, vehicles, and any other piece of state property that may contain hazardous materials;

- A full assessment of all materials found, including a review of the Safety Data Sheet (SDS) for each; and

- A determination as to whether or not all on-site hazardous materials are only accessible by an outside entity and, therefore, there is no agency employee exposure potential. If so, then a program is not needed for those materials.

Special rules are needed to cover the handling, storing and usage of hazardous materials from receipt through disposal.

Therefore, if hazardous materials are found, and there is any potential for exposure to any agency employee, then the agency shall promulgate written policies and procedures to ensure the safety of everyone in their workplace. A substance is considered "hazardous" if it is classified as either a "physical hazard," (flammables, explosives, etc.) or a "health hazard" (carcinogen, hepatogen, mutagen, etc.). The hazardous materials plan shall competently address the availability of and/or documented training on: proper handling, storage (cabinets), Safety Data Sheets (SDS), container labels, Personal Protective Equipment (PPE), lab hoods and lab safety, required safety equipment and its training, and proper disposal of hazardous materials.

Training requirements should be appropriate for, and commensurate with, the nature of the work or exposure. Therefore:

- For those employees who are likely to encounter one or more hazardous materials in the Course of a work shift:

  Documented training on the Hazard Communication Program is required:

  1) Within 30 days of employment (full program); and

  2) If working in a new area or with new hazardous materials (refresher only); and

  3) Whenever the Department Head, Department Safety Officer, or Supervisor determines (refresher or full program); and

  4) At least annually (full program).

- For those employees who are not likely to encounter one or more hazardous materials in the course of a work shift:

  Documented training on the Hazard Communication Program is required:

  1) Once, within 30 days of employment (SDS and labels only); and

  2) If promoted/transferred/assigned to a job/area involving exposure to one or more hazardous materials (full program); and

  3) Whenever the Department Head, Department Safety Officer, or Supervisor determines (refresher or full program).

Explanation of the Material Safety Data Sheet

The information in the Material Safety Data Sheet (MSDS) is usually organized into distinct sections which may include:

I. Product Identification
II. Component Data
III. Precautions for Safe Handing and Storage
IV. Physical Data
V. Personal Protective Equipment
VI. Fire and Explosion Hazard Information
VII. Reactivity Information
VIII. First Aid
IX. Toxicology and Health Information
X. Transportation Information
XI. Spill and Leak Procedures
XII. Waste Disposal
XIII. Additional Regulatory Status Information
XIV. Additional Information
XV. Major References

Section I - Product Identification

The product name and product code are used to identify the product. The file number and revision number identify the Material Safety Data Sheet (MSDS) itself. The chemical family or name and synonyms are given with formula when applicable. A brief use description of the product is presented along with the OSHA Hazard Classifications.

Section II -- Component Data

Most materials are evaluated to determine if they are hazardous. According to the Occupational Safety and Health Administration (OSHA), a hazardous chemical refers to any chemical that presents a physical hazard if it is combustible, flammable, pyrophoric, chemically unstable, water reactive or explosive, a compressed gas, an organic peroxide or other oxidizer.

A chemical may present a health hazard if exposure could result in acute or chronic adverse health effects. This definition of a hazardous material has been adapted from the OSHA Hazard Communication Standard (29 CFR 1910.1200). The reader should refer to the Standard for further details. If it has been determined that a product is not hazardous, then this is stated. If it

has been determined that the product is a health hazard then all components that present a health hazard and that comprise 1% or more of the material are listed in this section. Also, any component that is a carcinogen is listed if it comprises 0.1% or more of the product. If it has been determined that the product is a physical hazard, then any component that presents a physical hazard is listed. Components in a product that the manufacturer believes are not hazardous are often referred to as inert ingredients.

Normally, the chemical name and Chemical Abstracts Service (CAS) Number are used to identify a component. CAS numbers are assigned to chemicals and mixtures by the Chemical Abstracts Service (published by the American Chemical Society) as a specific identification. Where the identity of a component is a trade secret, a descriptive name is used instead of the chemical name and a trade secret access number is given to that component. Disclosure of the identity of the trade secret component will be made to health professional upon request, subject to the conditions specified in the Standard.

Exposure limits are given for each component where these have been established. Definitions of these exposure limits follow:

- ACGIG TLV (Threshold Limit Value): A term used by the American Conference of Governmental Industrial Hygienists to express the airborne concentration of a material to which nearly all persons can be exposed day after day without adverse effects. ACGIH expresses TLVs in three ways:
    - TLV-TWA: The allowable Time-Weighted Average concentration for a normal 8-hour workday of a 40-hour workweek.
    - TLV-STEL: The Short-Term Exposure Limit, or maximum concentration for a continuous 15-minute exposure period. A maximum of four such periods per day, with at least 60 minutes between exposure periods are allowed, provided that the daily TLV is not exceeded.
    - TLV-C The Ceiling exposure limit; the concentration that should not be exceeded even instantaneously.
    - Skin: A notation used to indicate that the stated substance may be absorbed by the skin, mucous membranes and eyes, either by air or direct contact, and that this additional exposure must be considered part of the total exposure to avoid exceeding the TLV for that substance.

  The value quoted is the TWA unless another category is stated.

- OSHA PEL (Permissible Exposure limits): An exposure limit established by the Occupational Safety and Health Administration. May be a time-weighted average (TWA), short-term (STEL) or ceiling (C) exposure limit. A skin notation has the same meaning as for the TLV.

Section III -- Precautions for Safe Handling and Storage

This section provides vital information for handling and storing a product. It is important that all recommendations be followed.

Section IV -- Physical Data

Knowledge of the physical properties of a substance is necessary for all safety and industrial hygiene decisions. Definitions of terms that apply to the physical data presented in this section are given below:

- **Freezing Point/ Melting Point:** The temperature at which a substance changes state from liquid to solid or solid to liquid. For mixtures, a range may be given.
- **Boiling Point:** The temperature at which a liquid changes to a vapor state at a given pressure. (Usually 760 mmHg, or one atmosphere.) For mixtures, the initial boiling point or the boiling range may be given. Flammable materials with low boiling points generally present special fire hazards.
- **Decomposition Temp:** The temperature at which a substance will break down, or decompose, into smaller fragments.
- **Specific Gravity:** The weight of a material compared to the weight of an equal volume of water; an expression of the density (or heaviness) of the material. Example: if a volume of material weighs 8 pounds, and an equal volume of water weighs 10 pounds, the material has a specific gravity of 0.8:

  8 lbs/ 10 lbs = 0.8

  Insoluble materials with a specific gravity of less than 1.0 may float in (or on) water. Insoluble materials with a specific gravity greater than 1.0 may sink in water. Most insoluble flammable liquids having a specific gravity of less than 1.0 will float on water, an important consideration for fire suppression.

- **Bulk Density:** Weight of material per unit volume.
- **pH:** A value presenting the acidity or alkalinity of an aqueous solution.
-
```
1 ------------------------ 7 ------------------------14
          Acidic             Neutral               Alkaline
```

- **Vapor Pressure:** The pressure (usually expressed in millimeters of mercury) characteristic at any given temperature of a vapor in equilibrium with its liquid or solid form.
- **Solubility in Water:** The ability of a material to dissolve in water or another liquid. Solubility may be expressed as a ratio or may be described using words such as insoluble, very soluble or miscible.
- **Evaporation Rate:** The rate at which a particular material will vaporize (evaporate) when compared to the rate of vaporization of a known material. The evaporation rate can

be useful in evaluating the health and fire hazards of a material. The known material is usually either normal butyl acetate or water, with a vaporization rate designated as 1.0.

- **Odor Threshold:** The odor threshold is the lowest concentration of a chemical in air that is detectable by smell. The ability to detect the odor of a chemical varies from person to person and depends on conditions such as the presence of other odorous materials. Odor cannot be used as a warning of unsafe conditions since workers may become used to the smell (adaptation), or the chemical may numb the sense of smell.
- **Vapor Density (Air=1):** A relative comparison of the density of the vapor compared to the density of air (Air = 1). If the vapor density is greater than 1, then the vapor is heavier than air.
- **Molecular Weight:** The molecular weight of a chemical is the sum of the atomic weights of the atoms making up one molecule of the chemical.
- **Coefficient of Oil/Water Distribution:** If a substance which is soluble both in oil and in water is added to a two-phase oil/water system, then the ratio of the concentration of that substance in oil to its concentration in water is called the Coefficient of Oil/Water distribution.

Section V -- Personal Protective Equipment Requirements

The proper use of personal protective equipment is of the utmost importance, and the guidelines presented in this section must be closely followed. Descriptions of specific equipment (goggles, gloves, respirators, etc.) Required for routine use are given. Use of additional protective equipment, as required for fire-fighting and for spill and leak cleanup, is outlined in Section XI.

Use of some products may require specific ventilation requirements. The following definitions apply to ventilation systems:

- **General Exhaust:** A system for exhausting air containing contaminants from a general work area. General exhaust may be referred to as dilution ventilation.
- **Local Exhaust:** A system for capturing and exhausting contaminants from the air at the point where the contaminants are produced (welding, grinding, sanding, other processes or operations). Typical local exhausts include the fume hood, canopy hood, slot bench, dust collector and other devices engineered to remove contaminants from workers' breathing zones.

Section VI -- Fire and Explosion Hazard Information

Most of the terms that follow are defined in 29 CFR1910.1200(c) which should be consulted for the complete text. Note that some of these same terms have different definitions for transportation information. A shortened form of the definitions follow:

- **Explosive:** A chemical that causes an almost instantaneous release of gas and heat when subjected to certain conditions.
- **Incompatible Materials:** Materials that react with the product or with components of the product and may destroy the structure or function of a product; cause a fire, explosion or violent reaction; or cause the release of hazardous chemicals.
- **Extinguishing Media:** Agents which can put out fires involving the material. Common extinguishing agents are water, carbon dioxide, dry chemical, "alcohol" foam, and halogenated gases (Halons). It is important to know which extinguishers can be used so they can be made available at the worksite. Use of fire extinguishers at the University of Maryland is limited to trained employees.
- **Oxidizer:** A material that gives up oxygen easily or can readily oxidize other materials. Examples of oxidizing agents are oxygen, chlorine and peroxide compounds. These chemicals will support a fire and are highly reactive
- **Pyrophoric:** A substance that burns spontaneously in air at a temperature of 130°F or below.
- **Flammable:** There are four classes of flammable chemicals as follows:
    - An aerosol flammable is an aerosol which yields a flame projection exceeding 18 inches or a flashback under certain test conditions.
    - A flammable gas is a gas which can ignite readily and burn rapidly or explosively.
    - A flammable liquid is any liquid having a flash point below 100°F (37.8°C), with the exception of mixtures in which 99% of the components have flash points of 100°F or higher.
    - A flammable solid is a solid (with certain exceptions) that is liable to cause fire through friction, absorption of water or other reasons, or which can be ignited readily, and when ignited burns in such a manner as to create a serious hazard.
- **Combustible:** A combustible liquid is any liquid having a flash point at or above 100°F (37.8°C), but below 200°F (93.3°C), with the exception of mixtures in which 99% of the components have flash points of 200°F or higher.
- **Flash Point:** The temperature at which a liquid will give off enough flammable vapor to ignite in the presence of an ignition source.

  There are several flash point test methods. Because flash points may vary for the same material depending on the method used, the method is indicated when the flash point is given. The methods most frequently quoted are:

    - PMCC: Pensky-Martens Closed Cup -- ASTM D93
    - SETA; Setaflash Closed Cup -- ASTM D3278
    - TCC: Tag (Tagliabue) Closed Cup -- ASTM D56

  Details of these methods can be found in Section B of the Annual Book of ASTM Standards.

- **Autoignition Temperature:** The lowest temperature at which a liquid will give off enough flammable vapors and heat energy to ignite spontaneously and maintain combustion.

- **UEL and LEL:** Upper Explosive Limit and Lower Explosive Limit (sometimes referred to as Upper and Lower Flammable Limits) are the highest concentration and lowest concentration respectively that will produce a flash of fire when an ignition source is present. At higher concentrations than the UEL, the mixture is too "rich" to burn. At concentrations lower than the LEL, the mixture is too "lean" to burn.
- **NFPA Rating:** The National Fire Protection Association Standard System for the Identification of the Fire Hazards of Materials (NFPA 704M). The NFPA ratings provide a general idea both of the hazards and of the degree of the hazards associated with a material relative to fire protection and control. The Standard addresses the hazards under the three categories of "Health", "Flammability" and "Reactivity" and assigns numeric ratings using a scale of 0 to 4 with 0 indicating no particular hazard, and 4 the most hazardous. It should be noted that health hazard ratings refer specifically to short-term exposure under fire conditions. The Standard also includes provisions for special hazard warnings, such as water reactivity. For further details see 'Fire Protection Guide on Hazardous Materials' -- National Fire Protection Association, Quincy, MA.
- **HMIS Ratings:** The Hazard Materials Identification System of the National Paint and Coatings Association. The system is similar to the NFPA Standard in utilizing a 0-4 scale, rating the degree of hazard under the same three categories of health, flammability and reactivity, with 0 being the least hazardous and 4 the most. It should be noted that unlike NFPA ratings, HMIS ratings are not intended for emergency situations. The flammability and reactivity ratings will, however, usually be the same as the NFPA ratings. The health hazard rating is based on the acute toxicity of the chemical. For further information on these ratings, see 'HMIS Rating Manual' -- National Paint and Coatings Association, Washington, DC.

Section VII -- Reactivity Information

A substance is said to be reactive if it readily enters into chemical reactions and undergoes chemical change. For MSDS purposes the reactions can be grouped into three broad categories:

- **Decomposition - Stable/ Unstable.** A substance is stable if it is resistant to decomposition or possesses the ability to remain unchanged. For MSDS purposes, a material is stable if it remains in the same form under expected and reasonable conditions of use. A substance is considered unstable if it tends to suffer decomposition under these conditions. Some materials may become unstable at higher temperatures. Whenever relevant, the temperature at which a material can be said to be unstable is stated. Other conditions that may cause instability, such as shock from dropping or static electricity, are noted when applicable.
- **Polymerization - Hazardous Polymerization.** A polymerization reaction is hazardous when it takes place at a rate that releases large amounts of energy. If hazardous polymerization can occur with a given material, the MSDS usually will list conditions that could start the reaction. In addition, since the material usually contains a polymerization inhibitor, the expected time period before the inhibitor is used up is also given.

- **Reactions with Other Chemicals - Incompatible Materials.** Materials that could cause dangerous reactions from direct contact with one another are described as incompatible. Common chemicals that react with the product are usually listed in the MSDS. Hazardous products of decomposition, including combustion products, are listed.

Section VIII - First Aid

First aid procedures are described for each of the normal routes of exposure. It is important that first aid be administered as soon as possible after exposure has occurred. If in any doubt regarding the victim's condition, a physician should be called. In case of emergency, call 911 or University Police for medical assistance.

Section IX - Toxicology and Health Information

The consequences of exposure, if any, by inhalation, skin or eye contact, or ingestion are outlined in this section. The signs, symptoms and effects that the exposure could produce are described so that any exposure would be recognized as quickly as possible and the appropriate action taken. The organs that are more susceptible to attack are referred to as target organs. The effects and damage that exposure could produce on these organs are given together with the symptoms. Some of the terms used that may be less familiar or which may have a specific inference in MSDS are defined below:

- **Acute Effect:** An adverse effect on a human or animal resulting from a single exposure with symptoms developing almost immediately after exposure. The effect is often of short duration.
- **Chronic Effect:** An adverse effect on a human or animal body resulting from repeated low level exposure, with symptoms that develop slowly over a long period of time or that recur frequently.
- **Corrosive:** A liquid or solid that causes visible destruction or irreversible alterations in human or animal tissue.
- **Irritation:** An inflammatory response or reaction of the eye, skin or respiratory system.
- **Allergic Sensitization:** A process whereby on first exposure a substance causes little or no reaction in humans or test animals, but which on repeated exposure may cause a marked response not necessarily limited to the contact site. Skin sensitization is the most common form of sensitization in the industrial setting, although respiratory sensitization is also known to occur.
- **Teratogen:** A substance or agent to which exposure of a pregnant female can result in malformations (birth defects) to the skeleton and or soft tissue of the fetus.
- **Mutagen:** A substance or agent capable of altering the genetic material in a living organism.
- **Carcinogen:** A substance or agent capable of causing or producing cancer in humans or animals. Authorities/organizations that have evaluated whether or not a substance is a

carcinogen are the International Agency for Research on Cancer (IARC), the U. S. National Toxicology Program (NTP) and OSHA.
- **Target Organ Effects:** Chemically-caused effects upon organs and systems such as the liver, kidneys, nervous system, lungs, skin, and eyes from exposure to a material.

To evaluate the potential human effects from exposure to hazardous chemicals, studies in laboratory animals are performed. The terms most commonly used to define the results of the studies are as follows:

- **LD_{50} (Lethal Dose Fifty)** - The dose of a substance expected to cause the death of 50% of an experimental animal population. This dose may be from oral, dermal or other routes of exposure. The units given for the LD_{50} are usually milligrams per kilogram body weight of the tested animal (mg/kg).
- **LC_{50} (Lethal Concentration Fifty)** - A calculated concentration of a substance in air, exposure to which for specified length of time is expected to cause the death of 50% of a laboratory animal population. This concentration is usually in nits of milligrams per cubic meter of air (mg/m3) or milligrams per liter of air (mg/1) and is given for some time period (usually one or four hors).

Other terms occasionally used are:

- **LD_{LO}(Lethal Dose Low)** - The lowest dose of substance introduced by any route other than inhalation reported to have caused death in humans or animals.
- **LC_{LO}(Lethal Concentration Low)** - The lowest concentration of a substance in air that has been reported to have caused death in humans or animals.
- **TD_{LO}(Toxic Dose Low)** - The lowest dose of a substance to which humans or animals have been exposed and reported to produce a toxic effect other than cancer.

Section X - Transportation Information

In the event the material is regulated as hazardous by the Dept of Transportation (DOT), the Hazardous Materials Regulations as described in the Code of Federal Regulations, 49 Chapter 1 subchapter C are outlined in the LAND portion of Section X. The IMO and IATA/ICAO regulations are also given for water and air modes respectively.

Section XI - Spill and Leak Procedures

Procedural recommendations relative to air, land and water are described.

Report all emergency campus spills/leaks by phone to 911.

The Department of Environmental Safety - Environmental Affairs Unit is available to provide consultation and assistance for non-emergency spills and leaks. Contact (866) 896-5337 during normal working hours, or through the Southern University Police Department during weekend or evening hours.

CHEMTREC is a national center established by the Chemical Manufacturer Association (CMA) in Washington, DC, to relay pertinent emergency information concerning specific chemicals on request. CHEMTREC has a 24-hour toll-free telephone number (800) 424-9300, intended primarily for use by those who respond to chemical transportation emergencies.

During cleanup of sills or leaks, it may be necessary to use extra personal protective equipment as compared to normal operations. Recommendations for equipment use additional to what is described in Section B are given.

Section XII - Waste Disposal

This section gives guidelines for disposing of a product if it becomes a waste. Recommendations are based upon the physical state and hazardous properties of the material. If the material is designated as hazardous by 40 CFR Part 261, it must be disposed of in a permitted hazardous waste treatment, storage, or disposal facility in accordance with local, state, and federal regulations. If the material is non-hazardous, recommendations for disposal are made depending on the physical state and known characteristics of the material.

Section XIII - Additional Regulatory Information

This section contains information relevant to compliance with other Federal and/or state laws such as TSCA, FIFRA and FDA.

Section XIV - Additional Information

Any relevant additional information is given in this section.

Section XV - Major References

This section lists some of the major references that have been consulted in preparing the Material Safety Data Sheet.