NEW YORK CITY COLLEGE OF TECHNOLOGY
The City University of New York
300 Jay Street, Brooklyn, NY 11201-1909

Hazardous Communication Plan

2011

1. INTRODUCTION

The City University of New York (CUNY) Environmental Health and Safety (EHS) office has implemented the rules, regulations and other mandated practices in this protocol to comply with the OSHA Hazard Communication Standard set forth in 29 CFR 1910.1200. This standard was enacted in 1994 to reduce the number of illnesses and injuries caused by chemicals in the workplace. The standard ensures that the hazards of all chemicals produced or imported are evaluated by manufacturers and that this information is provided to employers and employees.

2. TABLE OF CONTENTS

3. OBJECTIVE

The hazard communication program is designed to ensure evaluation of the hazards of all chemicals present in the workplace, and ensure that both employers and employees receive relevant information about those hazards.

This program is established to:

- Safeguard the health and safety of employees.
- Ensure compliance with local, state, and federal standards.
- Create guidelines to follow for implementation and maintenance of a hazard communication program.

4. SCOPE

The Hazard Communication Program has five major components:

- Chemical inventory
- Material Safety Data Sheets (MSDS)
- Container labeling and other forms of warning
- Employee education and training including non-routine tasks
- Written program
- Contractors

The Hazard Communication Program applies to all chemical use (refer to Appendix G-Definitions) at NYC College of Technology, except laboratory areas (Laboratory Standard 29 CFR 1910.1450 covers chemical use in laboratories) and operations where chemicals are only handled in sealed containers (e.g., a warehouse). Warehouse type operations only require proper labeling, MSDSs, and information and training for employees. Certain chemicals are exempt from the OSHA Hazard Communication Standard, including hazardous wastes, food, wood, tobacco, and potentially hazardous substances such as drugs and cosmetics brought to CUNY for personal consumption (rubbing alcohol in a first aid kit would not be covered).

5. HAZARDOUS CHEMICALS

The definition of hazardous chemicals as given by OSHA is "any chemical which is a physical hazard or health hazard."

OSHA defines each as:

- *Physical hazard* means 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.
- *Health hazard* means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants,

corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

6. CHEMICAL INVENTORY

A chemical inventory will be completed and will contain all hazardous chemicals used in the workplace. Each department has the responsibility to maintain the chemical inventory list. As new chemicals are purchased, the list should be updated.

Each department must appoint a person to manage the chemical inventory list. The Environmental Health and Safety Officer must receive a copy of the chemical inventory list (updated as necessary). Employees who have questions about the chemical inventory list should contact the Director of the Department.

7. LABELING

The primary information to be obtained from an OSHA-required label is the identity of the material, the appropriate hazard warnings, and the name and address of the producer or other responsible party. The identity is any term that appears on the label, the MSDS, and the list of chemicals, which links these three sources of information. The identity used by the supplier may be a common or trade name ("Super Duper Formula"), or a chemical name (1, 1, 1 -trichloroethane). The hazard warning is a brief statement of the hazardous effects of the chemical ("flammable," "causes lung damage").

The manufacturer's label must not be removed or defaced. If the product is transferred from one container to another, the new container must be labeled with either an extra copy of the original manufacturer's label or with labels that have the identity and the appropriate hazard warning.

If the chemical is transferred from a labeled container into a process container, that is, if the person performing the transfer will use the transferred material within the same workday, the container does not need to be labeled as described above.

Each department will be required to appoint a person to manage the labeling system. Employees who have questions about the labeling system should contact the Director of the Department.

See Appendix B for an example of a chemical label.

8. MATERIAL SAFETY DATA SHEETS (MSDSs)

8.1 GENERAL

MSDSs are the most basic source of hazardous chemical information. The *Hazard Communication Standard* requires chemical manufacturers and importers to develop or obtain an MSDS for each hazardous chemical produced or imported. Employers must have an MSDS for each hazardous chemical that they use.

The role of MSDSs is to provide detailed information on each hazardous chemical, including potential hazardous effects, physical and chemical characteristics, and recommendations for appropriate protective measures. Employees who have questions about Material Safety Data Sheets should contact the Director of the Department.

8.2 OBTAINING MSDSS

8.3 Each department must obtain a MSDS from the chemical supplier at the time of purchase and maintain a MSDS for each hazardous material in the workplace. These MSDSs must be readily accessible to employees working with the products during all work hours. If an MSDS is not received with a chemical shipment, the department must obtain the MSDS within a reasonable amount of time. These requests for MSDSs must be documented, either by copy of a letter (see Appendix C for an example MSDS Request letter) or email (wording from Appendix C can be used) or a note regarding telephone conversations. EHS does maintain a central file of MSDSs. However, MSDSs for many products are available through the Internet.

8.4 MSDS REVIEW

MSDSs are written or printed material concerning product hazard determination, which are prepared and distributed with chemicals by chemical manufacturers and distributors. MSDSs are written in English and contain the following information:

- Identity of the chemical as provided on the container label
- Physical and chemical characteristics of the material
- Physical hazards of the material
- Health hazards of the material
- Primary route(s) of entry
- Exposure limits: NIOSH Threshold Limit Value (TLV), OSHA Permissible Exposure Limit (PEL), or Supplier recommended limits
- Whether or not the material or components have been found to be a potential carcinogen by the International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), or by OSHA
- Applicable precautions for safe handling and use
- Applicable control measures
- Emergency and first-aid procedures
- Date of preparation or date of last change

- Name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party, who can provide additional information

8.5 REVIEW OF MSDSS

Each department is responsible for reviewing all incoming MSDSs for new and significant health/safety information. Any new information will be transmitted to the employees so that appropriate measures can be taken (PPE, engineering controls, etc.). If deficiencies exist or additional information is needed concerning MSDSs, the chemical manufacturer or supplier will be contacted to obtain necessary information.

8.6 MSDS MAINTENANCE

Individual departments are responsible for maintaining the MSDSs. Additionally, departments must appoint a person to manage MSDSs. The appointed person must maintain the chemical inventory list and MSDSs for chemicals in a notebook entitled "Hazard Communication Program." If MSDSs are not available or new chemicals in use do not have MSDSs, employees should contact the Director of the Department.

8.7 HAZARD DETERMINATION

NYC College of Technology relies upon the hazard determination supplied by the chemical manufacturer or distributor to determine the hazards of all chemicals bought, used or stored in the facility.

9. WRITTEN HAZARD COMMUNICATION PROGRAM

Each department must develop a written Hazard Communication Program (see Appendix E-Model Hazard Communication Program) that details how the department will comply with the provisions of the OSHA Hazard Communication Standard. The program must include an inventory of hazardous materials used or stored by the department; handling of MSDSs, including where they will be maintained, how they will be obtained, and how to access them; labeling requirements; training requirements; contractor requirements; and provisions for non-routine tasks.

The written program must be accessible to individuals during all work hours, and must be reviewed and updated at least annually. The annual review date/time must be recorded into a log in the notebook. Refer to section 12.0 IMPLEMENTATION for specific department responsibilities.

10. EMPLOYEE INFORMATION AND TRAINING

Supervisors are responsible for reviewing MSDSs and transmitting relevant information to employees on hazardous chemicals in the work area at the initial assignment and whenever a new hazard category is introduced. The information will include the requirements of this section, any operations in the work area where hazardous chemicals are present and the location and availability of the written hazard communication program (including the chemical inventory and MSDSs location). Additional areas of training will include the following:

- Physical and health hazards of the chemicals in the work area
- The details of the hazard communication program including an explanation of the labeling system, interpreting MSDSs, and how to use appropriate hazard information
- Measures employees can take to protect themselves from these hazards, including specific procedures the department has implemented to protect employees from exposure, including work practices, engineering controls, emergency procedures and personal protective equipment (PPE)
- Methods and observations that may be used to detect the presence or release of a hazardous chemical

The Environmental Health and Safety Officer will perform Hazard Communication training upon initial hire, on an annual basis, and as requested.

The Hazard Communication training will contain the following elements:

- An overview of the requirements contained in the OSHA Hazard Communication Standard, 1910.1200
- Explanation of the labels and the labeling system
- Explanation of MSDSs and how employees can use this information
- Location and availability of the written Hazard Communication Program
- Measures employees can take to protect themselves from hazards in their workplace, including specific procedures the employer has implemented to prevent exposure to hazardous chemicals such as appropriate work practices, engineering controls, emergency procedures, and personal protective equipment
- Any operations in the work area where hazardous chemicals are present
- Physical and health hazards of the chemical categories in the work area

Departments are responsible for assuring that workers attend the training.

11. NON-ROUTINE TASKS

Some College employees are periodically required to perform non-routine tasks. Supervisors are responsible for identifying and informing employees of the hazardous substances that may be involved **prior** to the performance of non-routine work.

Employees will be given the following information:

- The specific chemical hazard
- Any protective safety measures the employee can take, such as wearing gloves or protective clothing
- Procedures for decreasing the hazard, such as proper ventilation, respiratory protection, or requiring the presence of other employees
- Any established emergency procedures

The Environmental Health and Safety Officer will provide assistance in evaluating the hazards and determining the appropriate precautions for non-routine tasks, as requested.

12. CONTRACTORS

Contractors working at NYC College of Technology must comply with all OSHA standards and requirements, where applicable. The *Hazard Communication Standard* requires that contractors be:

- Given access to MSDSs
- Informed of any precautionary measures to take during normal operating conditions and in foreseeable emergencies
- Informed of the labeling system

Similarly, contractors are expected to inform and provide the Environmental Health and Safety Officer with a chemical inventory and MSDSs for the materials that will be introduced into the work area during the course of work at NYC College of Technology. Contractors must also provide information regarding the location of chemical use and storage.

13. HAZARDOUS WASTE DISPOSAL

Please refer to the NYC College of Technology ‘Hazardous Waste Plan’ for hazardous waste disposal information.

14. IMPLEMENTATION

Each department is responsible for creating a Hazard Communication notebook. The notebook must contain:

- Complete chemical inventory (see Appendix A)
- Complete MSDS collection for all chemicals listed on chemical inventory
- MSDS request correspondence (letter, email, log of telephone conversations)
- Completed Model Written Hazard Communication Program (See Appendix E)

Departments are responsible for reviewing MSDSs and transmitting relevant information to employees on hazardous chemicals in the work area:

- At the initial assignment
- Whenever a new hazard category is introduced

Departments must assure that workers attend annual Hazard Communication training.

APPENDIX A: CHEMICAL INVENTORY

Department: _____ Contact: _____ Date: _____

Product Name (Alphabetical)	**Chemical Constituents** (Alphabetical)	**Quantity**	**Location**

APPENDIX B: CHEMICAL LABEL EXAMPLE

Methanol

(Add name and address of manufacturer or responsible party)

DANGER! POISON! FLAMMABLE!!

CAS #: 67-56-1

NFPA RATINGS (SCALE 0-4): Health=1 **Fire**=3 **Reactivity**=0

Statement of Hazards:

Causes skin and eye irritation. May be irritating to the respiratory tract. May damage nerves. May affect the central nervous system. Flammable liquid and vapor. May cause flash fire.

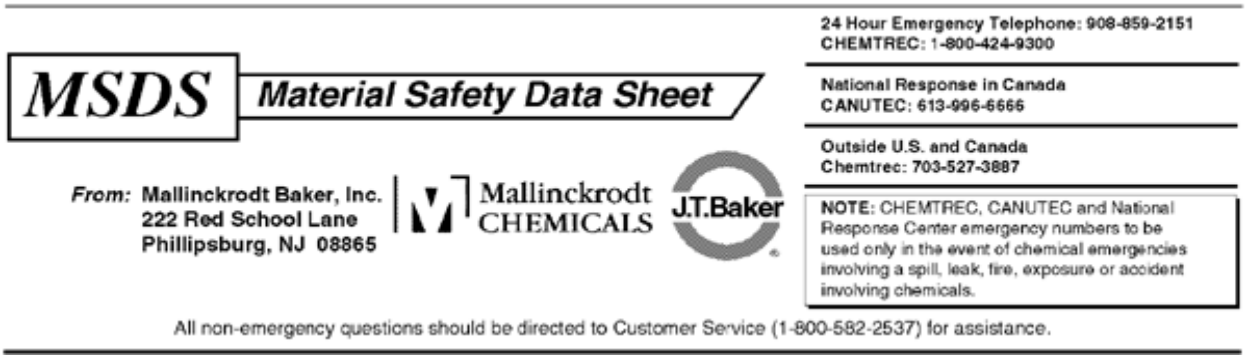
Precautionary Statements:

Keep away from all ignition sources. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation. Handle with caution.

First Aid:

Inhalation: Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Skin contact: Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water. Eye Contact: Wash eyes immediately with large amounts of water or normal saline. Cover with sterile bandages. Ingestion: If ingestion of methanol is discovered within 2 hours, give syrup of ipecac. Lavage thoroughly with 2-4L of tap water with sodium bicarbonate added. Get medical attention if needed.

APPENDIX C: MSDS EXAMPLE



METHANOL
MSDS Number: M2015 --- *Effective Date: 11/12/01*

1. Product Identification

Synonyms: Wood alcohol; methyl alcohol; carbinol
CAS No.: 67-56-1
Molecular Weight: 32.04
Chemical Formula: CH3OH
Product Codes: J.T. Baker: 5217, 5370, 5794, 5807, 5811, 5842, 5869, 9049, 9063, 9065, 9066, 9067, 9069, 9070, 9071, 9073, 9075, 9076, 9077, 9091, 9093, 9096, 9097, 9098, 9263, 9822, 9893, V654
Mallinckrodt: 3004, 3006, 3016, 3017, 3018, 3024, 3041, 3701, 4295, 5160, 8814, H080, H488, H603, H985, V079, V571

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Methanol	67-56-1	100%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! VAPOR HARMFUL. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CANNOT BE MADE NONPOISONOUS. FLAMMABLE LIQUID AND VAPOR. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM AND LIVER.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 3 - Severe (Life)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:
A slight irritant to the mucous membranes. Toxic effects exerted upon nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma, and death. A person may get better but then worse again up to 30 hours later.
Ingestion:
Toxic. Symptoms parallel inhalation. Can intoxicate and cause blindness. Usual fatal dose: 100-125 milliliters.
Skin Contact:
Methyl alcohol is a defatting agent and may cause skin to become dry and cracked. Skin absorption can occur; symptoms may parallel inhalation exposure.
Eye Contact:
Irritant. Continued exposure may cause eye lesions.
Chronic Exposure:
Marked impairment of vision has been reported. Repeated or prolonged exposure may cause skin irritation.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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5. Fire Fighting Measures

Fire:
Flash point: 12C (54F) CC
Autoignition temperature: 464C (867F)
Flammable limits in air % by volume:
lel: 6.0; uel: 36
Flammable Liquid and Vapor!
Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks or flames. Sensitive to static discharge.
Fire Extinguishing Media:
Use alcohol foam, dry chemical or carbon dioxide. (Water may be ineffective.)
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Vapors can flow along surfaces to distant ignition source and flash back.

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6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as sawdust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and

equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do Not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
For Methyl Alcohol:
- OSHA Permissible Exposure Limit (PEL):
200 ppm (TWA)
- ACGIH Threshold Limit Value (TLV):
200 ppm (TWA), 250 ppm (STEL) skin
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment.
Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134). This substance has poor warning properties.
Skin Protection:
Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure.
Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance:
Clear, colorless liquid.
Odor:
Characteristic odor.
Solubility:
Miscible in water.
Specific Gravity:
0.8
pH:
No information found.

% Volatiles by volume @ 21C (70F):
100
Boiling Point:
64.5C (147F)
Melting Point:
-98C (-144F)
Vapor Density (Air=1):
1.1
Vapor Pressure (mm Hg):
97 @ 20C (68F)
Evaporation Rate (BuAc=1):
5.9

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10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:
May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Strong oxidizing agents such as nitrates, perchlorates or sulfuric acid. Will attack some forms of plastics, rubber, and coatings. May react with metallic aluminum and generate hydrogen gas.
Conditions to Avoid:
Heat, flames, ignition sources and incompatibles.

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11. Toxicological Information

Methyl Alcohol (Methanol) Oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data-standard Draize test: skin, rabbit: 20mg/24 hr. Moderate; eye, rabbit: 100 mg/24 hr. Moderate. Investigated as a mutagen, reproductive effector.

--------\Cancer Lists\----------

	---NTP Carcinogen---		
Ingredient	Known	Anticipated	IARC Category
Methyl Alcohol (67-56-1)	No	No	None

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12. Ecological Information

Environmental Fate:
When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to exist in the aerosol phase with a short half-life. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into air, this material is expected to have a half-life between 10 and 30 days. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.
Environmental Toxicity:
This material is expected to be slightly toxic to aquatic life.

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13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: METHANOL
Hazard Class: 3
UN/NA: UN1230
Packing Group: II
Information reported for product/size: 350LB

International (Water, I.M.O.)

Proper Shipping Name: METHANOL
Hazard Class: 3, 6.1
UN/NA: UN1230
Packing Group: II
Information reported for product/size: 350LB

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15. Other Information

NFPA Ratings: Health: **1** Flammability: **3** Reactivity: **0**

Label Hazard Warning:

POISON! DANGER! VAPOR HARMFUL. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CANNOT BE MADE NONPOISONOUS. FLAMMABLE LIQUID AND VAPOR. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM AND LIVER.

Label Precautions:

Avoid breathing vapor.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Keep container closed.
Use only with adequate ventilation.
Keep away from heat, sparks and flame.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3, 8.

APPENDIX D: MSDS REQUEST LETTER EXAMPLE

(Company Name)
(Company Address)
(City, State zip code)

(Date)

[College Name]
Attn: (enter name of contact person)
(Address)
(City, State zip code)

Dear Sir:

The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1920.1200) requires employers be provided Material Safety Data Sheets (MSDSs) for all hazardous substances used in the facility, and to make these MSDSs available to employees potentially exposed to these hazardous substances.

(Insert college name), therefore, requests a copy of the MSDS and any additional relevant data concerning the safety and health aspects for the product listed as (Insert product name) because the MSDS was not received with the initial shipment.

The MSDS and any other relevant information should be sent within (select appropriate time) days. Delays in receiving the MSDS information may prevent use of the product. Please send the requested information to (Insert name of contact person).

Please be advised that if we do not receive the MSDS on the above chemical by (date), we may have to notify OSHA of our inability to obtain this information. It is our intent to comply with all provisions of the Hazard Communication Standard (1910.1200) and the MSDS's are integral to this effort.

Thank you. If you have any questions concerning this matter, please contact (Insert name of contact person) at (Insert contact phone number).

Sincerely,

(Sign name)

(Enter name of contact person)

APPENDIX E: WRITTEN HAZARD COMMUNICATION PROGRAM

GENERAL INFORAMATION

In order to comply with OSHA 1910.1200, Hazard Communication Standard, the following written Hazard Communication Program has been established for NYC College of Technology.

The written program will be available at the Environmental Health and Safety Office, N-308A, for review by any interested employee.

1. Container Labeling:

Supervisors shall verify that all in-coming containers received for use are clearly labeled to indicate:

- The identity of the contents (the identity must match the corresponding MSDS).
- Appropriate hazard warnings (including routes of entry and target organs).
- The name and address of the manufacturer, importer, or responsible party.

The supervisor of each area will ensure that all secondary containers (those containers other than the original) will be labeled with:

- The identity of the contents (the identity must match the corresponding MSDS).
- Appropriate hazard warning (including routes of entry and target organs

2. Material Safety Data Sheets (MSDS)

Supervisors will be responsible for obtaining and maintaining material safety data sheets for NYC College of Technology. Supervisors will review incoming data sheets for new and significant health/safety information. Supervisors will see that any new information is passed on to the affected employees. If an MSDS is incomplete, a new MSDS will be requested from the manufacturer/supplier by the supervisor. **Appendix C** '*MSDS Request Letter Example*' can be used to request an MSDS. MSDSs are available to each employee during his/her work shift. To obtain a copy of the MSDS the employee should contact the department supervisor.

3. Employee Training and Information

Supervisors are responsible for reviewing MSDSs and transmitting relevant information to employees on hazardous chemicals in the work area at the initial assignment and whenever a new hazard category is introduced.

The Environmental Health and Safety Officer is responsible for providing annual, or as requested, Hazard Communication training. The Environmental Health and Safety Officer will ensure that all elements specified below are carried out:

- An overview of the requirements contained in the OSHA Hazard Communication Standard, 1910.1200
- Explanation of the labels and the labeling system
- Explanation of MSDSs and how employees can use this information
- Location and availability of the written Hazard Communication Program

- Measures employees can take to protect themselves from hazards in their workplace, including specific procedures the employer has implemented to prevent exposure to hazardous chemicals such as appropriate work practices, emergency procedures, and personal protective equipment
- Any operations in the work area where hazardous chemicals are present
- Physical and health hazards of the chemical categories in the work area

Prior to a new chemical hazard category being introduced into the workplace, each employee of that area will be given information as outlined above.

4. List of Hazardous Chemicals

Appendix A contains an inventory form to be used for all known toxic and hazardous substances used at NYC College of Technology. Further information on each noted substance can be obtained by reviewing the appropriate MSDS.

5. Hazardous Non-Routine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information by a department supervisor about hazardous chemicals to which they may be exposed during such activity.

This information will include:

- Specific hazards
- Protective/safety measures the employee can take
- Measures the company has taken to lessen the hazards including ventilation, respirators, presence of another employee, and emergency procedures

If employees do not understand any aspect of the above information, they should not perform the task. The supervisor should be contacted for additional training.

6. Hazardous Substances in Unlabeled Pipes (if applicable)

To ensure that our employees who work on unlabeled pipes have been informed as to the hazardous substances contained within, the following policy has been established. Prior to starting work on unlabeled pipes employees are to contact their supervisor for the following information:

- The hazardous substance in the pipe
- Potential hazards
- Safety precautions that shall be taken

7. Informing Contractors

It is the responsibility of the Environmental Health and Safety Officer to provide contractors the following information:

- Notify contractors of the toxic and hazardous substances to which they may be exposed while on the job site and how the appropriate MSDS can be obtained
- Precautionary measures that need to be taken to protect contracted employees during the workplace's normal operating conditions and in foreseeable emergencies

- Explanation of labeling systems used by CUNY

The respective project manager will be responsible for contacting each contractor before work is started at NYC College of Technology to gather and disseminate any information concerning chemical hazards that the contractor is bringing to the workplace.

If anyone has questions or does not understand this plan, please contact the Environmental Health and Safety Officer. The NYC College of Technology Hazard Communication Program will be monitored by the Environmental Health and Safety Officer to ensure that the program is carried out and the plan is effective.

APPENDIX F: ACRONYMS

CAS – Chemical Abstracts Service

CFR – Code of Federal Regulations

CUNY – City University of New York

EHS – Environmental Health and Safety

HCP – Hazard Communication Program

HCS – Hazard Communication Standard

IARC – International Agency for Research on Cancer

MSDS – Material Safety Data Sheet

NTP – National Toxicology Program

OSHA – Occupational Safety & Health Administration

PEL – Permissible Exposure Limit

PPE – Personal Protective Equipment

TLV – Threshold Limit Value

APPENDIX F: DEFINITIONS

Acute Effect: A health effect that occurs soon after a brief exposure to the offending agent.

Appropriate hazard warning: Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning that convey the health and physical hazards, including the target organ effects of the chemical(s) in the container(s).

Carcinogen: A chemical that is capable of causing cancer. Under the HCS a carcinogen is any chemical that has been found to be a carcinogen or potential carcinogen by the International Agency for Research on Cancer, is listed as a carcinogen or potential carcinogen in the *Annual Report on Carcinogens* published by the National Toxicology Program, or is regulated by OSHA as a carcinogen.

Chemical: Any element, chemical compound or mixture of elements and/or compounds

Chemical name: (a) the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature; or **(b)** a name that clearly identifies the chemical for the purpose of conducting a hazard evaluation.

Chronic Effect: A health effect that occurs over a long period of time as a result of continued or periodic exposure to the offending agent.

Combustible Liquid: Any liquid having a flash point at or above 100 degrees F (37.8 degrees C), but below 200 degrees F (93.3 degrees C).

Container: Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Corrosive: A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact.

Employee: A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Explosive: A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Expose or **Exposure:** An employee is subjected to a hazardous chemical in the course of employment through any route of entry, including inhalation, ingestion, skin contact, or absorption. The term includes potential, possible, or accidental exposure under normal conditions of use or in a reasonably foreseeable emergency.

Flammable: A chemical that catches on fire easily and burns readily.

Flash Point: The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite

Hazard Category: A grouping of hazardous chemicals with similar properties.

Hazardous Chemical: Defined by OSHA as any chemical that is a health hazard or a physical hazard.

Hazard Warning: Any words, pictures, symbols, or combination thereof appearing on a label that conveys the hazards of the chemical(s) in the container.

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

Hematopoietic System - The blood forming mechanism of the human body.

Hepatotoxin - A substance that causes injury to the liver.

Irritant: A chemical that is not corrosive but causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

Label: Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Material Safety Data Sheet ("MSDS"): Written or printed material concerning a hazardous chemical that includes information on the chemical's identity; physical and chemical characteristics; physical and health hazards; primary routes of entry; exposure limits; whether the chemical is a carcinogen; precautions for safe handling and use; control measures; emergency and first aid procedures; the date of preparation of the MSDS or the last change to it; and the name, address, and telephone number of the manufacturer, importer, or employer distributing the MSDS. MSDSs are prepared in accordance with the requirements of the OSHA standard for that document.

Nephrotoxin - A substance that causes injury to the kidneys.

Neurotoxin - A material that affects the nerve cells and may produce emotional or behavioral abnormalities.

Oxidizer: A chemical other than a blasting agent or explosive that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Permissible Exposure Limit (PEL): An exposure limit that is published and enforced by OSHA as a legal standard.

Physical hazard: Means 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.

Pyrophoric: A chemical that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

Readily Available: To be quickly and easily accessible at any time for information and emergency use.

Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

Threshold Limit Value (TLV): A time-weighted average concentration under which most people can work consistently for eight hours a day, day after day, with no harmful effects. The American Conference of Governmental Industrial Hygienists publishes the values in a table annually.

Toxic: Causing acute or chronic injury to the human body or suspected of being able to cause disease or injury under some conditions. The HCS defines "toxic" and "highly toxic" specifically by the chemical's median lethal dose and median lethal concentration for laboratory animals.

Unstable (reactive): A chemical that in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure, or temperature.

Use (as defined by OSHA): To package, handle, react, or transfer. This is an intentionally broad scope, and includes any situation where a chemical is present in such a way that employees may be exposed under normal conditions of use or in a foreseeable emergency.

Water-reactive: A chemical that reacts with water to release a gas that either is flammable or presents a health hazard.

Work area: A room, defined space, utility structure, or an emergency response site in a workplace where hazardous chemicals are present, produced, or used and where employees are present.

Workplace: An establishment, job site, or project at one geographical location containing one or more work areas.