THE UNIVERSITY OF TEXAS AT TYLER

HAZARD COMMUNICATION PROGRAM MANUAL

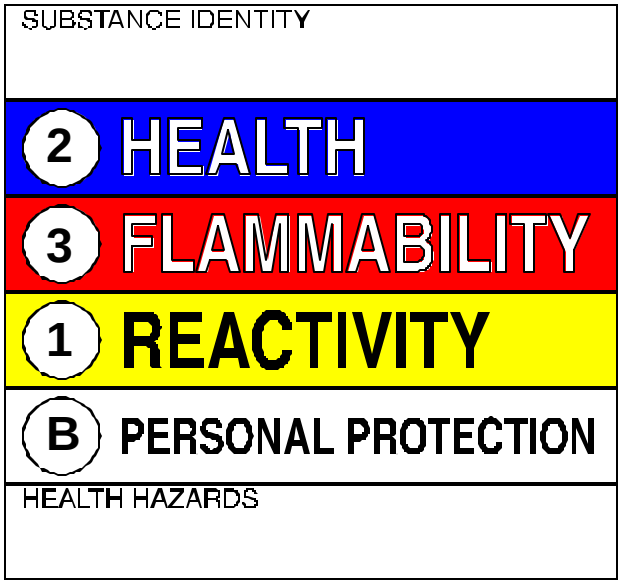

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TABLE OF CONTENTS

PURPOSE

The intent of The University of Texas at Tyler's (UT Tyler) Hazard Communication program is to prevent injuries, illnesses and accidents resulting from exposure to hazardous chemicals. Additionally, this program will provide faculty, staff, and emergency planning organizations access to information to ensure compliance with the Texas Hazard Communication Act (THCA) and rules, Public Employer Community Right-To-Know Act (PCRA), and the Emergency Planning and Community Right-To-Know Act (EPCRA).

OBJECTIVE

The objective of this program is to establish a systematic guide for the safe use, handling, transfer, and storage of hazardous chemicals by faculty and staff through information, training and the implementation of procedures incorporating safe work practices. Note: This document may use the terms "faculty and staff" and "employees" interchangeably.

IMPLEMENTATION PROCEDURES

The following steps have been taken by UT Tyler to implement and manage this Hazard Communication (HazCom) Program.

1. Designate workplace representatives with responsibility for coordinating HazCom activities for their department.

2. Develop an up-to-date hazardous chemicals inventory.

3. Set-up a periodic workplace review process to maintain an up-to-date inventory of hazardous chemicals.

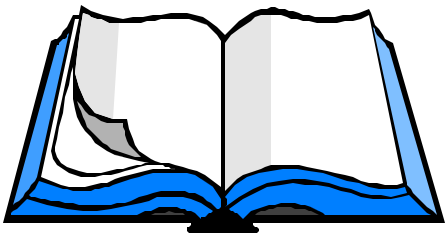
4. Request copies of Material Safety Data Sheets (MSDSs) from manufacturers and suppliers.

5. Collect and distribute MSDSs to all appropriate work areas within this workplace.

6. Introduce a chemical container labeling system for containers that may require additional labels.

7. Develop and implement an education and training program for faculty and staff to include classroom instruction with appropriate training materials and documentation.

Note: Detailed information on the content, requirements and management of the HazCom Program can be found in the following pages.



APPLICABILITY

This program applies to all faculty, staff and contractors who use, handle or transfer hazardous chemicals at this workplace.

According to THCA, a "workplace" is defined as a contiguous facility that is staffed 20 or more hours a week, unless such a facility is subdivided by the employer. Normally, this subdivision would be a building, cluster of buildings or other structures, or complex of buildings, but could be for a portion of a building if the employer chooses. For the purposes of this program, "workplace" will be defined as The University of Texas at Tyler, 3900 University Boulevard, Tyler, Texas, 75799.

Our workplace relies on the data contained on the manufacturer's MSDS for evaluating the hazards associated with any chemical at this workplace. In the event an MSDS is insufficient, the following information will be used for the proper evaluation of a chemical or substance in the workplace. Any chemical, chemical mixture or material will be considered hazardous for the purpose of the HazCom Program when the evaluation of the available data demonstrates that the substance is a physical hazard or health hazard. This evaluation will be based on identification in the OSHA standard in 29 CFR Section 1910.1200 (c) or as a hazardous substance as defined in 29 CFR 1910.1200 (d).

In accordance with THCA and rules, this program does not apply to the following substances used or stored at this workplace:

1. Hazardous waste;
2. Tobacco or tobacco products;
3. Wood or wood products;
4. Articles that do not normally release hazardous chemicals;
5. Food, drugs, or cosmetics intended for personal consumption by an employee while in the workplace;
6. Any consumer product if it can be demonstrated that that the product is used in the same manner as normal consumer use, and if the use results in a duration and frequency of exposure which is not greater than exposures experienced by consumers;
7. Any drug, as that term is defined in the Federal Food, Drug and Cosmetic Act;
8. Radioactive waste;
9. A hazardous chemical in a sealed and labeled package that is received and subsequently sold or transferred in that package if:
    - The seal and label remain intact while the chemical is in the workplace, and
    - The chemical does not remain in the workplace longer than five (5) working days.

RESPONSIBILITIES

UNIVERSITY-WIDE SAFETY RESPONSIBILITY

UT Tyler's President has ultimate responsibility for compliance with the THCA and rules.

ENVIRONMENTAL HEALTH & SAFETY (EH&S)

1. Provide general HazCom training to all faculty and staff through on-line Training Post presentations.

2. Provide site-specific HazCom training to all faculty and staff in those identified departments with significant amounts of hazardous materials in the workplace.

3. Conduct periodic reviews to determine UT Tyler's compliance with the THCA and rules, as well as the procedures contained in this program manual and those contained in any supplementary information developed at UT Tyler in response to specific activities or areas of research.

4. Report any known instances of non-compliance with these procedures to the Hazardous Materials Management Subcommittee, University Safety Committee and the Institution's Compliance Committee

5. Undertake necessary enforcement actions to ensure full compliance with UT Tyler's HazCom Program, up to and including independent authority to shut down operations for violations of the procedures contained in the program manual. Approval of the Dean, Department Chair, Director, Manager or Supervisor is not required.

6. Provide guidance to Department Safety Liaisons (DSLs), faculty and staff for maintaining compliance with the THCA and rules, as well as the procedures contained in this manual.

7. Provide technical research and assistance to departments in meeting their responsibilities contained in this manual.

8. Maintain a backup file of the Hazardous Materials Inventories and Material Safety Data Sheets (MSDSs) for the University.

9. Post and maintain adequate "Notice to Employees" in areas where notices are usually posted. These notices inform employees of their rights under the THCA and may need to be posted in both English and Spanish. A copy of the State approved "Notice to Employees" can be found in Appendix #8 of this manual.

10. Ensure DSLs have a current copy of UT Tyler's HazCom Program Manual.

11. Provide technical review of MSDSs for Department Heads/Budget Authorities for proposed chemicals to be brought onto campus by on-site contractors.

DEPARTMENT HEADS/BUDGET AUTHORITIES

1. Appoint a Department Safety Liaison (DSL) responsible for coordinating all HazCom activities throughout the department.

2. Ensure compliance with: the THCA and rules, and the procedures contained in this manual, and those contained in any supplementary information developed in the college/department in response to specific activities or areas of research.

3. Assign responsibility to appropriate personnel for support of the HazCom Program. These personnel will coordinate with the DSL.

4. Develop and administer any additional policies and procedures within the college/department as needed to ensure the effective implementation of the program. Instruct employees on the contents of this manual, its appendices, and any supplements, and the location of the manual and related materials within the workplace.

5. Conduct periodic work area/facility surveys (at least annually) to maintain an up-to-date MSDS file, hazardous chemicals inventory and to assure general compliance with this program. Provide the DSL with a copy of the inventory.

6. Ensure site-specific HazCom training is provided to the appropriate departmental employees.

7. Ensure HazCom training records for the department such as sign-in sheets and training materials have been provided to the DSL for record keeping purposes.

8. Maintain and update hazardous chemicals inventories and MSDSs annually for the department as required by the THCA and rules.

9. Maintain a supply of personal protective equipment (PPE) as necessary. Ensure training for proper use and up-keep of personal protective equipment for employees.

10. Ensure all containers of hazardous chemicals are properly labeled and secured.

DEPARTMENT SAFETY LIAISONS (DSLs)

1. The DSL is responsible for coordinating all HazCom activities throughout their department.

2. Maintain a central and current departmental file for:

a. UT Tyler's HazCom Program Manual and any departmental modifications or additions to the manual;

b. hazardous chemicals inventories and MSDSs;

c. training documentation such as sign-in sheets and training materials; and program review forms.

3. Revise and update departmental procedures when needed.

4. Coordinate and schedule with EH&S periodic site-specific HazCom training sessions for employees requiring training (in conjunction with Department Heads/Budget Authorities).

5. Ensure the department's hazardous chemicals inventory is completed and sent to EH&S by December 31st of each calendar year. See Appendix #4, Hazardous Materials Inventory.

6. Annually review the departmental HazCom program using the Annual HazCom Program Review Form. Once the form is complete, it should be kept in this manual. See Appendix #5, Annual HazCom Program Review.

FACULTY AND STAFF

1. Attend HazCom and other related training sessions.

2. Comply with applicable workplace safety procedures and use required personal protective equipment.

3. Obtain approval from Supervisor prior to purchasing any hazardous chemicals.

4. Know which chemicals in their work area are hazardous.

5. Become familiar with the information on the MSDSs for the hazardous chemicals in their work area.

6. Inform Department Heads/Budget Authorities or DSL immediately of any safety equipment that is needed, but not available, or that is not in good working order.

7. Inform Supervisor before performing a non-routine task involving hazardous chemicals.

8. Inform Supervisor immediately of exposure symptoms, accidents, chemical releases or other hazardous conditions observed and document the incident.

Program Requirements

The following written HazCom Program is to be implemented for all faculty and staff of UT Tyler.

Each DSL will ensure a current copy of: UT Tyler's Hazard Communication Program Manual (and any departmental modifications or additions to the manual), training documentation, Hazardous Materials Inventories (HMI), and MSDSs are located in a central file in the DSL's office. This information will be made available to an employee(s) upon hiring. A copy of an MSDS will be supplied to any employee upon request.

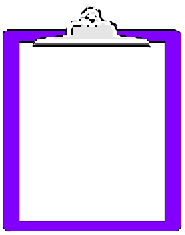
MSDS files will be maintained in locations in close proximity to chemical use and should be made readily available to faculty and staff.

Additionally, backup copies of the HMIs and MSDSs are kept in the Environmental Health & Safety office - Physical Plant room 136.

The HazCom Program Manual will be updated when new chemicals or hazards are introduced into the work environment, and reviewed annually by the DSL using the Annual HazCom Program Review Form. A blank copy of this form can be found in Appendix #5 of this manual. The DSL will maintain a copy of the completed form for inclusion in the department's HazCom file.

Employee complaints relating to violation of the Texas Hazard Communication Act should be directed to the Texas Department of Health, Toxic Substances Control Division, Hazard Communication Branch at the toll free number: 1-800-452-2791.

System Administration is required to report the occurrence of any employee accident, including asphyxiation, resulting from a chemical exposure and that is fatal to one or more employees or that results in the hospitalization of five or more employees. Such employee accidents may be reported to the Texas Department of Health, Toxic Substances Control Division, Hazard Communication Branch at the toll free number: 1-800-452-2791. Reports should be submitted either orally or in writing no later than 48 hours after the occurrence of the accident. Written reports may be transmitted via facsimile or electronic means.



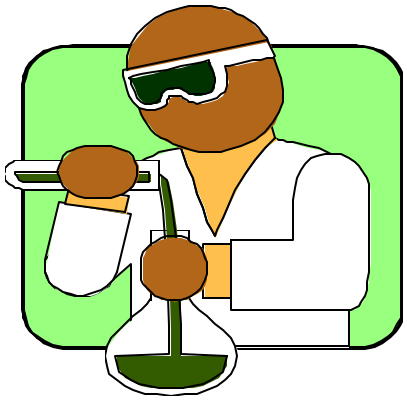
HAZARDOUS MATERIAL INVENTORY

In general, UT Tyler relies on the MSDS information provided by the manufacturer and/or supplier to determine if a specific chemical product is to be considered a hazardous chemical and therefore included on the HMI. For THCA compliance purposes, it should be noted that Hazardous Materials Inventory and Workplace Chemicals List has the same meaning in this document.

A central backup file will be compiled for UT Tyler and maintained in the EH&S office located in Physical Plant, Room #136. Regular workplace surveys are coordinated by DSLs using the standard HMI form. The completed lists are maintained by the DSL with the department's central HazCom files. Copies are provided to EH&S by no later than December 31st of each calendar year, for inclusion in the central backup file. For record keeping purposes, HMIs are kept in the central backup file for thirty (30) years.

The HMI form can be found in Appendix #4 of this manual. When completing the form, hazardous chemicals should be listed in alphabetical order by chemical/product name. If you should need assistance completing this form, contact EH&S at 566-7011.

Employees requesting copies of this list should contact their Supervisor or DSL.



MATERIAL SAFETY DATA SHEET (MSDS) MANAGEMENT

DSLs are responsible for ensuring MSDS records are reviewed and kept up-to-date on a regular basis.

Manufacturers, distributors and/or suppliers who supply hazardous chemicals to each department should be contacted by the DSL in writing to obtain MSDSs. A sample MSDS request letter can be found in Appendix #2 of this manual. A copy of each request letter should be placed in the central departmental file or the "Hazardous Materials Inventory and MSDSs" section of the DSL Handbook. Additionally, to assist faculty and staff in the use and understanding of MSDS information, "How to Read and Interpret an MSDS" can be found in Appendix #3 of this manual.

When MSDSs are received, Supervisors should review the incoming data sheets for significant safety and health information and for any special warnings for the chemical product. Any pertinent hazard information should be made available to employees via training and should also be used when labeling containers of hazardous chemicals. The MSDS should be made available in the workarea and a copy should be forwarded to the DSL to be maintained in the department's central HazCom file or the "Hazardous Materials Inventory and MSDSs" section of the DSL Handbook. Upon receipt of an MSDS, the DSL will forward a copy to EH&S for inclusion in the central backup file maintained in the EH&S office in Physical Plant, Room #102.

Employees requesting copies of MSDSs should contact their Supervisor, DSL or the EH&S office. Paper copies of MSDSs should be maintained in each departmental file for immediate availability in the event of an emergency. However, there are several public domain sites on the World Wide Web that maintain free electronic databases of MSDSs. These MSDSs may be downloaded and printed for inclusion in the department's MSDS files. Two sites used by EH&S follow:

- http://siri.uvm.edu/msds/
- http://MSDS.CORNELL.EDU/issearch/msdssrch.htm

CHEMICAL CONTAINER LABELING SYSTEM

The Supervisor is responsible for all original containers of hazardous chemicals entering the department and will assure that these containers are properly labeled with the:

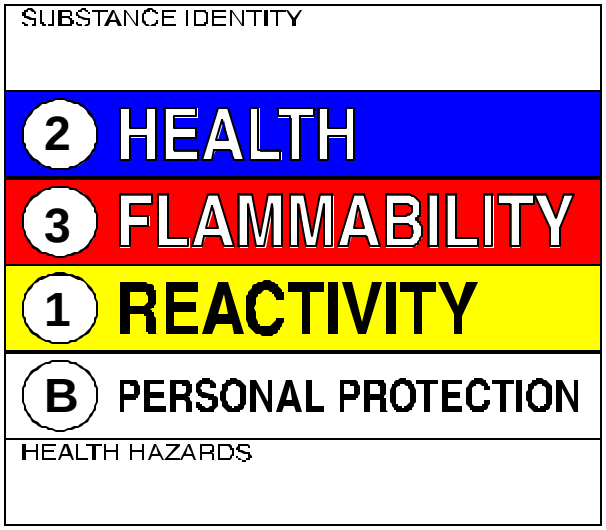
- Chemical name
- Hazard warnings, including the target organ effects
- Name and address of the manufacturer, distributor or supplier

The Supervisor is responsible for ensuring that in-house secondary containers are labeled properly using the following guidelines:

1. When hazardous chemicals are transferred from original to secondary containers, each secondary container is labeled to include the following: the identity of the chemical appearing on the MSDS; appropriate hazard warnings, or alternatively, words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the supervisor's site-specific training program, will reasonably provide employees with specific information regarding the physical and health hazards including target organ effects of the hazardous chemical.

2. Container labels are of prominent size and in an easy to read location.

3. Stationary tanks, vessels, and pipes that contain hazardous chemicals have clearly affixed HMIG labels, signs or placards that identify the contents and have the appropriate hazard warnings.



EMPLOYEE EDUCATION AND TRAINING

EH&S is responsible for implementing the Training Post module for general HazCom training for UT Tyler. Each respective Department Head/Budget Authority is responsible for assuring that site-specific training on chemical hazards associated with hazardous chemicals in their work area has been done in conjunction with EH&S.

All employees who may be exposed to chemical hazards in this workplace are provided with initial training prior to working in an area containing hazardous chemicals. This includes new or newly assigned employees. Additional training will be provided "as-needed" when the potential for exposure to hazardous chemicals increases significantly or when the workplace receives new and significant information concerning the hazards of a chemical in the employees' work area.

UT Tyler's General HazCom Training Program includes:

1. An overview of the Texas Hazard Communication Act, Notice to Employees, employee rights, reporting employee injuries and deaths and this workplace's HazCom Program;
2. Information on interpreting different types of hazardous chemical labels (i.e. written labels, pictograms, HMIG and NFPA);
3. Information on obtaining and interpreting MSDSs;
4. Information on the relationship between hazardous chemical labels and the MSDSs;
5. General instructions on spill clean up procedures of hazardous chemicals;

Departmental Site-specific HazCom Training Programs should contain:

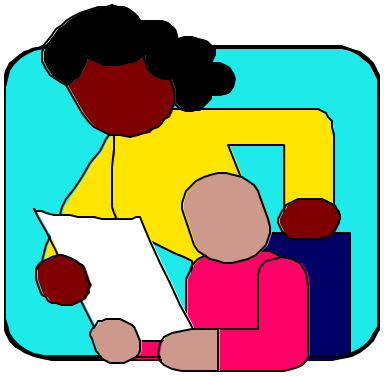
1. The location by work area, of known hazardous chemicals used by the employees and location of MSDSs for those chemicals;
2. Information on obtaining MSDSs in the department;
3. Information on the relationship between hazardous chemical labels and the MSDSs;
4. Department-specific instructions on the safe handling, storage and spill clean-up procedures of hazardous chemicals;
5. Information on the potential for exposure to and the types of hazards associated with different categories of hazardous chemicals (i.e. flammables, toxics, reactives, etc.);
6. Information on personal protective equipment (PPE) and first aid procedures to be used with respect to those categories of hazardous chemicals;

7. The acute and chronic effects of known hazardous chemicals used by the employees;

UT Tyler makes use of several types of training materials including, but not limited to: PowerPoint presentations, overhead transparencies, videotapes, manuals and handouts, employee review sessions and quizzes. Copies of general HazCom training materials can be found in the EH&S office located in the Physical Plant, Room #136.

To document training sessions, a record keeping system has been established. For each session, a record is maintained that includes an attendance list of the employees who attend the session; a description of the subjects covered in the session and the names of the instructors. Examples of UT Tyler's HazCom Training Attendance List can be found in Appendix #6 of this manual.

Each DSL maintains training documentation for inclusion in the Department's HazCom file. All general HazCom training attendance records are maintained in the Human Resources office, located in the Administration Building, Room # 108.



NON-ROUTINE TASKS

Before any non-routine task is performed (including work on non-labeled pipes), employees must contact their Department Head/Budget Authority for special precautions to follow. The Department Head/Budget Authority will inform EH&S and other faculty and/or staff who could be exposed to chemical hazards as a result of the non-routine task being performed.

In the event such tasks are required, the Department Head/Budget Authority will provide EH&S and employees the following information about specific chemical hazards expected to be encountered:

1. Specific chemical name(s) and hazard(s);
2. Personal protective equipment required and safety measures to be taken;
3. Measures that have been taken to lessen the hazards including ventilation, respirators, presence of other employee(s), cordoning off hazardous areas, and emergency response procedures.
4. See Appendix #7 for a Hazard Analysis Worksheet for Non-Routine Tasks which may be of assistance in this process.

ON-SITE CONTRACTORS

Before an outside contractor performs any on-site work, it is the responsibility of the Department Head/Budget Authority to notify the Physical Plant Director and EH&S Director. Additionally, the Department Head/Budget Authority will provide the On-Site Contractor with a memorandum announcing possible chemical hazards in the workplace. This memo will also announce the availability of our written HazCom program including the Hazardous Materials Inventory and MSDSs for areas in which they may be working. A sample copy of a memo to on-site contractors can be found in the appendix of this manual. A copy of each memo will be sent to EH&S and Physical Plant.

The Department Head/Budget Authority is also responsible for obtaining an MSDS for each hazardous chemical the contractor(s) intends to bring on-site. This information will be kept in the department's central HazCom file, or in the "Hazardous Materials Inventory and MSDSs" section of the DSL Handbook. A copy will also be forwarded to EH&S for inclusion in UT Tyler's backup MSDSs file.

APPENDICES

APPENDIX #1 SAMPLE MEMO TO ON-SITE CONTRACTORS

TO: All Contractors

FROM: _____

DATE: _____

SUBJECT: Hazardous Chemicals at _____

The University of Texas at Tyler has implemented a written hazard communication program to inform employees, contractors, etc. of possible chemical hazards in areas of our facilities. In addition, a list has been developed of all hazardous chemicals in use at this workplace. To comply with federal and state hazard communication standards, copies of our written program, Hazardous chemicals Inventory and Material Safety Data Sheets (MSDSs) are available to you and your employees upon request.

Please be advised that you are required to **submit an MSDS for each hazardous chemical you intend to bring into our workplace**. These MSDSs must be submitted to me and approved for use before the chemical is brought into our workplace.

Should you have questions, please call.

Sincerely,

_____

Name

_____

Title

_____

Department/Division

_____

Telephone/Fax Number

_____

Address

_____

City/State/Zip Code

APPENDIX #2 SAMPLE MSDS REQUEST LETTER

Date: _____
Company Name: _____
Address: _____
City, State, Zip Code: _____

To Whom It May Concern:

In accordance with the Texas Hazard Communication Act (Chapter 502 of the Health and Safety Code), a chemical manufacturer, or distributor must provide appropriate material safety data sheets (MSDS) to employers who acquire hazardous chemical products in Texas. These MSDSs must be provided with each initial shipment and with the first shipment after an MSDS is updated. To date, we have not received MSDSs for the following chemical products supplied to us by your company:

_____

_____

It is essential that MSDSs provided are up-to-date and must conform to the most current requirements of the Occupational Safety and Health Administration (OSHA) Standard.

Please forward the requested MSDS within twenty (20) days from the date indicated above. In the future, please provide MSDSs with all products supplied to _____

_____

Should you have questions, please call _____
Thank you for your cooperation.

Respectfully,

_____
Name

_____
Title

_____
Department

_____
Telephone/Fax Number

_____
Address

_____
City, State Zip Code

APPENDIX #3 HOW TO READ AND INTERPRET AN "MSDS"

(Based on U.S. Department of Labor, OSHA Form No. 1218.0072)

PRODUCT IDENTIFICATION

MSDS Number: A reference number assigned by the manufacturer.

Product Name: The commercial name of the product.

MSDS Date: The date of issuance.

24-Hour Emergency Phone Number: A number where a company representative can be reached at any time for information.

Manufacturer's Name and Address: The name and address of the manufacturer.

CAS Number: Chemical Abstract Service number.

Chemical Name: Lists the specific chemical name(s) of this product.

Synonyms/Common Names: Other names the product could be known by.

Chemical Formula: Actual chemical make-up of the product.

DOT Proper Shipping Name: A name assigned by the Department of Transportation (DOT) to this product and other similar products for storage and transportation purposes.

DOT Hazard Class: The group this chemical falls into determined by its hazardous properties. i.e., "Flammable", "Explosive", etc.

DOT I.D. Number: The identification number used by DOT for the chemical/product.

HAZARDOUS INGREDIENTS AND INFORMATION

Hazardous Components: This section contains information regarding the Exposure Limits of this product. Exposure limits are the permissible exposure concentrations of the hazardous components of this manufacturer's product.

PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point: The temperature at which a liquid changes to a vapor state.

Vapor Pressure: The pressure exerted by a vapor above a liquid in a closed container.

Vapor Density: The weight of a vapor or gas compared to the weight of an equal volume of air.

Solubility in Water: The percentage of the material that will dissolve in H2O under normal conditions.

Specific Gravity: The weight of a material compared to the weight of an equal volume of H2O under normal conditions.

Evaporation Rate: The rate at which a chemical will evaporate compared to the evaporation rate of butyl acetate.

Appearance and Odor: The odor, consistency, physical state at room temperature and other physical characteristics described in common terms.

Freezing (Melting) Point: The highest temperature at which a liquid becomes solid or a gas becomes liquid.

% Volatiles by Weight: The percent of a liquid that will evaporate at 70 degrees Fahrenheit.

pH: Expresses the acidity or alkalinity of the product. The pH scale runs from 0 - 14, with 0 being highly acidic and 14 being highly alkaline.

FIRE AND EXPLOSION HAZARD DATA

Flashpoint: The minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with an ignition source present.

Autoignition Temperature: The lowest temperature at which a gas or vapor-air mixture will ignite without a spark or flame.

Flammable Limits: The range of a gas or vapor concentration in air that is needed for it to ignite and maintain/sustain combustion.

Extinguishing Media: The appropriate agent to use in extinguishing a fire involving this product.

Special Firefighting Procedures: Appropriate equipment and methods to be used in fire situations.

Unusual Fire and Explosion Hazards: Special hazards or conditions that may lead to fire or explosion of this product.

REACTIVITY DATA

Incompatibility: Other chemicals that can cause dangerous or unwanted reactions if mixed with this product.

Hazardous Decomposition or By-products: A description of chemical changes that can occur on exposure to heat, change in temperature, aging, etc., and the hazardous by-products that could be produced.

Hazardous Polymerization: Where two or more molecules (monomers) come together to form a larger molecule (polymer). Typically, this will result in the release of large amounts of energy.

HEALTH HAZARD DATA

Health Hazard: The potential health hazards resulting from low, high, short-term and long-term exposure to this product.

ROUTES OF EXPOSURE OR ENTRY

Inhalation: Breathing-in of the substance.

Skin Contact: Exposure by coming in contact with your skin.

Skin Absorption: Exposure by contact with the skin and absorbing the product into your bloodstream.

Eye Contact: Splashing into or otherwise bringing your eyes in contact with the product.

Ingestion: Taking the product by mouth, swallowing.

EFFECTS OF OVEREXPOSURE

Acute: Immediate, severe, physiological effects of overexposure.

Chronic: Long-term physiological effects of overexposure.

Carcinogenicity: The potential of this product to cause cancer. **NTP -** National Toxicity Program. **IARC -** International Agency for Research on Cancer

Medical Conditions Aggravated by Exposure: A list of the conditions that can be worsened or changed by exposure to this product such as emphysema, dermatitis, asthma, etc.

Emergency Procedures: Treatment recommendations for immediate use after contact with this material based on routes of exposure and severity of symptoms.

PRECAUTIONS FOR SAFE HANDLING AND USE

This section provides information needed in case of accidents, spills and leaks of this product. It gives specific procedures to follow for clean-up and protection of the environment.

This section also details the proper disposal and storage procedures for this product.

Single Word: A work used in labeling to warn of the hazardous nature of this product such as “Danger”, “Poisonous”, “Flammable”, etc.

Statement of Hazards: A brief description of the hazardous characteristics of this product.

Precautionary Statements: Comments on Specific cautions to be used when working with or around this product. Specifies dangerous conditions to avoid.

CONTROL MEASURES

This section provides details for specific ventilation requirements for areas where this product is used or stored.

This section also gives requirements for specific personal protective equipment to be used by all personnel when working with this product. Equipment specifications are based on the hazardous properties of this product and will include recommendations for respiratory protection, eye protection, gloves, protective clothing, and work procedures to ensure safe handling of this product.

APPENDIX #4 HAZARDOUS MATERIALS INVENTORY FORM

The following is a list of all hazardous chemicals contained in this area in quantities totaling 1L (2pt) and 1kg (1.1lbs.) or greater, and any quantity of explosives, highly reactives, EP toxic, or other extremely hazardous chemicals. This inventory shall be kept on file and be made available to all department employees as part of the department's Hazard Communication Program.

Building & Room #

Contact Person

Department

Phone

Emergency Phone

Chemical Hazards Codes
(see definitions that follow)

1. Explosive (list any amount)
2. Flammable Liquid (FP<100 F)
3. Flammable Solid
4. Compressed Gas, flammable
5. Compressed Gas, non-flammable
6. Poisonous Gas, Liquid or solid
7. Combustible Liquid (FP 100 F - 200 F)
8. EP Toxic (list any amount)
9. Organic Peroxide
10. Corrosive (Liquid or Solid)
11. Oxidizer
12. Reactive (list any highly reactives)
13. Radioactive Material
14. Irritant (eyes or skin)
15. Biohazard (carcinogens, mutagens, reproductive toxins, etc.)
16. Extremely Toxic Material
17. Cryogenic Material

Chemical Name List all components in mixtures	**CAS Number**	**Amt. & Unit** (L, kg, etc.)	**Hazard Code** (list all)

Chemical Name List all components in mixtures	CAS Number	Amt. & Unit (L, kg, etc.)	Hazard Code (list all)

CHEMICAL HAZARD DEFINITIONS

1. **Explosive**: A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure or high temperature. (ex. commercial explosives, polynitro-organic compounds, some azides, and diazo compounds.)
2. **Flammable Liquids**: A liquid having a flashpoint below 100° F. (ex. halogenated and nonhalogenated hydrocarbons.)
3. **Flammable Solid**: A solid, other than a blasting agent or explosive that is liable to cause fire through friction, absorption or moisture, spontaneous chemical change, or retaining heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. (ex. metal hydrides, alkali metals, metal alkyls, metal carbonyls, finely divided metals, Raney nickel, low MW phosphines, elemental phosphorous pentasulfide or pentachloride, calcium metal, sodium hydrosulfite, activated charcoal.)
4. **Compressed Gas, Flammable**: A compressed gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13% by volume or less. (ex. hydrogen, methane, propylene, hydrogen sulfide, butane, vinyl chloride, carbon monoxide.)
5. **Compressed Gas, Nonflammable**: A compressed gas that is not flammable. (ex. nitrogen, argon, oxygen, certain freons, carbon dioxide.)
6. **Poisonous Gas, Liquid or Solid**: A gas, liquid or solid known to be so toxic to humans as to afford a hazard to health by inhalation, skin absorption or ingestion. (ex. Class A gases and liquids [small amounts dangerous] - cyanogen, hydrogen cyanide, nitric oxide, phosphine, arsine, hydrogen selenide. Class B gases and liquids [larger amounts dangerous] acrolein, allyl alcohol, acrylonitrile, aniline, toluene-diisocyanate, strong bases and acids, phenols, berylliun compounds, alkaloids, metal cyanides, phosgene nitrobenzene.)
7. **Combustible Liquid (100°F<FP,200°F)**: A liquid having a flashpoint between 100°F and 200°F. (ex. N-C10 through n-C13 paraffins, diethylbenzenes.)
8. **EP Toxic**: Materials from which the following contaminants, even at a very low concentration, may be extracted by an aqueous acetic solution: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, endrin, lindane, methoxychlor, toxaphene, herbicide 2,4-D, herbicide 2,4,5-T. (ex. dichromate cleaning solution, catalysts containing any of the listed metals at greater than ppm concentration, discarded metal salts.)
9. **Organic Peroxide**: Organic compounds containing the -O-O group. (ex. acetyl and benzoyl hydroperoxides, di-t-butyl peroxide, alkyl and aryl hydroperoxides.)
10. **Corrosive (Liquid or Solid)**: Any liquid or solid that causes irreversible destruction of human skin tissue, or a liquid that has a severe corrosion rate on steel. (ex. strong mineral acids, liquid aliphatic acids, inorganic and organic acid chlorides, halo-acetic acids, benzyl bromide and chloride, antimony pentachloride, phosphorus trichloride, alkali metal hydroxides, titanium tetrachloride, trimethylchlorosilane, bromine.)
11. **Oxidizer**: A substance that yields oxygen readily to stimulate the combustion of organic matter (ex. inorganic nitrates, perchlorates, permanganates, chromates and hypochlorite salts, concentrated organic and inorganic peroxides, chromium trioxide.)
12. **Reactive**: Explosive, unstable, reacts with water violently, or forms explosive mixtures or generates quantities of toxic gases such as hydrogen sulfide and hydrogen cyanide with water at any pH. (ex. cyanide or sulfide containing material, commercial explosives, organic peroxides alkali metals, etc.)

13. **Radioactive Material**: A liquid, solid or gas containing substances which emit ionizing radiation.
14. **Irritant (eyes and skin)**: Strong lachrymators, either directly or as the result of decomposition, or strong skin sensitizing agents. (ex. lachrymators - chloracetophenone, bromobenzyl cyanide. Skin sensitizers urushiol and other related alkylated polyphenols, epichlorohydrin, and certain resins containing epichlorohydrin cantharidin.)
15. **Biohazard**: Allergens and known or suspected carcinogens and reproductive toxins. (ex. teratogens, mutagens, embryotoxins, etc.)
16. **Extremely Toxic Material**: Materials that pose an unusual hazard or risk due either to the fact that they are lethal or acutely toxic at relatively low concentrations. Examples include ricin, strycnine, sarin, soman (pinacolyl methylphosphonofluoridate), tabun (dimethylamidoethoxyphoshphoryl cyanide) and aconitine.
17. **Cryogenic Material**: Fluids that have a normal boiling point below 150°F (65.6°C) at atmospheric pressure. Examples include liquid helium and liquid nitrogen.

APPENDIX #5 ANNUAL HAZCOM PROGRAM REVIEW

UT Tyler's Annual HazCom Program Review		**Department** _____ **Building** **Room #** _____ **Date Completed** **By** _____		
Item	**Yes**	**No**	**N/A**	**Recommendation**
Hazardous Materials Inventory (HMI) current				
Purchasing controls provided and used				
MSDSs current and available in workplace				
New employees trained				
Transfer employees trained				
Training performed when new hazard introduced				
HazCom Program current				
All chemical containers properly labeled				
All chemical container labels maintained				
Contractor employers informed of hazards				
Personal protective equipment used properly				
Annual HMI submitted to EH&S by Dec. 31st				
Accurate records maintained on all the above				
Additional Comments:				
Reviewer's signature: Route copies to:				

APPENDIX #6 HAZCOM TRAINING ATTENDANCE LIST

HazCom Training Attendance List
The University of Texas At Tyler

Date:_____ **Trainer:**_____
Site:_____
Subjects Covered:_____

Initials	Name (Please Print)	Department
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APPENDIX #7 HAZARD ANALYSIS WORKSHEET FOR NON-ROUTINE TASKS

This Hazard Analysis is to be used for performing non-routine tasks. The analysis is a simple guide to determine safety measures required for non-routine tasks performed by faculty and staff. This is meant as a guide only and may not cover all risks associated with non-routine tasks. If further assistance is needed in the hazard analysis of a particular project, please contact the Environmental Health & Safety office at 566-7011.

1. Chemicals associated with this project:

CHEMICALS:	HAZARDS:
_____	_____
_____	_____
_____	_____
_____	_____

2. Personal protective equipment required:

EQUIPMENT:		TRAINING REQUIRED:
Gloves	_____	Y____N____
Safety Glasses	_____	Y____N____
Face Shield	_____	Y____N____
Protective Shoes	_____	Y____N____
Welding Goggles	_____	Y____N____
Respirator	_____	Y____N____
Other	_____	Y____N____

3. Protective measures required at work site:

MEASURES:	
Hazard/warning signs required	Y____N____
Lock Out/Tag Out	Y____N____
Ventilation	Y____N____
Cordon area off	Y____N____
Personnel watch	Y____N____
Emergency response procedures	Y____N____