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SUNY CORTLAND
ENVIRONMENTAL HEALTH
AND SAFETY OFFICE

CHEMICAL HYGIENE PLAN

Programs, Policies, and Procedures

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Contents

Chemical Hygiene Plan

1. Introduction

This document is the Chemical Hygiene Plan for SUNY Cortland, and it complies with the Occupational Health and Safety Administration's (OSHA) Occupational Exposures to Hazardous Chemicals in Laboratories standard (29 CFR 1910.1450). The Chemical Hygiene Plan is designed to promote safe work practices as well as convey information on the hazards of chemicals present in the work area.

The Environmental Health and Safety (EHS) Office is responsible for implementing this plan and reviewing it annually*. This plan is updated when new programs and requirements are implemented or when circumstances within the workplace change.

Chemical Hygiene Plan compliance will be verified during routine inspections. Employees covered under the Chemical Hygiene Plan should become thoroughly familiar with the procedures and safe work practices outlined in this document. Questions or concerns regarding the implementations of this program in a department should be directed to the EHS Office at environmentalhealth@cortland.edu or at extension 2508.

2. Supervisors' Responsibilities

Supervisors must promote all aspects of safety. Chemicals should be safely and properly ordered, used, labeled, stored, and disposed of. Additionally, work areas should be neat and orderly, and safety inspections should be performed periodically. Compliance with this program will be verified during inspections conducted by the EHS Office. Supervisors should respond to these inspections promptly and follow-up on any necessary corrective action. Results from air monitoring and noise surveys should be reported to employees on a timely basis. Training requirements are outlined in Section 5 of this plan. Employees who handle or use chemicals are to receive Chemical Hygiene Plan training prior to their initial assignment and annually thereafter. Employees must also receive training when new chemicals, hazards or work practices are introduced into the work environment. Supervisors should submit records of department-provided safety training to the EHS Office.

The central focus of the Chemical Hygiene Plan is contained in Sections 6, 7, 8, 9, and 10. All relevant safe work practices and programs that are outlined in these sections should be implemented in the department. A comprehensive inspection checklist is provided in Section 10. This checklist should be used throughout the year. When unsafe conditions are identified, appropriate corrective action must be taken. All work-related accidents, injuries, illnesses or "near misses" must be reported to the EHS Office promptly. Reporting procedures for work-related accidents, injuries, illnesses, and medical emergencies are available at:

https://www.cortland.edu/hr/Policies/InjuryProcedure.pdf

Additionally, please use the SUNY Cortland *Employee Injury, Illness, Medical Emergency* form (Form WC-1) to report all work-related injuries and illnesses. This form is available at:

https://www2.cortland.edu/information/campus-safety/environmental-health/Injury%20Illness%20Master%20Form%20v2021.1.pdf

3. Employees' Responsibilities

Supervisors and employees share the responsibility of implementing an effective safety program within the department. Issues of special concern are safety training, housekeeping, chemical management, and safe work practices. At a minimum, you must know or become familiar with:

- the contents and purpose of this program;
- how to access this program;
- how to access and read Safety Data Sheets (SDSs);
- how to access the department chemical inventory;
- hazards of chemicals and chemical processes;
- safe handling, storage, and disposal practices for chemicals;
- how to read manufacturer's labels and protocol for labeling chemicals (Section 9);
- personal protective equipment (PPE) and control devices;
- safe work practices; and protocol for emergency response.

Safe work practices and specific programs are outlined in Sections 6, 7, 8, and 9. While the information in these sections is important, adopting a safety-conscious attitude is more critical. Therefore, employees should practice safety at all times, identify and correct unsafe conditions, and promptly report work-related accidents, injuries, illnesses, and "near misses" to supervisors or the EHS Office. Reporting procedures for work-related accidents, injuries, illnesses, and medical emergencies are available at:

https://www.cortland.edu/hr/Policies/InjuryProcedure.pdf

Additionally, please use the SUNY Cortland *Employee Injury, Illness, Medical Emergency* form (Form WC-1) to report all work-related injuries and illnesses. This form is available at:

https://www2.cortland.edu/offices/hr/Policies-and-Procedures/pdfs/Injury%20Illness%20Master%20Form%20v2021.pdf

4. Contractor Safety

The EHS Office and Facilities Planning, Design and Construction project coordinators will supply SDSs for SUNY Cortland chemicals and convey recognized workplace hazards to contractors whenever it is appropriate. However, while on campus, it is the contractor's responsibility to train their employees, observe safe work practices, comply with regulatory requirements, and comply with requirements and guidelines outlined in the SUNY Cortland Facilities Planning, Design and Construction Design Standards.
Contractors are responsible for review the SUNY Cortland Contractor Safety Program and its contents. In line with this program, Contractors must submit written plans that outline project-specific hazards and associated safety precautions to the EHS Office upon request.

Within the framework of the Chemical Hygiene Plan, contractors must submit the SDSs associated with specific projects to SUNY Cortland project coordinators prior to bringing chemicals on campus and commencing work. After receiving project-specific SDSs, project coordinators will submit these documents to the EHS Office. The EHS Office will review SDSs to assess hazards and determine whether or not controls should be implemented. In instances where a specific chemical is extremely hazardous or presents an unreasonable risk to human health or the environment, the EHS Office will request that the contractor use a less hazardous chemical, or implement appropriate controls to eliminate or reduce the hazard(s). During projects, contractors must make sure that all chemicals are adequately labeled. Additionally, at the end of a project, contractors are required to remove their chemicals from the campus.

5. Training

Safety training is a crucial component of SUNY Cortland's safety program. Employees who handle or use chemicals are to receive Chemical Hygiene Plan training prior to their initial assignment and annually thereafter. Employees must also receive training when new chemicals, hazards or work practices are introduced into the work environment. Chemical Hygiene Plan training is generally provided by the EHS Office or by supervisors. This training may be provided to an individual or a group.

Information that must be discussed during Chemical Hygiene Plan training includes:

- the contents and purpose of the Chemical Hygiene Plan*;
- how to access this plan;
- permissible exposure limits (PELs) for OSHA regulated substances or recommended exposure limits for other hazardous chemicals where there is not an applicable OSHA standard (see "Exposure Monitoring" discussion in Section 6);
- physical health hazards of chemicals used in the department;
- signs and symptoms of exposure to hazardous chemicals used in the department;
- methods that can be used to detect the presence or release of a hazardous chemical;

- how to access and read SDSs (Section 6);
- how to retrieve the department chemical inventory (Section 6);
- hazards of chemicals and chemical processes (Sections 6 and 7);
- safe handling, storage, and disposal practices for chemicals (Sections 6, 7, and 8);
- how to read manufacturer's labels and protocol for labeling chemicals (Section 6);
- personal protective equipment and control devices (Section 6);
- safe work practices (Sections 6, 7, 8, and 9);
- methods and observations used to detect the presence or release of a hazardous chemical;
- instructions on what to do in the event of an emergency (refer to emergency response information under "Safe Work Practices" in Section 9); and
- information on medical consultations and medical evaluations (see Section 11).

*Note: The OSHA Occupational Exposure to Hazardous Chemicals in Laboratories standard can be accessed at:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10106

Employees must also receive other job-related safety training. Table 1 on this page summarizes significant training topics, training frequency, and target audiences. It is important to note that training frequency can be situation-dependent and performance-driven. If it is determined that employees lack adequate knowledge to perform their jobs safely, the training frequency indicated in Table 1 might need to be adjusted.

Table 1 – Required Safety Training

Training Topic	Training Frequency	Target Audience
Bloodborne Pathogen	Annually	Employees with potential exposures to blood and bodily fluids.
Chemical Hygiene Plan	Annually	Laboratory employees who handle or use chemicals.
Emergency Action Plan	Annually	All employees.
Hazard Communication Program	Annually	Non-laboratory employees who handle or use chemicals.
Hearing Conservation	Annually	Employees exposed to high noise levels.
Lockout/Tagout	One-time for the general population. Initially and whenever job responsibilities change for maintenance employees.	All employees.
Personal Protective Equipment (PPE)	Initially and when new PPE is required.	Employees who require PPE to perform their job.

Respiratory Protection	Annually	Employees who require the use of a respirator based on hazard assessments conducted by the EHS Office.

6. Hazard Identification and Exposure Control Programs

Chemical Management Database

Chemical hazard information, SDSs, department chemical inventories, and other safety and environmental information related to chemicals are stored in SUNY Cortland's Chemical Management Database. Access to this database is available at: http://colfax/chemmgmt/ . Employees who handle or use chemicals are expected to know how to use this database. Instructions on how to use the Chemical Management Database is provided during annual Chemical Hygiene Plan training or during informal training sessions.

Safety Data Sheets

SDSs provide health, safety, physical data, and waste disposal information on chemicals. Chemical manufacturers and distributors are required to supply these documents to their customers by federal mandate. SDSs can be accessed from SUNY Cortland's Chemical Management Database at: http://colfax/chemmgmt/ (see discussion on the Chemical Management Database in this section). SDSs should be reviewed:

1. during Chemical Hygiene Plan training sessions;
2. when new chemicals are introduced into the department; or
3. when employees are unfamiliar with the hazards of a chemical.

It is important to mention that employees are not required to review SDSs for all of the chemicals that are represented in the department chemical inventory during a Chemical Hygiene Plan training session. However, employees should know how to read SDSs and understand basic terminology that is used within these documents. Employees are encouraged to speak with their supervisors or contact the EHS Office for assistance with reading and interpreting SDSs. If an SDS cannot be retrieved from the Chemical Management Database, employees should contact the EHS Office for assistance.

When chemical incidents or accidents occur that involve a visit to a hospital or treatment center, the SDS(s) for the specific chemical(s) should be given to the staff at the hospital or treatment center. If necessary, employees should contact their supervisor or the EHS Office for assistance with acquiring SDSs during these situations. If the Chemical Management Database is unavailable, employees should contact the EHS Office for assistance with retrieving SDSs during regular hours. Employees should call Chemtrek at 800-262-8200 for emergency situations that occur after-hours.

In rare instances where an SDS does not provide adequate information to safely handle, store and dispose of a certain chemical, employees should contact the EHS Office. The EHS Office will either identify the location and availability of known reference material on the specific chemical or provide the information that is lacking.

While shipping chemicals to other non-SUNY Cortland locations is not a usual practice, employees must contact the EHS Office before sending chemicals to other locations. The EHS Office will ensure that applicable shipping regulations are observed and SDSs are included with the shipment.

Department Chemical Inventory

The department chemical inventory is the complete list of authorized chemicals for a department. Supervisors and employees are responsible for maintaining an accurate department chemical inventory. This inventory should be reviewed during Chemical Hygiene Plan training sessions and scrutinized during self-inspections of the department. The department chemical inventory can be accessed from the Chemical Management Database at: http://colfax/chemmgmt/. Employees should contact the EHS Office for assistance with retrieving the department chemical inventory.

Labeling

Chemical labels supplement SDSs and provide concise hazard information on the chemicals within the container. All chemical containers must have either a manufacturer's label or an employee-generated label. Additionally, pipes must be labeled to indicate the contents and direction of flow.

Manufacturer's labels will suffice for most chemicals. These labels should provide:

1. the chemical or trade name;
2. a signal word (e.g., “warning”, “danger”), if applicable, to convey the hazard level;
3. hazard statement(s);
4. pictogram(s);
5. precautionary statement(s); and
6. name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

Employee-generated labels should be used for secondary containers. These labels must provide the chemical or trade name, and words, pictures, symbols, or a combination thereof, which convey the hazards of the chemical. However, if a secondary container is intended for immediate use, and it is under the control of the employee transferring the chemical, the secondary container does not need to be labeled.

Supervisors and employees should review the department chemical labeling program during self-inspections. Defaced labels should be replaced and containers without chemical labels should be promptly labeled.

Chemical Procurement and Control

Responsibilities, requirements, and guidelines for chemical procurement and control are outlined in SUNY Cortland's Chemical Procurement and Control Policy. Before a chemical is purchased, the chemical user should check the department inventory to determine authorization status. The department inventory can be retrieved from SUNY Cortland's Chemical Management Database at: http://colfax/chemmgmt/. If the department is not authorized for the chemical of interest, the chemical user should send information related to the chemical (i.e., chemical name, desired quantity, specific use, and SDS) to the EHS Office. The EHS Office will review the chemical request to assess potential hazards and determine whether or not regulatory restrictions apply. In rare instances where a chemical is, for example, extremely toxic or hazardous, the EHS Office will suggest that the user consider selecting a less toxic or hazardous substance. When a chemical is approved for use, the SDS and other relevant information is entered into the Chemical Management Database. Additionally, safe handling, storage, and disposal requirements might be specified to the user.

> *Note: Free samples are not to be obtained from chemical manufacturers or distributors without approval from the EHS Office, and employees are not to use chemicals obtained from home for job-specific tasks. Additionally, employees should not borrow chemicals from other departments without prior approval from the EHS Office.*

The chemical user may order the chemical of interest after the chemical authorization review. Orders should be limited to quantities commensurate with current needs and in accordance with sound chemical management practices. After a chemical is received, the user should observe all safe handling, storage, and disposal requirements.

Existing chemicals do not require a chemical authorization review; therefore, these chemicals can be ordered at the discretion of the user. In instances where large quantities are ordered or when certain regulatory controls apply, the user should contact the EHS Office before placing an order. The EHS Office will specify whether or not special ordering, handling, use, or disposal requirements are necessary.

Chemicals that are imported from other countries require special controls under the Environmental Protection Agency's Toxic Substances Control Act (TSCA). Before arrangements are made to import any chemical, the EHS Office must be contacted first. If the chemical's use will comply with the relevant stipulations of TSCA, the EHS Office will issue a TSCA Certificate of Compliance and approval will be granted to import the requested chemical (see the discussion on Toxic Substances Control Act in this section).

Chemical Inventory Control

Chemical users are encouraged to periodically review their department chemical inventory for accuracy, minimally on an annual basis. If a chemical is used, but it is not listed on the department chemical inventory, the user should contact the EHS Office. The user should specify the chemical name, manufacturer, and quantity when reporting unauthorized chemicals. Chemical users should also contact the EHS Office when a chemical is no longer used within a department. The department inventory will subsequently be updated and hazardous waste disposal arrangements will be made.

Audits and Inspections

Health, safety, and environmental audits and inspections emphasize all aspects of safety and regulatory compliance. During these inspections, the EHS Office will:

1. evaluate health, safety, and environmental program compliance; and
2. identify unsafe conditions and work practices.

When discrepancies are identified, the EHS Office will implement appropriate corrective action. Supervisors and employees are required to participate in these efforts, depending on the circumstances. Additionally, supervisors and employees are periodically requested to conduct self-audits. A comprehensive inspection checklist is provided in Section 10 of this document.

To promote sound chemical inventory management, the EHS Office will periodically conduct chemical inventory audits. During these audits, supervisors are requested to verify the accuracy of their department chemical inventory. Inventory corrections will subsequently be handled by the EHS Office.

Personal Protective Equipment

Personal Protective Equipment (PPE) requirements and related information are outlined in SUNY Cortland's Personal Protective Equipment Program. It is important to mention that this program does not promote use of PPE as the primary means of controlling hazards. Every effort should be made to eliminate hazards before PPE is selected. When hazards cannot be eliminated, PPE is used in conjunction with engineering controls and other sound safety practices.

PPE is provided to employees without cost for certain job-related hazards. Tasks and processes for which specific PPE is required are indicated in Department Hazard Assessments (see discussion on Hazard Assessments in this section), Job Hazard Analysis (see discussion on Job Hazard Analysis in this section), and during other hazard reviews conducted by the EHS Office. Employees are required to wear PPE whenever it is specified. In instances where an employee believes that certain PPE is required, but not specified, the employee or the department supervisor should contact the EHS Office for assistance.

Employees receive PPE training before they are assigned to tasks, when they are given new assignments, and when it is determined that additional training is necessary.

While SUNY Cortland's Personal Protective Equipment Program applies principally to employees, students are expected to observe the requirements and guidelines outlined in this program whenever applicable. The EHS Office will assist faculty and staff with implementing personal protective equipment programs for students.

Hazard Assessments

A hazard assessment is a formal evaluation of job-specific tasks or processes and their associated hazards or risks. Once a hazard assessment is performed, appropriate PPE is determined. While hazard assessments are principally performed by the EHS Office, supervisors and employees also provide input for these assessments.

Hazard assessments are available in each department where PPE is required. The EHS Office will discuss hazard assessments and PPE selection during training sessions. Supervisors are required to maintain department hazard assessments and make them available to their employees.

Job Hazard Analysis

A Job Hazard Analysis (JHA) is a document that provides written procedures to help eliminate job hazards, and reduce accidents, injuries, illnesses and incidents in the workplace. A JHA:

1. outlines basic steps for a specific task;
2. identifies the hazards associated with the task; and
3. identifies safe operating procedures and PPE to eliminate or reduce hazards.

Supervisors and employees are requested to use these documents to identify appropriate PPE.

Exposure Monitoring

Permissible exposure limits (PELs)* or action levels are specified for substances that are regulated under 29 CFR, part 1910, subpart Z of the OSHA general industry standard. If there is reason to believe that PELs or action levels are exceeded, exposure monitoring is required. Since engineering controls, administrative controls, and personal protective equipment are implemented to eliminate or reduce chemical exposures, exposure monitoring is not a usual practice. In instances where exposure monitoring is conducted, the EHS Office will notify employees of monitoring results within 15 working days after receiving monitoring results.

*PELs are airborne exposure limits that should not be exceeded and are expressed in parts per million or milligrams per cubic meter.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) was enacted in 1976. This legislation gives the Environmental Protection Agency the authority to regulate the manufacture, use, distribution, and disposal of chemical substances. Additionally, TSCA requires manufacturers to provide data on the health and environmental effects of chemical substances and mixtures. The principal components of TSCA involve:

1. chemical testing;
2. pre-manufacture review;
3. authority to control chemical use and disposal;
4. recordkeeping and reporting;
5. export notification; and
6. import certification. The compliance strategy for the relevant sections of TSCA is outlined in this section.

All chemicals used in a non-laboratory setting must be TSCA registered. TSCA status should be ascertained by the EHS Office before a chemical is purchased. For chemicals that are not TSCA registered, requests for chemical authorization are denied. Alternatively, chemicals used strictly for research and development are exempt from TSCA registration. When a non-TSCA registered chemical is approved for use in research and development, the requestor must ensure that the chemical is not introduced into a non-laboratory setting. The requester must also observe all safe handling, storage, and disposal requirements specified by the EHS Office, including labeling the chemical "For Research and Development Use Only".

The Environmental Protection Agency requires export notification for certain regulated chemicals. Before a chemical is exported, the EHS Office must be contacted first. The chemical name, the country to which the chemical will be exported, and the date of intended export must be specified. The EHS Office will issue relevant regulatory documents, if necessary.

Before arrangements are made to import a chemical, the EHS Office must first be contacted. It is important to note that equipment containing chemicals, toners, ink cartridges, and ribbons are subject to TSCA requirements. The EHS Office will determine the intended use of the chemical and ascertain whether or not the chemical or its components are listed on the TSCA inventory. For import requests that comply with all aspects of TSCA, the EHS Office will issue a TSCA Certificate of Compliance. Subsequently, arrangements can be made to import the chemical. Import requests that do not comply with TSCA will not be approved.

7. Chemical Management

General Requirements

Responsible chemical management requires vigilance, dedication, and advanced planning. Chemicals must be ordered, handled, stored, labeled, and disposed of properly. Employees are informed of appropriate chemical management practices during training, when chemicals are ordered, and when job hazard analyses are reviewed. Employees also become familiar with the hazards of chemicals when SDSs are reviewed and during audits and inspections.

Safe chemical storage is often mishandled in the workplace. The four major storage classifications for chemicals are:

1. organics/flammables;
2. oxidizers;
3. inorganics/bases; and
4. acids.

Chemicals from each of these discrete storage classifications must not be stored together. For example, oxidizers must not be stored with flammables. Aside from segregating incompatible substances, chemicals must be stored in specially designated areas such as in cabinets or locations with adequate spill containment. Supervisors and employees are encouraged to contact the EHS Office for assistance with chemical storage.

Although it is difficult to effectively summarize all safe work practices pertaining to chemicals, the following guidelines should be observed:

- Store chemicals away from hand soap, skin cream, personal hygiene products, and foodstuffs.
- Label refrigerators where chemicals are stored to indicate "No Food, No Drink".
- Purchase all chemicals in accordance with procurement practices outlined in Section 6 and in SUNY Cortland's Chemical Procurement and Control Policy.
- Do not obtain free samples of chemicals from manufacturers or distributors without prior approval from the EHS Office.
- Do not borrow chemicals from other departments without prior approval from the EHS Office.
- Do not use chemicals obtained from home for job-specific tasks.
- Transfer chemicals to other locations in approved carriers.
- Do not transfer chemicals to other locations in private vehicles. Contact the EHS Office to request assistance with transporting chemicals.
- Use all chemicals under adequate exhaust.
- Always wear suitable PPE. Contact the EHS Office for assistance with PPE selection.
- When chemical contact exposures occur, first remove contaminated clothing, wash skin or eyes under an eyewash/shower unit for 15 minutes, and then seek

medical attention. Employees should remember to complete a SUNY Cortland *Employee Injury, Illness, Medical Emergency* form (Form WC-1) for injuries and illnesses involving chemicals.

- Immediately report all chemical-related accidents, injuries, and illnesses to the EHS Office and the department supervisor.
- Make sure that all chemical containers have a manufacturer's label or an employee-generated label. Employee-generated labels must provide the chemical or trade name, and words, pictures, symbols, or a combination thereof, which conveys the hazards of the chemical.
- Promptly dispose of chemicals upon completion of use. Contact the EHS Office for assistance with hazardous waste disposal (see Section 8 of this document for additional information on hazardous waste management).
- Provide adequate secondary containment for large storage vessels.
- For spills less than 1 liter, clean up the affected area immediately using a suitable spill kit. For larger spills, contact the EHS Office for assistance. Additionally, refer to SUNY Cortland's *Spill Clean-up Policy* and *Integrated Contingency Plan* for guidance on cleaning up spills.
- Dispose of chemicals when their shelf life is exceeded or when they are no longer needed. Requirements for hazardous waste disposal are outlined in Section 8 of this program.

Specific aspects of chemical use, storage, and handling are further discussed in this section as follows: limited shelf-life and highly reactive chemicals; flammables; oxidizers; corrosives; compressed gases; cryogenic fluids; carcinogens; teratogens and mutagens; highly toxic substances and poisons; and pesticides. Supervisors and employees should implement the requirements and guidelines that are outlined in this section whenever they are applicable.

Limited Shelf-Life and Highly Reactive Chemicals

When they are misused, limited shelf-life and highly reactive chemicals can cause very violent, destructive explosions. Peroxides (e.g., hydrogen peroxide, benzoyl peroxide), peroxide-forming chemicals (e.g., ethyl ether and tetrahydrofuran), picric acid, chemicals that polymerize, and certain chemicals that decompose are included in this category. SDSs and labels will indicate whether or not a substance has a limited shelf life or is highly reactive.

Limited shelf-life and highly reactive chemicals should be disposed of no later than one year after opening unless it is determined these chemicals are stable. If it is necessary, employees should contact the EHS Office for assistance with determining whether or not a chemical is stable. At no time is the manufacturer's specified expiration date to be exceeded. In order to adhere to these guidelines, vessels of limited shelf-life and highly reactive chemicals must be dated at the time of receipt. This may be done with

a stamp or with indelible ink. Secondary vessels used for storage of limited shelf-life chemicals must indicate the expiration date.

Summary of Safety Practices for Limited Shelf-Life/Highly Reactive Chemicals

- Observe all handling, storage, and disposal requirements specified by the EHS Office and within this program.
- Indicate the date of receipt on all containers.
- Dispose of within one year after the date of receipt unless it is determined that the chemical is stable.
- Never exceed the manufacturer's specified expiration date.
- Store ethyl ether and other substances requiring cold storage in explosion-proof refrigerators.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Flammables

Materials that ignite or that burn rapidly at temperatures less than 100°F are flammables. Flammable liquids are characterized by their flashpoints. The flashpoint is the temperature at which enough vapor is produced to be ignited. Flammable liquids are categorized as Class 1A, Class 1B, or Class 1C.

Class 1A	have flashpoints below 73°F and boiling points below 100°F
Class 1B	have flashpoints below 73°F and boiling points at or above 100°F
Class 1C	have flashpoints at or above 73°F and below 100°F

SDSs and labels will indicate whether or not a substance is flammable.

Container size limitations for the above-mentioned classes of flammable substances are regulated by the Occupational Safety and Health Administration (29 CFR 1910.106). The EHS Office will specify container size restrictions for flammable liquids during chemical procurement, and during audits and inspections. Flammable liquids must not be ordered or stored in quantities that exceed specified limits.

Observe strict controls when handling or storing flammable liquids, and always use under adequate local exhaust or in a well-ventilated area. When dispensing flammables into metal containers, adequate grounding and bonding must be employed. For most situations, flammables should be stored in specially designed cabinets or in safety cans. Safety cans must be equipped with spring-loaded spouts and flash arresters and must

be properly labeled. Additionally, safety cans must be stored in specially designated areas where containers do not obstruct the opening of drawers and cabinets or interfere with foot traffic. Finally, all drum storage areas must be approved by the EHS Office.

Summary of Safe Practices for Flammable Liquid

- Use under adequate local exhaust or in a well-ventilated area.
- Wear appropriate PPE.
- Segregate from sources of ignition, peroxides, and incompatibles.
- Store ethers in explosion-proof refrigerators.
- Plan experiments well to assure that inherent hazards are minimized.
- Provide adequate spill containment for waste containers.
- Properly ground and bond metal containers when dispensing.
- Properly ground metal containers when storing flammable liquids.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures, and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Oxidizers

Oxidizers are substances that spontaneously evolve oxygen either at room temperature or under slight heating. The most widely recognized class of oxidizers is peroxides, of which sodium peroxide and hydrogen peroxide are examples. Sodium chlorite and potassium permanganate are also oxidizers. Organic peroxides are of special concern because of their instability, sensitivity to shock, flammability and decomposition potential. When oxidizers are handled or stored improperly, very violent and disastrous explosions can occur. Peroxide-forming compounds such as ethyl ether or tetrahydrofuran are also precarious.

Summary of Safe Practices for Oxidizers

- Use under adequate local exhaust or in a well-ventilated area.
- Wear appropriate PPE.
- Isolate from organics, flammables, and reducing agents.
- Establish strict shelf-life controls.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Corrosives

Chemicals that cause injury or destruction to eyes, skin, respiratory tract, or gastro-intestinal tract are corrosives. Acids, bases, certain organics, and oxidizers are included in this classification. SDSs and chemical labels will indicate whether or not a substance is corrosive.

At a minimum, employees should wear goggles and gloves when handling corrosive substances. When splash hazards exist, a face shield, apron, and arm guards and impervious boots should also be worn. For contact exposures, wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes. Any contaminated clothing should be removed prior to using a shower unit.

Whenever possible, it is strongly recommended that corrosive liquids be purchased in plastic-coated glass containers rather than ordinary glass. The plastic coating prevents the glass container from shattering in the event that the container is dropped, thus preventing potential skin contact. Corrosives should also be stored on corrosion-resistant surfaces. In areas where corrosives are used, acid/base spill kits should be available for responding to small spills.

Summary of Safe Practices for Corrosives

- Use under adequate local exhaust or in a well-ventilated area.
- Wear appropriate PPE.
- Isolate acids from bases.
- Isolate corrosives from other incompatible substances.
- Add acid to water. Never add water to acid.
- Do not store mineral acids with organic acids.
- Store corrosive gases in specially designed exhausted cabinets.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EH
  S Office.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Compressed Gases

Compressed gases have unique physical and toxicological hazards. Ruptured cylinders can become very destructive. Additionally, large volumes of toxic, corrosive, flammable, or explosive gases can also be quickly released from cylinders. Many gases are colorless and/or odorless which intensifies their potential hazard. Even compressed gases that

do not present significant physical or health hazards may act as asphyxiants when they leak and displace oxygen. SDSs will indicate the toxicological and physical properties of compressed gases.

Summary of Safe Practices for Compressed Gases

- Use under adequate local exhaust or in a well-ventilated area.
- Wear appropriate PPE.
- Anchor all cylinders securely when storing.
- Know the contents of a cylinder and become familiar with all toxicological and physical properties by reading the SDS.
- Transport cylinders by using an approved hand truck.
- Do not expose compressed gas cylinders to temperatures in excess of 125 °F.
- Segregate cylinders with incompatible contents.
- Segregate oxygen from flammable gases.
- Do not store flammable gases in areas where there are sources of ignition or excessive heat.
- Do not use cylinders without pressure regulators.
- Do not use adaptors on cylinders.
- Keep protective caps on cylinders when they are not being used.
- Do not attempt to refill cylinders.
- Appropriately tag cylinders "Full", "In Use" or "Empty".

Cryogenic Fluids

Cryogenic fluids or liquefied gases are characterized by their extremely low temperatures and their ability to cause severe burns. The gases evolved from cryogenic fluids can also cause damage to the eyes and skin. The most common cryogenic fluid is liquid nitrogen.

Summary of Safe Practices for Cryogenic Fluids

- Wear a face shield, goggles, impervious lab coat or apron, and insulated gloves.
- Store in shielded or reinforced dewars.
- Use tongs when removing immersed objects.
- Insulate all plumbing.
- Immediately seek medical attention for contact exposures.

Carcinogens, Teratogens, and Mutagens

Carcinogens are toxic substances that are capable of causing cancer. Unlike the chemical classes discussed thus far, the toxic effects of carcinogens are chronic.

Teratogens and mutagens are also toxic agents that are capable of causing adverse health effects. Whereas, a teratogen is a toxic substance capable of causing defects during fetal and embryonic development, a mutagen is a substance capable of altering genetic material in the nucleus of a cell. SDSs will indicate if a substance is a carcinogen, teratogen, or mutagen.

A chemical's health effects and toxicity should be evaluated by the EHS Office prior to procurement. While known carcinogens, mutagens, and teratogens are not approved for use in non-laboratory settings, these agents are periodically approved for use in the laboratory. When these agents are approved for use in the laboratory, all requirements stipulated by the EHS Office must be implemented.

Summary of Safe Practices for Carcinogens, Teratogens, and Mutagens

- Use under adequate local exhaust.
- Wear required PPE.
- Order in quantities sufficient for immediate use.
- Limit use to authorized personnel.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Immediately remove and dispose of contaminated clothing. Attire that is not disposed of should be decontaminated.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Highly Toxic Substances and Poisons

Chemicals that cause extreme adverse chronic and acute health effects are categorized as highly toxic. While carcinogens, teratogens, and mutagens are included in this category, guidelines for acutely toxic substances are the focus of this sub-section.

SDSs will indicate whether or not a substance is highly toxic or a poison. A chemical's health effects and toxicity should be evaluated by the EHS Office prior to procurement. While highly toxic substances or poisons are not generally approved for use in non-laboratory settings, these agents are periodically approved for use in the laboratory. When these agents are approved for use in the laboratory, all requirements stipulated by the EHS Office must be implemented.

Summary of Safe Practices for Highly Toxic Substances and Poisons

- Use under adequate local exhaust.
- Wear required PPE.

- Order in quantities sufficient for immediate use.
- Limit use to authorized personnel.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Immediately remove and dispose of contaminated clothing. Attire that is not disposed of should be decontaminated.
- Store poisons under lock and key.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

Pesticides

According to the New York State Department of Environmental Conservation, pesticides are principally:

1. substances or mixtures of substances intended for preventing, destroying, repelling, or mitigating insects, rodents, fungi, weeds, or other forms of plant or animal life or viruses; and
2. any substance or mixture of substances intended as a plant regulator, defoliant, or desiccant.

Requirements involving the use of pesticides are outlined in Title 6 of New York Codes Rules and Regulations, Part 325. This regulation mandates that only certified employees are approved to use pesticides in a commercial setting. Additionally, when pesticides are applied, consideration must be given to weather conditions, environmental conditions, potential for water contamination, and safe usage.

Summary of Safe Work Practices for Pesticides

- Limit use to certified personnel.
- Only use pesticides that are approved for use in New York State.
- Wear required PPE.
- Observe all use and posting requirements.
- Clean up spills less than 1 liter with a suitable spill kit. For spills greater than 1 liter, contact the EHS Office.
- Immediately remove and dispose of contaminated clothing. Attire that is not disposed of should be decontaminated.
- Wash eyes or affected areas of the skin under an eyewash/shower unit for 15 minutes for contact exposures and then seek medical attention.
- Dispose of waste promptly upon completion of use.

8. Hazardous Waste Management

Requirements and guidelines for hazardous waste management are outlined in this section and in SUNY Cortland's Waste Management Program.

The four primary hazardous waste characteristics are ignitability, corrosivity, reactivity, and toxicity. These characteristics are defined as follows:

- **Ignitability** – A liquid with a flash point less than 140 °F; a non-liquid capable, under standard temperature and pressure, of causing a fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard; an ignitable compressed gas; an oxidizer; or a waste with an EPA Hazardous Waste Number of D001.

- **Corrosivity** – An aqueous waste with a pH less than 2 or greater than 12.5; a liquid that corrodes steel at a rate greater than 0.25 inch per year at a temperature of 130° F; a solid waste that exhibits the characteristics of corrosivity and has the EPA Hazardous Waste Number of D002.

- **Reactivity** – A waste that:

    1. is normally unstable and readily undergoes violent change without detonating;
    2. reacts violently with water;
    3. forms potentially explosive mixtures with water;
    4. when mixed with water generates toxic vapors, gases, or fumes in a quantity sufficient to present a danger to human health and the environment;
    5. is a cyanide or sulfide-bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health and the environment;
    6. is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
    7. is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure;
    8. is a forbidden explosive, a Class A explosive, or Class B explosive (see 49 CFR 173.51, 173.53, or 173.88, respectively, for further definitions); or
    9. is a solid waste that exhibits the characteristics of reactivity and has the EPA Hazardous Waste Number of D003.

- **Toxicity** – A solid waste that exhibits the characteristic of toxicity when a specific EPA "Toxicity Characteristic Leaching Procedure" test method is used;

a solid waste that exhibits the characteristic of toxicity having EPA waste codes D004 through D043.

There are other chemical and use-specific classes of hazardous waste that are defined by the EPA. Rather than define these classes separately, employees are requested to contact the EHS Office for guidance on determining what constitutes a "hazardous waste".

Waste minimization is a requirement of SUNY Cortland's Waste Management Program. Employees are encouraged to use chemicals that are less harmful to human health and the environment, and order chemicals in quantities that commensurate with needs. To prevent hazardous waste from accumulating, supervisors and employees are regularly requested to review the department chemical inventory and dispose of chemicals that are no longer needed.

Employees should wear appropriate PPE when handling hazardous waste. While PPE is specified by the EHS Office during chemical procurement, PPE requirements are also specified in hazard assessments, during training, in SDSs, and in job hazard analyses. Employees are encouraged to contact the EHS Office for guidance on PPE selection involving hazardous waste.

Spills of hazardous waste must be cleaned up promptly. Spills less than 1 liter should be cleaned up with a suitable spill kit. The EHS Office should be contacted for spills greater than 1 liter. Additionally, refer to SUNY Cortland's *Integrated Contingency Plan* for spills with potential to affect the environment.

Unused chemicals are disposed of as "virgin chemical waste". A virgin chemical waste is an unprocessed chemical that remains in its original container and has exceeded its expected use. Employees should contact the EHS Office to coordinate disposal of these wastes.

A significant hazardous waste stream at SUNY Cortland is process related. Process-related wastes include spent oil, solvent contaminated rags, and certain laboratory wastes. These wastes are stored in secondary containers that are placed in Satellite Accumulation Areas. Satellite Accumulation Areas can be rooms, work areas, art studios, laboratories, and containment areas. Satellite Accumulation Areas must be at or near the point of generation and under the control of the person who generated the waste. Waste generators may accumulate up to 55 gallons of a hazardous waste, or 1 quart of acutely hazardous waste, before having to move the waste to the campus' Chemical Management Facility. The following practices must also be implemented for hazardous waste stored in Satellite Accumulation Areas:

1. Waste containers should be placed in adequate secondary containment. Secondary containment should be capable of holding 110 percent of the volume of the largest container.

2. Hazardous waste must be stored in containers that are compatible with the contents.
3. Waste containers with incompatible contents must be segregated.
4. Waste containers must be labeled with the words "Hazardous Waste" and the label should identify the contents, and the hazards of the contents. Employees should contact the EHS Office to obtain hazardous waste labels.
5. Hazardous waste containers must remain closed except when adding or removing waste.
6. Properly ground and bond metal containers when dispensing and storing flammable wastes.
7. Regularly check waste containers for integrity. Employees should contact the EHS Office if they identify waste containers that have cracks, leaks, or exhibit signs of degradation.
8. The date that a waste container becomes full should be recorded on the "Hazardous Waste" label. This date is known as the "accumulation start date". Employees should promptly contact the EHS Office to arrange for the transfer of full waste containers to the campus' Chemical Management Facility (Note: full waste containers must be moved to the Chemical Management Facility within three days).

Before hazardous wastes are transported to an approved Treatment, Storage, and Disposal Facility, they are stored at SUNY Cortland's Chemical Management Facility. This facility is located at the Service Group complex and functions as the campus' central storage area.

9. Other Safety Guidelines and Requirements

Supervisors and employees share the responsibility of making safety a daily practice. Whenever applicable, the requirements and guidelines in this section should be observed.

Housekeeping

- Keep floors clean and free of spilled material. Clean up chemical spills immediately so that the potential for contamination or injury is minimized.
- Keep bench and counter tops free of debris, unused chemicals, glassware, equipment and other material.
- Use designated areas for storage of chemicals, supplies and equipment.
- Post a notice of ownership outside of laboratories. This notice should provide the owner's name and contact number.

Safe Work Practices

- In the event of an emergency, call 911.

- Become familiar with emergency evacuation plans and routes.
- Know the location of the nearest fire extinguisher. Note: Use of fire extinguishers is for escape only.
- Do not work alone when performing highly hazardous tasks.
- Use sufficient lighting to work safely.
- Become familiar with the toxicological and physical properties of all chemicals handled or used in the department.
- Know how to retrieve SDSs. If necessary, contact the EHS Office for assistance with obtaining SDSs.
- Know the location of the nearest eyewash/shower unit. The area within 3 square feet of an eyewash/shower unit must remain unobstructed. Additionally, eyewash/shower units must be tested regularly for integrity. If an eyewash/shower unit is not available, maintain eyewash bottles in a readily accessible location.
- Work safely and wear appropriate PPE. PPE requirements are outlined in SUNY Cortland's:
    1. Personal Protective Equipment Policy;
    2. Operational Services Unit's Policy for Protective Equipment/Dress for Personal Safety; and
    3. Uniforms and Safety Shoe Programs Policy.

  PPE requirements are also specified in Hazard Assessments, during chemical procurement, and when job hazard analyses are developed.
- Do not place chemicals on the ledge of exhaust hoods. Chemicals should be placed inside of exhaust hoods to ensure sufficient protection.
- Post "No Food/No Drink" signs on all refrigerators where chemicals are stored.
- Make sure that potentially hazardous equipment such as ovens or hot plates are turned off under the following conditions: when unsupervised; after a job is performed; or at the end of the day.
- Immediately inform supervisors or the EHS Office of unsafe conditions.
- Do not eat, drink, chew gum, apply cosmetics, or wear jewelry in areas where chemicals are used.
- Limit use of hypodermic needles and syringes to authorized personnel only. Additionally, maintain an accurate inventory of hypodermic needles and syringes and store them under lock and key (Note: Requirements for hypodermic needles and syringes are outlined in SUNY Cortland's Hypodermic Needle and Syringe Program).
- Do not pipette by mouth.
- Understand how to operate all equipment safely.
- Observe lockout/tagout protocol.

Equipment and Apparatus

- Ensure proper operation of exhaust hoods and keep exhaust hoods free of clutter. Objects that can become lodged in ductwork, especially paper products, should not be put in exhaust hoods.
- Check labware and equipment periodically for safe operation. Equipment that is under pressure or a vacuum should be tested for leaks.
- Glass apparatus that is under pressure should be equipped with a safety shield.
- Keep unused glassware clean and store in designated areas. Glassware containing chemicals should be stored safely to reduce the potential for spills.
- Dispose of razor blades, broken glassware, or waste glassware in specially designated containers.

10. Inspection Checklists

The checklists in this section are useful for maintaining a safe and healthful work environment. These checklists are categorized according to the main sections in this document.

Supervisors' Responsibilities

1. Are you familiar with the contents and purpose of the Chemical Hygiene Plan?
2. Do you know how to access the Chemical Hygiene Plan?
3. Are employees provided with Chemical Hygiene Plan training according to the guidelines provided in Section 5?
4. Are records maintained of all safety training?
5. Are periodic self-inspections performed?
6. Are eyewash units checked periodically?
7. Is the department chemical inventory accurate?
8. Are results from air monitoring or noise surveys reported to your employees on a timely basis?
9. Do your employees know what to do in the event of an emergency?
10. Do you review emergency evacuation procedures and routes with your employees periodically?
11. Are chemical incidents reported accurately and on a timely basis?
12. Are work-related injuries, illnesses, and accidents reported by using SUNY Cortland's *Employee Injury, Illness, Medical Emergency* form (Form WC-1)?

Employees' Responsibilities

1. Are you familiar with the contents and purpose of the Chemical Hygiene Plan?
2. Do you know how to access the Chemical Hygiene Plan?
3. Are you familiar with the hazards of all the chemicals you use?
4. Do you know how to retrieve SDSs from SUNY Cortland's Chemical Management Database?

5. Are chemicals ordered in accordance with SUNY Cortland's Chemical Procurement and Control Policy?
6. Do you handle and store all chemicals safely?
7. Are all chemical containers properly labeled?
8. Are chemicals disposed of promptly upon completion of use?
9. Do you wear appropriate PPE when using chemicals?
10. Are shelf-life requirements observed for all chemicals?
11. Is the work area maintained in a neat and orderly fashion?
12. Do you know what to do in the event of an emergency?
13. Are you familiar with emergency evacuation plans and routes?
14. Is all equipment turned off when unsupervised, when work is complete, or at the end of the day?
15. Are work-related injuries, illnesses, and accidents reported to your supervisor on a timely basis, and do you use SUNY Cortland's *Employee Injury, Illness, Medical Emergency* form (Form WC-1) for reporting work-related injuries, illnesses and accidents?

Contractor Safety

1. Are requirements that are outlined in Section 4 being observed by SUNY Cortland employees and contractors?
2. Are you familiar with the contents and purpose of SUNY Cortland's Contractor Safety Program?

Training

1. Do employees receive Chemical Hygiene Plan training annually and is this training recorded?
2. Do employees know the location and purpose of the Chemical Hygiene Plan?
3. Do employees know how to access the Chemical Hygiene Plan?
4. Are specific chemical hazards, including signs and symptoms of exposure, reviewed with employees?
5. Do employees know how to retrieve SDSs from SUNY Cortland's Chemical Management Database?
6. Do employees know how to properly label chemical containers?
7. Do employees use proper PPE and are they familiar with hazard control devices?
8. Are employees familiar with standard safe work practices?
9. Are employees familiar with methods and observations used to detect the presence or release of a hazardous chemical?
10. Do employees receive other relevant safety training as outlined in Table 1 in Section 5?

Hazard Identification and Exposure Control Programs

1. Do employees receive results from air monitoring and noise surveys on a timely basis?
2. Are chemicals ordered in accordance with SUNY Cortland's Chemical Procurement and Control Policy?
3. Is equipment operating safely?
4. Do employees observe safe operating practices as outlined in job hazard analyses?
5. Are unsafe conditions or practices corrected on a timely basis?

Chemical Management

General Requirements

1. Do employees know the hazards of the chemicals they use?
2. Do employees know how to retrieve SDSs from SUNY Cortland's Chemical Management Database?
3. Are chemical containers labeled with a manufacturer's label or an employee-generated label?
4. Do employee-generated labels provide the chemical or trade name, and words, pictures, symbols, or a combination thereof, which convey the hazards of the chemical?
5. Are all defaced or illegible labels replaced?
6. Are pipes labeled to indicate the contents and direction of flow?
7. Is the expiration date indicated on containers of chemicals with a limited shelf-life?
8. Are chemicals ordered in accordance with SUNY Cortland's Chemical Procurement and Control Policy?
9. Is the EHS Office contacted first before obtaining free samples?
10. Are chemicals obtained from home restricted from use for job-specific tasks?
11. Is the EHS Office contacted first prior to borrowing chemicals from other departments?
12. Is the department chemical inventory accurate?
13. Are incompatible chemicals segregated?
14. Are chemicals isolated from personal hygiene items, such as hand soap and skin cream?
15. Is adequate storage space available for all chemicals?
16. Are chemicals stored in designated areas?
17. Are chemicals transferred to other locations in approved carriers?
18. Is transport of chemicals in private vehicles prohibited?
19. Are chemicals disposed of promptly upon completion of use?
20. Are local exhaust, PPE and other control devices in place when using chemicals?
21. Are spill kits available for spills that are less than 1 liter?
22. Do employees contact the EHS Office for spills greater than 1 liter?
23. Are eating, drinking, chewing gum, applying cosmetics, or wearing jewelry prohibited in chemical areas?

Limited Shelf-Life/Highly Reactive Chemicals

1. Are all handling, storage, and disposal requirements specified by the EHS Office observed?
2. Is appropriate PPE worn?
3. Are these substances marked to indicate the date of receipt?
4. Are these substances disposed of within one year after opening or prior to becoming unstable?
5. Are these substances disposed of before the manufacturer's specified expiration date?

Flammables

1. Is appropriate PPE worn?
2. Are container size limitations observed?
3. Are flammables segregated from incompatibles?
4. Are flammables isolated from ignition sources?
5. Are flammables requiring cold storage kept in explosion-proof refrigerators?
6. When dispensing flammable substances, are containers appropriately grounded and bonded?

Oxidizers

1. Is appropriate PPE worn?
2. Are oxidizers isolated from flammables, combustibles and reducers?
3. Are shelf-life requirements observed?

Corrosives

1. Are goggles, face shields, and other appropriate PPE worn when handling corrosive substances?
2. Are corrosives segregated from incompatible substances?

Compressed Gases

1. Are cylinders transported by means of an approved hand truck?
2. Are cylinders properly anchored?
3. Are cylinders stored so that they are not exposed to temperatures in excess of 125°F?
4. Are flammable gases isolated from ignition sources?
5. Are cylinders with incompatible contents isolated from each other?
6. Are pressure regulators used on every cylinder?
7. Are adaptors prohibited from use on cylinders?
8. Do protective caps remain on cylinders when not in use?

9. Are cylinders appropriately tagged "FULL", "IN USE" or "EMPTY"?
10. Are cylinders inspected to make sure that the contents are accurately identified?

Cryogenics

1. Are face shields, impervious lab apparel, and insulated gloves worn when handling cryogenic liquids?
2. Are specially-designed vessels used for the storage of cryogenic liquids?
3. Are tongs used for removing objects immersed in cryogenic liquids?
4. Is plumbing containing cryogenic liquids insulated?

Carcinogens, Teratogens, Mutagens, Highly Toxic Substances, and Poisons

1. Are safety practices implemented when using these substances?
2. Are these substances ordered in the smallest possible quantities?
3. Are these substances used under adequate exhaust?
4. Is appropriate PPE worn?
5. Are contaminated attire and protective equipment properly disposed of or decontaminated?
6. Are poisons kept under lock and key?

Pesticides

1. Is use limited to certified personnel only?
2. Is appropriate PPE worn?
3. Are all use and posting requirements observed?

Hazardous Waste Management

1. Is appropriate PPE worn?
2. Is hazardous waste stored in a Satellite Accumulation Area?
3. Is hazardous waste stored in adequate secondary containment?
4. Are waste containers at or near the point of generation?
5. Are containers that are used for storage of hazardous waste compatible with the contents?
6. Are waste containers with incompatible contents segregated?
7. Are hazardous waste containers labeled with the words "Hazardous Waste"? Additionally, do hazardous waste containers indicate the contents?
8. Do hazardous waste containers remain closed except when adding waste?
9. Are metal containers with flammable waste properly grounded and bonded?
10. Are hazardous waste containers regularly inspected for integrity?
11. Are defective hazardous waste containers replaced?
12. When hazardous waste containers become full, is the "accumulation start date" indicated on the "Hazardous Waste" label? Additionally, is the EHS Office contacted when hazardous waste containers become full? Note: Waste

generators may accumulate up to 55 gallons of a hazardous waste, or 1 quart of acutely hazardous waste, before moving the waste to the Chemical Management Facility, and full waste containers must be moved to the Chemical Management Facility within three days.

Other Safety Guidelines and Requirements

Housekeeping

1. Are bench tops, counter tops and other working surfaces kept free of clutter, debris, and other unnecessary items?
2. Are fire extinguishers located within the work area? Note: Use of fire extinguishers is for escape only.
3. Are designated areas established for the storage of chemicals, supplies and equipment?
4. Are evacuation routes posted within the work area?

Safe Work Practices

1. Do you know what to do in the event of an emergency? Note: Employees should call 911, or extension 2111 when using an internal phone.
2. Are you familiar with the emergency evacuation plans and routes for your location?
3. Do you know the location of the nearest fire extinguisher? Note: Use of fire extinguishers is for escape only.
4. Do you avoid working alone for highly hazardous tasks?
5. Is sufficient lighting available to perform work safely?
6. Are you familiar with the toxicological and physical properties of the chemicals you use?
7. Do you know the location of the nearest eyewash/shower unit? If an eyewash/shower unit is not available, are eyewash bottles available in a readily accessible location?
8. Do you wear appropriate PPE for tasks you perform?
9. Do you store chemicals safely?
10. Do you post "No Food, No Drink" signs on all refrigerators where chemicals are stored?
11. Do you turn off potentially hazardous equipment: 1) when it is unsupervised; 2) after a job is performed; or 3) at the end of the day?
12. Do you promptly inform your supervisor or the EHS Office of unsafe conditions or work practices?
13. Are eating, drinking, chewing gum, applying cosmetics, or wearing jewelry prohibited in areas where chemicals are used?
14. Is use of hypodermic needles and syringes limited to authorized personnel only? Additionally, are accurate inventory records of hypodermic needles and syringes maintained, and are they stored under lock and key? (Note: Requirements for

hypodermic needles and syringes are outlined in SUNY Cortland's Hypodermic Needle and Syringe Program.)

15. Is pipetting by mouth prohibited?
16. Do you know how to operate all equipment safely?
17. Do you observe lockout/tagout practices?

Equipment and Apparatus

1. Are shower/eyewash units available for chemical exposures?
2. Are eyewash units inspected regularly?
3. Are exhaust hoods operating properly and free of debris and clutter?
4. Are labware and equipment checked periodically for integrity and safe operation?
5. Are safety shields in place for glass equipment that is under pressure?
6. Is unused glassware kept clean and in designated areas?
7. Are razor blades and broken glass disposed of in appropriate containers?

11. Medical Consultations and Medical Examinations

The programs and practices that are outlined in this document are designed to eliminate or reduce exposures to hazardous chemicals. In certain instances where exposures (or potential exposures), to hazardous chemicals occur, medical consultations and medical examinations are made available to affected employees. Specific circumstances where medical attention is made available to employees are:

- Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed;
- Where exposure monitoring reveals that exposures to OSHA-regulated substances are routinely above action levels (i.e. permissible exposure levels); and
- Whenever an event takes place resulting in the likelihood of a hazardous exposure (e.g., spills, leaks, explosions).

All medical examinations and consultations are performed under the direct supervision of a licensed physician and are provided without cost to the employee, without loss of pay, and at a reasonable time and place.

When employees seek medical attention, the following information is made available to the physician:

- The identity of the hazardous chemical(s) to which the employee may have been exposed;
- A description of the conditions under which the exposure occurred including quantitative exposure data, if available; and
- A description of signs and symptoms of exposure experienced by the employee, if any.

Once the medical examination or consultation is conducted, a written opinion will be obtained from the examining physician that includes the following information:

- Any recommendations for further medical follow-up;
- The results of the medical examination and any associated tests;
- Any medical condition which may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a hazardous workplace; and
- A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The written opinion should not reveal specific findings of diagnosis unrelated to occupational exposures. Written opinions are confidential and will be maintained in the EHS Office.

12. Chemical Hygiene Committee

Table 2 – Chemical Hygiene Committee

Name	Title	Department
Zakary Sedor	Instructional Support Technician	Geology/Physics
Andrew Funk	Instructional Support Technician	Biology
Donna Napelitano-Fairbanks	Instructional Support Technician	Chemistry
Jonathan Panko	Safety Specialist	EHS Office
Michael Stone	Safety Specialist	EHS Office
Amy Markowski	EHS Officer/Chemical Hygiene Officer	EHS Office