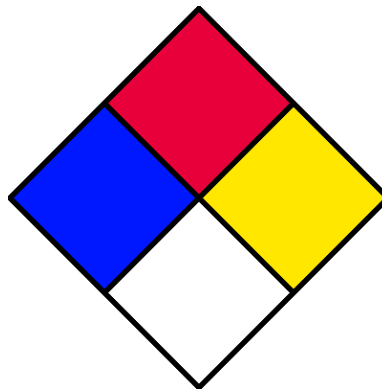




ITHACA COLLEGE

HAZARD COMMUNICATION

PROGRAM



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Office of Public Safety & Emergency Management
Department of Environmental Health & Safety
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ITHACA COLLEGE
HAZARD COMMUNICATION PROGRAM
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SECTION 1 - POLICY STATEMENT

Ithaca College employees who encounter hazardous chemicals on a routine basis in his or her job will be included in the institution's *Hazard Communication Program*. The purpose of the program is to inform employees of the hazards that may be associated with chemicals in the workplace and the proper protective measures that must be taken to reduce exposure to associated hazards.

This program fulfills the *Hazard Communication Standard* promulgated by the federal Occupational Safety and Health Administration (OSHA) at *29 Code of Federal Regulations (CFR) Part 1910.1200*, as well as *Article 28 – Toxic Substances*, of the New York State labor laws. Ithaca College is committed to the implementation of its mandatory *Hazard Communication Program* and will take necessary measures to ensure that the program is effective.

The Office of Public Safety & Emergency Management – Department of Environmental Health & Safety (EH&S) is responsible for developing and maintaining the *Hazard Communication Program*. All applicable departments and personnel share responsibility for implementing the program. Inquiries related to this policy should be directed to the EH&S Manager.

SECTION 2 - EMPLOYEE RIGHTS

All Ithaca College employees have a right to know about the hazardous chemicals that they use in the workplace, or hazardous materials with reasonable personal exposure potential.

Employees may request, and will receive, information concerning any hazards that may be associated with chemical substances in the workplace. To obtain this information, the employee can complete a “Request for Hazard Communication Information” form (Appendix A) and submit the request to EH&S.

Material Safety Data Sheets (MSDSs) shall be made readily available during each work shift to any employee or designated representatives as required by federal regulations.

Ithaca College will make a copy of this written program available upon request to employees, their designated representative, and OSHA as required by law.

2.1 Employees Covered

The *Ithaca College Hazard Communication Program* applies to employees who may likely be exposed to hazardous chemicals under normal operating conditions, or in the event of a foreseeable emergency. A review of all departments and employee positions has been completed to determine which have reasonable potential for occupational exposure to hazardous materials during the performance of work. Listed below are the departments that have employees covered in the *Hazard Communication Program*.

Applicable Departments:

- Art Department
- Biology Department
- Boathouse
- Chemistry Department
- Health Center
- Library – Access Services & Instructional Graphics
- Mail Room⁽¹⁾
- Occupational Therapy
- Park Communications – Photo Processing/Development
- Physics Department
- Physical Plant - Custodial
- Physical Plant – Garage
- Physical Plant - Grounds
- Physical Plant – Shops/Maintenance
- Physical Therapy Department
- Print Shop
- Psychology Department
- Theatre Arts Department
- Warehouse⁽¹⁾

In general, the Hazard Communication Program does not apply to administrative office employees.

(1) Employees who only handle sealed containers (e.g., warehouse and mail-room) are exempt from the OSHA Hazard Communication Standard, except for ensuring that incoming containers of hazardous chemicals are clearly labeled, MSDS access is provided, and procedures are known for spills/leaks. All warehouse and mail room employees will receive the necessary training in applicable aspects of the OSHA Standard.

SECTION 3 – DEFINITIONS⁽¹⁾

Chemical - any element, chemical compound or mixture of elements and/or compounds.

Container – any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. (Pipes or piping systems, engines, fuel tanks, or other vehicle operating systems, are not considered to be “containers.”)

Designated Representative - any individual or organization to whom an employee gives written authorization to exercise such employee's rights under applicable OSHA regulations.

Employee - a worker who may be exposed to hazardous chemicals under normal operating conditions or emergencies, including, but not limited to production workers, line supervisors, and repair or maintenance personnel. Workers such as office workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Exposure or exposed – an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g., accidental or possible) exposure. “Subjected” in terms of health hazards includes any route of entry (e.g., inhalation, ingestion, injection, and skin contact/absorption).

Hazardous Chemical - a chemical that poses a physical or health hazard.

Hazard Warning - any words or pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the hazards of the chemical(s) in the containers.

Health Hazard - there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Immediate Use – the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Material Safety Data Sheet (MSDS) - any written material concerning a hazardous chemical that includes all information required by OSHA (Appendix B).

Physical Hazard - a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

Use – to package, handle, react, emit, extract, generate as a byproduct, or transfer.

(1) – Definitions are excerpted from *OSHA 29 CFR Part 1910.1200(c) – Hazard Communication*. Additional terms can be found in the *OSHA Hazard Communication Standard*. A copy of the OSHA standard is maintained at EH&S and is available on-line at www.osha.gov.

SECTION 4 - HAZARD INFORMATION

4.1 Written Program

Ithaca College has developed this *Hazard Communication Program* to establish the required written procedures for labeling, MSDS maintenance, employee communications, and training relative to chemical hazards in the workplace. At least one copy of this program shall be maintained on-campus at all times. The master copy of Ithaca College's *Hazard Communication Program* is filed in the EH&S office. Additional copies of the *Hazardous Communication Program* shall be maintained at the applicable departments who typically use hazardous chemicals on a routine basis (Section 2.1).

Ithaca College will make a paper copy of this written program available upon request to employees, their designated representative, and OSHA as required by law. Copies of this program shall be maintained on file by the departments specified on the distribution list located in Section 2.1 of this document. The *Hazard Communication Program* can also be viewed online at <http://www.ithaca.edu/sacl/safety/docs/>.

4.2 Chemical Inventories

A master inventory of all hazardous chemicals located at Ithaca College is maintained in the EH&S office. EH&S will initiate an audit of chemicals used in each applicable department at least annually. After the audit, any inconsistencies will be corrected. Additionally, each department must maintain a current written inventory of chemicals in its work area(s). The chemical names listed on the inventory must reference the chemical identity specified on the associated MSDS. The inventory must be organized in a logical order (e.g., alphabetically) for easy use.

4.2.1 Inventory Updates

The supervisor for each department is responsible for ensuring that the chemical inventory is kept updated, and that EH&S is notified whenever a chemical is added or deleted. All purchasers of materials must determine if the chemical is being ordered for the first time. If the chemical is being purchased for the first time, the person ordering the material must inform the supervisor and EH&S so the department and master chemical inventories can be updated. Chemical inventory update notifications should be promptly addressed to the Environmental Health & Safety Specialist.

4.3 Material Safety Data Sheets (MSDSs)

MSDSs provide specific health and safety information, chemical data, physical properties, personal protection measures, handling precautions, etc., about hazardous chemicals used in the workplace. MSDSs are prepared by manufacturers and importers of chemicals to make the users aware of the potential hazards associated with the product. Ithaca College is required to provide unobstructed, immediate access to MSDSs for each hazardous chemical that employees may use or potentially be exposed to during their work.

Ithaca College uses a fax-on-demand MSDS program, provided by the 3E Company, Carlsbad, CA, to ensure that all employees have full access to an MSDS 24 hours-per-day. Informational posters and telephone stickers that indicate the 800# and instruct employees on how to use the

fax-on-demand MSDS system are located where applicable throughout campus (3E Poster in Appendix C).

To obtain an MSDS, dial 1-(800) 451-8346.

- ✓ Be sure to have the following information available when you call: 1) product name and number, 2) manufacturer name, and 3) UPC code (if available).
- ✓ The most current copy of the MSDS will be sent to the fax number specified by the caller. In most cases the MSDS will be faxed immediately, but within no more than 20 minutes after calling. If the caller does not specify a fax number, their department fax is inoperative, they do not know their fax number, etc., the MSDS will be automatically sent to the Campus Safety Dispatch Center located in the Campus Safety/Physical Plant building, which is open 24 hours-per-day.

Because MSDSs are continuously updated, employees should not keep files of MSDSs. Employees should call for the most current copy of an MSDS each time it is needed to ensure that they receive the appropriate health and safety data.

MSDSs for chemicals no longer used will be archived on file by EH&S for a minimum of 40 years as required. Current and former employees should contact EH&S to obtain an archived MSDS.

4.3.1 Chemical Mixture Material Fact Sheets

If a chemical mixture is developed at Ithaca College for which there is no MSDS, the department and/or professor involved will determine the hazards and develop an appropriate chemical fact sheet. The fact sheet will contain the type and amount of information as described in Appendix B. Hazard information can be used from existing literature if it is available for the mixture's components. According to the OSHA *Hazard Communication Standard*, the following criteria will be used in making hazard determinations:

1. Carcinogenicity
2. Human Data
3. Animal Data
4. Adequacy and reporting of data

If new information regarding the hazards of a chemical mixture are identified, the container label(s) and fact sheet(s) must be immediately updated to include the additional safety information.

4.4 Labels

Chemical manufacturers, importers, and distributors are required to ensure that visible forms of warning are provided by labeling, placards, tags, and warning signs. The Ithaca College labeling system is consistent with labels currently in use by most manufacturers and, in general, relies upon the manufacturers' labels for applicable hazard information. The manufacturers' markings

and the Department of Transportation labels shall remain on all containers while on-campus. Labels must not be removed or defaced in any fashion. All hazardous chemical container labels must be legible, in English, and prominently displayed on each container. If containers of hazardous chemicals are received with no or illegible labels, the department should immediately return the material in exchange for properly labeled chemicals.

4.4.1 Label Information

As required by federal OSHA regulations, *all* containers (e.g. spray bottles, 1-gallon jugs, 5-gallon pails, drums, etc.) of hazardous chemicals must be clearly labeled with the following information:

- Chemical or Product Name
 - Chemical formulas and acronyms are not acceptable forms of labeling when used alone.
- Manufacturer Name, Address, and Telephone Number
- Applicable Hazard Information* (e.g. “Flammable,” “Corrosive,” etc.)
- Appropriate Health Hazard Warnings* (e.g. “Inhalation Hazard,” “Eye Irritant,” etc.)

* Warnings may include words, pictures, symbols, or combination thereof that provide specific information regarding the physical and health hazards of the chemical.

4.4.2 Labeling Responsibility

All applicable employees receive training in proper container labeling, and as such must ensure that all chemical containers are appropriately labeled. The employee's supervisor is ultimately responsible for checking if appropriate labeling is in place on incoming materials and for affixing labels on containers in his/her department, as needed. EH&S will review and update required label information, when necessary, by reviewing new regulations and published information on hazards to determine if any labels need to be changed.

If a bulk quantity of hazardous chemical is divided into smaller quantities, the supervisor is responsible for ensuring that appropriate labels that indicate all of the required information specified in Section 4.4.1 above, are affixed to all containers. The NFPA 704M Hazard Identification System may be used as long as all applicable OSHA labeling requirements (see Section 4.4.1) are met. Information about the NFPA 704M labeling system is provided in Appendix D.

If a material is transferred to a portable container, for immediate use (e.g. during one work shift) by the individual making the transfer, the container need not be labeled.

4.4.2.1 Alternate Labeling Systems

Where appropriate, signs, placards, process sheets, or similar written materials may be used in lieu of affixing labels to individual containers provided that the alternative labeling method clearly identifies the containers to which it is applicable and *conveys all of the information*

listed above. EH&S should be contacted if persons wish to implement an alternate labeling system.

If the hazardous chemical is regulated by OSHA in a substance-specific health standard (e.g., formaldehyde, benzene, and methylene chloride), the applicable department supervisor must ensure that the container labels for such chemicals are in accordance with the applicable OSHA standard.

4.4.3 Labeling Non-Hazardous Materials

As a general safety rule, all containers should be properly labeled to clearly identify their contents. Therefore, even containers of non-hazardous material such as water should be labeled with their contents so they are easily differentiated and not misidentified as a hazardous substance, and vice versa.

4.5 Chemical Disposal

The only chemicals that should be removed from the workplace are ones that are being legally discarded, recycled, or reused. It is important that EH&S be contacted for information prior to disposal to ensure compliance with applicable solid and hazardous waste regulations. All applicable wastes must be stored, handled, and disposed of in accordance with the College's hazardous waste management program.

4.6 OSHA *Hazard Communication Standard*

A current copy of OSHA's *Hazard Communication Standard* (29 CFR Part 1910.1200) shall be maintained and available for employee review during regular business hours at the EH&S office. A copy of the standard is also accessible on the Internet at www.osha.gov.

4.7 Employee Notification

As required by federal and New York state regulations, Ithaca College will post signage related to this program at locations where notices to employees are normally posted (e.g., Job Hall – Human Resources bulletin board, break rooms, etc.). The posters shall inform employees that they have a right to information regarding hazardous and toxic substances that may be located in his or her workplace, and a right to receive a description of the potential toxic effects of these substances and the circumstances under which the toxic effects are produced. (Copies of the mandatory federal and state informational posters are located in Appendix E.)

Whenever new information concerning hazards associated with a chemical product used at Ithaca College is obtained, the information will immediately be made available to all applicable employees.

SECTION 5 - TRAINING

5.1 Training Program

An important part of the *Hazard Communication Program* is the training required to educate employees who regularly use chemicals. Educating employees regarding chemical hazards is an effective way to reduce chemical accidents in the workplace. Therefore, employees who routinely use chemicals will be trained in the hazards associated with chemical use and appropriate protective measures.

To effectively educate employees, Ithaca College's training program includes three parts: 1) initial informational training at the New Employee Orientation; 2) job-specific information from the supervisor and, 3) annual classroom instruction.

The training program will instruct employees about the following:

- 1) The requirements of the federal OSHA *Hazard Communication Standard* and New York State Department of Labor – *Article 28*.
- 2) Details of the *Ithaca College Hazard Communication Program*.
- 3) The locations in the work area where the written *Hazard Communication Program* is available.
- 4) The locations and operations where applicable employees may potentially be exposed to hazardous chemicals.
- 5) The College procedures for accessing a product-specific MSDS, including chemicals not directly used by the employee, to which employees are potentially exposed.
- 6) Name(s) of chemicals used in the work area.
- 7) Hazard categories (e.g. “flammable”).
- 8) The proper procedures for working with hazardous chemicals.
- 9) The hazardous material labeling system.
- 10) MSDSs and how to use associated hazard information.
- 11) The methods of detection for the presence or release of a hazardous chemical.
- 12) The common properties as well as physical and health hazards that may be associated with use of hazardous chemicals to which employees may be exposed in the work area.
- 13) The methods employees can use to protect themselves from potential hazardous chemical exposures such as work practices, emergency procedures and personal protective equipment.
- 14) Symptoms and effects of chemical exposure at hazardous levels.

- 15) Proper chemical clean-up and disposal.
- 16) Appropriate emergency treatment.

EH&S annually trains all employees who work with hazardous chemicals about the *Hazard Communication Program*. Training will primarily consist of lectures and discussions, and may be supplemented with instructional videos when appropriate.

5.1.1 New Employees

EH&S, in conjunction with the Office of Human Resources, will provide each new employee, who will be working with hazardous chemicals, information as part of the new employee orientation session. A copy of the “Hazard Communication Program Summary” provided during new employee orientation is located in Appendix F. Prior to working with hazardous chemicals, the responsible supervisor must provide information more specific to the employee's work activities. EH&S will facilitate the training if the supervisor deems it necessary. All new employees will receive additional classroom training at the next scheduled annual refresher training (Section 5.1).

5.2 Department-Specific Training

Supervisors must provide or initiate any job- or task-specific instructions as required; and also whenever the potential for chemical exposure is altered (e.g., new chemical is introduced, new work area is assigned, etc.) or when a new hazard is introduced. If an employee is assigned to a new area, the supervisor must notify the employee of any new hazards he/she may be exposed to.

Documentation of initial and annual training is required to verify that all applicable employees have been trained. The Training Documentation Form (Appendix G) or an equivalent form must be completed for each training session. In addition, a written summary of the training must be attached to the form. Copies of all training documentation forms must be sent to EH&S for recordkeeping.

5.2.1 Non-Routine Tasks

Non-routine tasks are defined as working on, near, or with unlabeled piping, unlabeled vessels of an unknown substance, confined space entry where a hazardous substance may be present (e.g. cleaning out a boiler or chemical tank) and/or a one-time task using a hazardous substance differently than intended (e.g. using a solvent to remove stains from tile floors).

If an employee is required to perform a special or non-routine task, the supervisor must educate the employee about the hazards of the chemical product used or to which he/she may potentially be exposed prior to commencing the work.

All non-routine tasks will be evaluated by the supervisor (with the assistance of EH&S as necessary) before the task commences, to determine the likely hazards present. The determination will be conducted with both quantitative and qualitative analyses as appropriate (e.g. job-specific procedures, special PPE, air sampling, substance identification/analysis, etc.).

Once the hazard determination is made, the supervisor (and EH&S if necessary) will determine the appropriate precautions to either remove the hazard, change to a non-hazard, or protect from the hazard (e.g. PPE) to safeguard applicable employees.

5.2.2 Laboratory Chemical Safety

All personnel who work in a laboratory will be trained in all applicable components of the OSHA *Hazard Communication Standard*. These employees will receive additional training in accordance with the OSHA *Occupational Exposure to Hazardous Chemicals in Laboratories* (29 CFR Part 1910.1450).

5.3 Contractors

All persons working on Ithaca College property are entitled to information regarding the chemicals to which they may have reasonable potential to be exposed to while on-site.

The department who has hired the contractor is responsible for notifying EH&S of the project, its location, and nature of work to be performed. Prior to a contractor or contractor's employee reporting for work at Ithaca College, an assessment of the work area must be performed to determine if the contractor or contractor's employees will be exposed to hazardous chemicals from Ithaca College employees' activities. If it is determined that the contractor or contractor's employees will be potentially exposed to hazardous chemicals, EH&S will provide the appropriate level of training for the contractor and contractor's employees. The contractor will be instructed in the necessary components of the *Ithaca College Hazard Communication Program*, container labeling, and any applicable precautionary measures that need to be taken under normal operating conditions, as well as in the event of foreseeable emergencies.

Contractors who use hazardous materials must comply with the OSHA *Hazard Communication Standard* while working at Ithaca College. Contractors are required to maintain a current list of chemicals brought on-campus and keep copies of MSDSs for the hazardous materials they are using at the work-site. Copies of the inventory and MSDSs must also be submitted to EH&S for review and approval prior to beginning work at Ithaca College. If appropriate, the contractor may be required to submit its written Hazard Communication plan to EH&S for review and approval for use at Ithaca College.

Contractors are responsible for all chemicals they use, transport, and store on-campus. All chemicals must be stored, used, and handled in accordance with all applicable regulations. Any remedial measures taken to mitigate a spill of a contractor's chemical, including clean-up costs, damages, etc., are the responsibility of the contractor. Any chemicals brought on-campus and any associated wastes generated by a contractor must be removed from Ithaca College by the contractor upon completion of its work.

SECTION 6 – PERSONAL PROTECTIVE EQUIPMENT

Ithaca College has conducted a hazard evaluation of its jobs to identify personal protective equipment (PPE) as required. The supervisor, in conjunction with EH&S, will determine the specific PPE that is necessary for the employee. If safety equipment has been deemed necessary, PPE will be recommended by EH&S. Individual departments are responsible for the purchase and maintenance of the required safety equipment. Basic training in common PPE (e.g. gloves and safety glasses/goggles) is provided by the supervisor. Specific technical training in the proper use of applicable equipment (e.g. respirators) is the responsibility of EH&S. Training in the proper PPE usage may be provided in a dedicated training class, in conjunction with other training (e.g. Hazard Communication), and/or on an individual basis as appropriate. Supervisors must continuously and consistently enforce the proper use of PPE.

Supervisors must document the employee's receipt of and consultation in his/her assigned PPE. A PPE Assignment Form is located in Appendix H.

SECTION 7 - RECORDKEEPING

Ithaca College will maintain applicable records associated with chemical hazard information as required by OSHA regulations. Individual access to these records will be provided, upon request, to each affected employee, former employee, or designated representative (e.g., physician) in accordance with 29 CFR Part 1910.1020 of the OSHA regulations. EH&S, in conjunction with the Office of Human Resources, annually notifies all Ithaca College employees of their right to review applicable exposure records as required.

EH&S will also maintain the Hazard Communication training records. The records will be kept on file by Ithaca College for a minimum of forty years as required. Additionally, EH&S will maintain all requests for MSDSs and replies for forty years.

APPENDIX A

REQUEST FOR HAZARD COMMUNICATION INFORMATION

REQUEST FOR HAZARD COMMUNICATION INFORMATION

This form is to be used when requesting hazard information not contained on the product-specific MSDS. Please submit this form to the Environmental Safety Specialist at EH&S. *If you need information immediately please call EH&S at 607-274-3333.*

Date: _____

Name: _____

Department: _____

Telephone Number: _____

Chemical Name: _____

Manufacturer Name & Telephone/Address: _____

Explain Chemical Usage: _____

Specify Information Requested: _____

Other Notes/Comments: _____

APPENDIX B

MATERIAL SAFETY DATA SHEET SUMMARY

MATERIAL SAFETY DATA SHEET SUMMARY

EH&S will review any MSDS received for materials used at Ithaca College as necessary. The minimum acceptable information provided, in English, on MSDSs is as follows:

1. The name of the materials, as used on the label including, generic name, chemical name, trade name, formula, chemical family and/or common synonyms; the name or names of all toxic substances present which have been determined to be health hazards and are present in a concentration greater than 1% or greater of the composition, except carcinogenic chemicals in excess of 0.1%, or any substance present even in trace amounts that may result in the mixture being hazardous upon exposure because of the presence of the substance.
2. Physical and chemical properties or characteristics (e.g., vapor pressure, flashpoint).
3. Flammability, explosivity, and reactivity hazard data.
4. The acute and chronic health hazards due to the exposure at hazardous levels; the signs and symptoms of the effects and medical conditions which are recognized as being aggravated by exposure.
5. The primary routes of entry.
6. The level at which exposure is determined to be hazardous (American Conference of Government Industrial Hygienists threshold limit values, OSHA permissible exposure limits, or as recommended by the preparer of the MSDS).
7. Whether the chemicals are listed in the latest National Toxicology Program (NTP) Annual Report on Carcinogens, the International Agency for Research on Cancer (IARC), current monographs, or listed by OSHA as a carcinogen.
8. Procedures for clean-up of spills or leaks.
9. Any generally applicable precautions for safe handling and use, including appropriate hygiene practices, proper personal protective equipment or engineering control conditions for use with and control of exposure to such toxic substances.
10. Appropriate emergency treatment and/or first aid.
11. Date of MSDS preparation.
12. Manufacturer's or importer's name, address and emergency telephone number.

NOTE: The chemical manufacturer, importer or employer may withhold the specific chemical identity, including the chemical name and other specific identification of a hazardous chemical, from the MSDS if the chemical is a "trade secret." Contact EH&S to obtain help in procuring trade secret information.

Reading Material Safety Data Sheets (MSDS)

The Material Safety Data Sheet, or MSDS, is written information that can help protect you from overexposure to chemicals. The MSDS is a part of Ringling College's Hazard Communication Program. The design of each MSDS form may look different, but the data sheet must contain the following information.

<p>Material Safety Data Sheet <small>May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. This Standard must be consulted for specific requirements.</small></p> <p>U.S. Department of Labor <small>Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072</small></p> <p>IDENTITY (As Used on Label and List)</p> <hr/> <p>Section I</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Manufacturer's Name</td> <td style="width: 50%;">Emergency Telephone Number</td> </tr> <tr> <td>Address (Number, Street, City, State and ZIP Code)</td> <td>Telephone Number for Information</td> </tr> <tr> <td></td> <td>Date Prepared</td> </tr> <tr> <td></td> <td>Signature of Preparer (optional)</td> </tr> </table> <p>Section II - Hazard Ingredients/Identity Information</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Hazardous Components (Specific Chemical Identity, Common Name(s))</th> <th>OSHA PEL</th> <th>ACGIH TLV</th> <th>Other Limits Recommended</th> <th>% (optional)</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Section III - Physical/Chemical Characteristics</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Boiling Point</td> <td style="width: 33%;">Specific Gravity (H₂O = 1)</td> <td style="width: 33%;"> </td> </tr> <tr> <td>Vapor Pressure (mm Hg.)</td> <td>Melting Point</td> <td> </td> </tr> <tr> <td>Vapor Density (AIR = 1)</td> <td>Evaporation Rate (Butyl Acetate = 1)</td> <td> </td> </tr> <tr> <td>Solubility in Water</td> <td colspan="2"> </td> </tr> <tr> <td colspan="3">Appearance and Odor</td> </tr> </table> <p>Section IV - Fire and Explosion Hazard Data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Flash Point (Method Used)</td> <td style="width: 25%;">Flammable Limits</td> <td style="width: 25%;">LEL</td> <td style="width: 25%;">UEL</td> </tr> <tr> <td colspan="4">Extinguishing Media</td> </tr> <tr> <td colspan="4">Special Fire Fighting Procedures</td> </tr> <tr> <td colspan="4">Unusual Fire and Explosion Hazards</td> </tr> </table>	Manufacturer's Name	Emergency Telephone Number	Address (Number, Street, City, State and ZIP Code)	Telephone Number for Information		Date Prepared		Signature of Preparer (optional)	Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)						Boiling Point	Specific Gravity (H ₂ O = 1)		Vapor Pressure (mm Hg.)	Melting Point		Vapor Density (AIR = 1)	Evaporation Rate (Butyl Acetate = 1)		Solubility in Water			Appearance and Odor			Flash Point (Method Used)	Flammable Limits	LEL	UEL	Extinguishing Media				Special Fire Fighting Procedures				Unusual Fire and Explosion Hazards				<p>Chemical Name Lists the identity of the substance (the name on the label), date the MSDS was prepared, the name and address of the manufacturer, and usually a phone number for emergencies and more information.</p> <p>Hazardous Ingredients/Chemical Identity Includes names of substances in the chemical that might be dangerous, and safe exposure limits such as Permissible Exposure Limit (PEL), set by OSHA or the Threshold Limit Value (TLV). Also lists common names for the chemical.</p> <p>Chemical and Physical Characteristics Describes many physical qualities of the chemical, and lets you know what's usual or safe. For example, how the chemical looks and smells; boiling and melting temperatures (important in case a chemical might become a gas you could breathe); evaporation rate (known as percent volatile); how easily the chemical dissolves; and how heavy it is (this tells you if it will sink, float, or dissolve in water.)</p> <p>Fire and Explosion Data Tells you the lowest temperature when the chemical could catch fire ("flash point"). Lets you know if it's flammable (catches fire below 100°F) or combustible (catches fire above 100°F). Lists the best way to put out a fire involving that chemical.</p>
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<p>Reactivity Describes what happens if this chemical comes in contact with air, water, or other chemicals. Describes conditions (like heat) or materials (like water) that can cause the chemical to react by burning, exploding, or releasing dangerous vapors. The chemical is called "incompatible" or "unstable" with these conditions or substances.</p> <p>Health Hazards Lists ways the chemical might enter your body, like splashing on your skin or being breathed in as vapor as well as possible symptoms of overexposure. Lets you know if overexposure might make existing medical conditions worse, and describes emergency first aid procedures.</p> <p>Usage, Handling, and Storage Describes how to clean up an accidental spill, leak, or release; including special procedures to follow. Tells you how to handle, store, and dispose of chemicals safely. Remember, if there is an accident, notify Public Safety (7500) immediately, and take care of it yourself only if you are trained to do so and are wearing the proper equipment.</p> <p>Special Protection and Precautions Explains special Personal Protective Equipment (PPE) and other equipment to use when working with the chemical; special procedures; extra health or safety information; signs that should be posted; and other information not covered in other sections.</p>	<p>Section V - Reactivity Data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Stability</td> <td style="width: 25%;">Unstable</td> <td style="width: 25%;">Stable</td> <td style="width: 25%;">Conditions to Avoid</td> </tr> <tr> <td colspan="4">Incompatibility (Materials to Avoid)</td> </tr> <tr> <td colspan="4">Hazardous Decomposition or Byproducts</td> </tr> <tr> <td>Hazardous Polymerization</td> <td>May Occur</td> <td>Will Not Occur</td> <td>Conditions to Avoid</td> </tr> </table> <p>Section VI - Health Hazard Data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Route(s) of Entry:</td> <td style="width: 25%;">Inhalation?</td> <td style="width: 25%;">Skin?</td> <td style="width: 25%;">Ingestion?</td> </tr> <tr> <td colspan="4">Health Hazards (Acute and Chronic)</td> </tr> <tr> <td>Carcinogenicity:</td> <td>NTP?</td> <td>IARC Monographs?</td> <td>OSHA Regulated?</td> </tr> <tr> <td colspan="4">Signs and Symptoms of Exposure</td> </tr> <tr> <td colspan="4">Medical Conditions Generally Aggravated by Exposure</td> </tr> <tr> <td colspan="4">Emergency and First Aid Procedures</td> </tr> </table> <p>Section VII - Precautions for Safe Handling and Use</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Steps to Be Taken in Case Material is Released or Spilled</td> </tr> <tr> <td colspan="2">Waste Disposal Method</td> </tr> <tr> <td colspan="2">Precautions to Be Taken in Handling and Storing</td> </tr> <tr> <td colspan="2">Other Precautions</td> </tr> </table> <p>Section VIII - Control Measures and Special Precautions</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3">Respiratory Protection (Specify Type)</td> </tr> <tr> <td style="width: 33%;">Ventilation</td> <td style="width: 33%;">Local Exhaust</td> <td style="width: 33%;">Special</td> </tr> <tr> <td></td> <td>Mechanical (General)</td> <td>Other</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Protective Gloves</td> <td style="width: 50%;">Eye Protection</td> </tr> <tr> <td colspan="2">Other Protective Clothing or Equipment</td> </tr> <tr> <td colspan="2">Work/Hygiene Practices</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Precautions to be taken in Handling and Storing</td> </tr> <tr> <td colspan="2">Other Precautions</td> </tr> </table>	Stability	Unstable	Stable	Conditions to Avoid	Incompatibility (Materials to Avoid)				Hazardous Decomposition or Byproducts				Hazardous Polymerization	May Occur	Will Not Occur	Conditions to Avoid	Route(s) of Entry:	Inhalation?	Skin?	Ingestion?	Health Hazards (Acute and Chronic)				Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?	Signs and Symptoms of Exposure				Medical Conditions Generally Aggravated by Exposure				Emergency and First Aid Procedures				Steps to Be Taken in Case Material is Released or Spilled		Waste Disposal Method		Precautions to Be Taken in Handling and Storing		Other Precautions		Respiratory Protection (Specify Type)			Ventilation	Local Exhaust	Special		Mechanical (General)	Other	Protective Gloves	Eye Protection	Other Protective Clothing or Equipment		Work/Hygiene Practices		Precautions to be taken in Handling and Storing		Other Precautions	
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APPENDIX C

3E MSDS POSTER

• SPILLS • EXPOSURES • POISONINGS • SPILLS • EXPOSURES •

SPILLS • EXPOSURES • POISONINGS • SPILLS • EXPOSURES • POISONINGS

MSDS

MATERIAL SAFETY DATA SHEETS

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- Manufacturer Phone Number • UPC Code



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APPENDIX D

NFPA 704M HAZARD IDENTIFICATION SYSTEM

NFPA 704M Hazard Identification System

Health Hazard Rating	Materials
4	<p>Materials that, under emergency conditions, can be lethal. The following criteria shall be considered when rating materials:</p> <p style="text-align: center;">-----</p> <p>Gases whose LC50 for acute inhalation toxicity is less than or equal to 1000 parts per million (ppm);</p> <p style="text-align: center;">-----</p> <p>Any liquid whose saturated vapor concentration at 20 degrees Celsius (68 degrees Fahrenheit) is equal to or greater than 10 times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 1000 parts per million (ppm);</p> <p style="text-align: center;">-----</p> <p>Dusts and mists whose LC50 for acute inhalation toxicity is less than or equal to 0.5 milligrams per liter (mg/L);</p> <p style="text-align: center;">-----</p> <p>Materials whose LD50 for acute dermal toxicity is less than or equal to 40 milligrams per kilogram (mg/Kg);</p> <p style="text-align: center;">-----</p> <p>Materials whose LD50 for acute oral toxicity is less than or equal to 5 milligrams per kilogram (mg/Kg).</p> <p style="text-align: center;">-----</p>
3	<p>Materials that, under emergency conditions, can cause serious or permanent injury. The following criteria shall be considered when rating materials:</p> <p style="text-align: center;">-----</p> <p>Gases whose LC50 for acute inhalation toxicity is greater than 1000 parts per million (ppm), but less than or equal to 3000 parts per million (ppm);</p> <p style="text-align: center;">-----</p> <p>Any liquid whose saturated vapor concentration at 20 degrees Celsius (68 degrees Fahrenheit) is equal to or greater than 10 times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 3000 parts per million (ppm), and that does not meet the criteria for degree of hazard 4;</p> <p style="text-align: center;">-----</p> <p>Dusts and mists whose LC50 for acute inhalation toxicity is greater than 0.5 milligrams per liter (mg/L), but less than or equal to 2 milligrams per liter (mg/L);</p> <p style="text-align: center;">-----</p> <p>Materials whose LD50 for acute dermal toxicity is greater than 40 milligrams per kilogram (mg/Kg), but less than or equal to 200 milligrams per kilogram (mg/Kg);</p> <p style="text-align: center;">-----</p> <p>Materials that are corrosive to the respiratory tract;</p> <p style="text-align: center;">-----</p> <p>Materials that are corrosive to the eye or cause irreversible corneal opacity;</p> <p style="text-align: center;">-----</p> <p>Materials that are severely irritating and/ or corrosive to skin;</p> <p style="text-align: center;">-----</p> <p>Materials whose LD50 for acute oral toxicity is greater than 5 milligrams per kilogram (mg/Kg), but less than or equal to 50 milligrams per kilogram (mg/Kg).</p> <p style="text-align: center;">-----</p>
	<p>Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. The following criteria shall be considered when rating materials:</p> <p style="text-align: center;">-----</p> <p>Gases whose LC50 for acute inhalation toxicity is greater than 3000 parts per million (ppm), but less than or equal to 5000 parts per million (ppm);</p> <p style="text-align: center;">-----</p>

<p style="text-align: center;">2</p>	<p style="text-align: center;">Any liquid whose saturated vapor concentration at 20 degrees Celsius (68 degrees Fahrenheit) is equal to or greater than one fifth (1/5) times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 5000 parts per million (ppm), and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4;</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Dusts and mists whose LC50 for acute inhalation toxicity is greater than 2 milligrams per liter (mg/L), but less than or equal to 10 milligrams per liter (mg/L);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute dermal toxicity is greater than 200 milligrams per kilogram (mg/Kg), but less than or equal to 1000 milligrams per kilogram (mg/Kg);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials that are respiratory irritants;</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials that cause irritating but irreversible injury to the eyes;</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials that are primary skin irritants or sensitizers;</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute oral toxicity is greater than 50 milligrams per kilogram (mg/Kg), but less than or equal to 500 milligrams per kilogram (mg/Kg).</p> <p style="text-align: center;">-----</p>
<p style="text-align: center;">1</p>	<p>Materials that, under emergency conditions, can cause significant irritation. The following criteria shall be considered when rating materials:</p> <p style="text-align: center;">-----</p> <p>Gases whose LC50 for acute inhalation toxicity is greater than 5000 parts per million (ppm), but less than or equal to 10,000 parts per million (ppm);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Dusts and mists whose LC50 for acute inhalation toxicity is greater than 10 milligrams per liter (mg/L), but less than or equal to 200 milligrams per liter (mg/L);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute dermal toxicity is greater than 1000 milligrams per kilogram (mg/Kg), but less than or equal to 2000 milligrams per kilogram (mg/Kg);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials that are slightly irritating to the respiratory tract, eyes and skin;</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute oral toxicity is greater than 500 milligrams per kilogram (mg/Kg), but less than or equal to 2000 milligrams per kilogram (mg/Kg).</p> <p style="text-align: center;">-----</p>
<p style="text-align: center;">0</p>	<p>Materials that, under emergency conditions, can cause significant irritation. The following criteria shall be considered when rating materials:</p> <p style="text-align: center;">-----</p> <p>Gases whose LC50 for acute inhalation toxicity is greater than 10,000 parts per million (ppm);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Dusts and mists whose LC50 for acute inhalation toxicity is greater than 200 milligrams per liter (mg/L);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute dermal toxicity is greater than 2000 milligrams per kilogram (mg/Kg);</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Materials whose LD50 for acute oral toxicity is greater than 2000 milligrams per kilogram (mg/Kg).</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">Essentially nonirritating to the respiratory tract, eyes and skin.</p> <p style="text-align: center;">-----</p>

Flammability Hazard Rating	Materials
4	<p>Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and which will burn readily. This includes:</p> <p>----- Flammable gases; ----- Flammable cryogenic materials; -----</p> <p>Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8 degrees Celsius (73 degree Fahrenheit) and a boiling point of 37.8 degree Celsius (100 degrees Fahrenheit) (i.e., class IA liquids); -----</p> <p>Materials that ignite spontaneously when exposed to air. -----</p>
3	<p>Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. This includes:</p> <p>-----</p> <p>Liquids having a flash point below 22.8 degrees Celsius (73 degree Fahrenheit) and a boiling point of 37.8 degree Celsius (100 degrees Fahrenheit) and those liquids having a flash point at or above 22.8 degrees Celsius (73 degree Fahrenheit) and below 37.8 degree Celsius (100 degrees Fahrenheit) (i.e., class IB and class IC liquids); -----</p> <p>Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and that are readily dispersed in air; -----</p> <p>Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g., dry nitrocellulose and many organic peroxides). -----</p>
2	<p>Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating might release vapor in sufficient quantities to produce hazardous atmospheres with air. This includes:</p> <p>-----</p> <p>Liquids having a flash point at or above 37.8 degrees Celsius (100 degree Fahrenheit) and below 93.4 degree Celsius (200 degrees Fahrenheit) (i.e., class II and class IIIA liquids); -----</p> <p>Solid materials in the form of coarse dusts that burn rapidly burn that generally do not form explosive atmospheres with air; -----</p> <p>Solid materials in a fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp; -----</p> <p>Solids and semisolids that readily give off flammable vapors. -----</p>

1	<p>Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. This includes:</p> <p>-----</p> <p>Materials that will burn in air when exposed to a temperature of 815.5 degrees Celsius (1500 degree Fahrenheit) for a period of 5 minutes or less;</p> <p>-----</p> <p>Liquids, solids, and semisolids having a flash point at or above 93.4 degree Celsius (200 degrees Fahrenheit) (i.e., class IIIB Liquids);</p> <p>-----</p> <p>Liquids with a flash point of greater than 35 degree Celsius (95 degrees Fahrenheit) that do not sustain combustion when tested using the “Method of Testing for combustibility”, per 49 CFR 173, Appendix H, or the UN “Recommendations on the transport of dangerous goods”, 8th Revised edition.</p> <p>-----</p> <p>Liquids with a flash point of greater than 35 degree Celsius (95 degrees Fahrenheit) in a water-miscible solution or dispersion with a water noncombustible liquid/solid content of more than 85 percent by weight.</p> <p>-----</p> <p>Liquids that have no fire point when tested by ASTM D 92, “Standard Test Method for Flash Point and Fire Point by Cleveland Open Cup”, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change.</p> <p>-----</p> <p>Most ordinary combustible materials.</p> <p>-----</p>
0	<p>Materials that will not burn. This includes any material that will not burn in air when exposed to a temperature of 815.5 degrees Celsius (1500 degree Fahrenheit) for a period of 5 minutes</p> <p>-----</p>

Reactivity Rating	Materials
4	<p>Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. This includes materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures.</p> <p>-----</p> <p>Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250 degrees Celsius (482 degrees Fahrenheit) of 1000 W/mL or greater.</p> <p>-----</p>
3	<p>Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under containment before initiation. This includes:</p> <p>-----</p> <p>Materials that have an instantaneous power density (product of heat reaction and reaction rate) at 250 degrees Celsius (482 degrees Fahrenheit) at or above 100 W/mL and below 1000W/mL;</p> <p>-----</p> <p>Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures;</p>

	<p>-----</p> <p>Materials that react explosively with water without requiring heat or containment.</p> <p>-----</p>
2	<p>Materials that readily undergo violent chemical change at elevated temperatures and pressures. This includes:</p> <p>-----</p> <p>Materials that have an instantaneous power density (product of heat reaction and reaction rate) at 250 degrees Celsius (482 degrees Fahrenheit) at or above 10 W/mL and below 100 W/mL;</p> <p>-----</p> <p>Materials that react violently with water or form potentially explosive mixtures with water.</p> <p>-----</p>
1	<p>Materials that in themselves are normally stable, but can become unstable at elevated temperatures and pressures. This includes:</p> <p>-----</p> <p>Materials that have an instantaneous power density (product of heat reaction and reaction rate) at 250 degrees Celsius (482 degrees Fahrenheit) at or above 0.01 W/mL and below 10 W/mL;</p> <p>-----</p> <p>Materials that react vigorously with water, but not violently;</p> <p>-----</p> <p>Materials that change or decompose on exposure to air, light, or moisture.</p> <p>-----</p>
0	<p>Materials that in themselves are normally stable, even under fire conditions. This includes:</p> <p>-----</p> <p>Materials that have an instantaneous power density (product of heat reaction and reaction rate) at 250 degrees Celsius (482 degrees Fahrenheit) below 0.01 W/mL;</p> <p>-----</p> <p>Materials that do not react with water;</p> <p>-----</p> <p>Materials that do not exhibit an exotherm at temperatures less than or equal to 500 degrees Celsius (932 degrees Fahrenheit) when tested by differential scanning calorimeters.</p> <p>-----</p>

APPENDIX E
RIGHT-TO-KNOW POSTERS

APPENDIX F

HAZARD COMMUNICATION PROGRAM SUMMARY

APPENDIX G

**HAZARD COMMUNICATION TRAINING
DOCUMENTATION FORM**

APPENDIX H

**EMPLOYEE PERSONAL PROTECTIVE EQUIPMENT
ASSIGNMENT FORM**

**EMPLOYEE PERSONAL PROTECTIVE EQUIPMENT
ASSIGNMENT FORM**

My employer has provided me with the personal protective equipment (PPE) listed below. I have been instructed in the proper use and care of the assigned PPE. I have been informed of the duties and associated hazards for which the PPE must be worn. I have had the opportunity to have questions answered about the PPE I have received. I will immediately contact my supervisor for a replacement if my PPE becomes damaged or lost, or if I have any questions about the PPE.

PRINT NAME	SIGNATURE	PERSONAL PROTECTIVE EQUIPMENT RECEIVED	MODEL NO. / SERIAL NO.	DATE