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Hazard Communication Program

administered by
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Table of Contents

I.	INTRODUCTION	1
II.	RESPONSIBILITIES	1
III.	CHEMICAL INVENTORY	2
IV.	SAFETY DATA SHEETS	3
V.	SYSTEM OF MARKING & LABELING	5
VI.	ADDITIONAL METHODS OF HAZARD COMMUNICATION	8
VII.	EMPLOYEE INFORMATION AND TRAINING	19
VIII.	NON-ROUTINE TASKS	20
IX.	UNLABELED PIPES	20
X.	CONTRACTORS	20
XI.	DEFINITIONS	21
XII.	UPDATES & REVISIONS	22

I. INTRODUCTION

Virginia Health Sciences at Old Dominion University (ODU) hereby establishes this Hazard Communication (HazCom) Program in accordance with the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS) [29 CFR 1910.1200](#) and ODU's [Policy #3223](#). This program outlines the uniform procedures set forth to ensure compliance and promote effective coordination of all requirements of the HCS.

This HazCom Program is designed to empower employees with both the right to know and the ability to understand the hazards associated with the chemicals they work with. It aims to foster a positive safety culture, assuring regulatory compliance. As part of this initiative, we commit to the following:

- Uphold the System of Marking and Labeling, and train on its application and significance.
- Establish complete Chemical Inventories, organized by work areas, and maintain the corresponding Safety Data Sheets (SDSs).
- Deliver comprehensive training on the information presented within the plan, ensuring that employees are equipped to apply this knowledge to protect themselves from chemical hazards during their routine tasks and any foreseeable emergencies.

Implementing these measures will strengthen employees' safety knowledge and promote a proactive approach to managing chemical hazards in the workplace.

This HazCom Program applies to all employees on the medical campus and its associated facilities. Each employee is responsible for being aware of the potential hazards associated with the materials in their work environment and adhering to established work practices and safety protocols to preserve their health and well-being.

Copies of this Program are available in the Environmental Health and Safety (EH&S) office, Lewis Hall room 2132, or can be downloaded from <https://www.odu.edu/brock-virginia-health-sciences-ehs/occupational-safety>. For assistance, contact the Occupational Safety Officer (OSO) at ehs@odu.edu or call (757) 446-5798.

II. RESPONSIBILITIES

Specific positions carry defined responsibilities within the HazCom Program. Active collaboration among all roles is essential to ensure the program's effectiveness. The following section outlines the key personnel and their respective responsibilities:

Occupational Safety Officer (OSO)

- Serves as the primary point of contact for the HazCom Program, reporting to the EH&S Director.
- Implements and manages the HazCom Program, reviewing and updating it annually.
- Provides regulatory guidance.
- Manages HazCom Training for employees and designated contractors.
- Ensures readily accessible SDS via SciShield.
- Provides SDSs to contractors as needed.
- Identifies non-laboratory areas where hazardous chemicals are used. Conducts periodic inspections to evaluate these areas for HazCom compliance.
- Investigates chemical spills, exposures, accidents, near misses, and other such incidents; prepares thorough documentation, identifies root causes, and recommends preventative measures.
- Liaison, in the absence of the EH&S Director, with local, state, and federal officials on matters related to HazCom.

Supervisors

- Responsible for the daily oversight of chemical safety within their designated work area. This includes the safe handling and storage of hazardous chemicals, along with the proper use of Personal Protective Equipment (PPE).
- Ensure that all employees under their supervision complete the required HazCom Training Course(s).
- Document all employee on-the-job training related to hazardous chemicals, upon initial assignment and whenever a new chemical is introduced to the work area.
- Develop Standard Operating Procedures (SOPs) that prioritize safety and preparedness, including clearly defined emergency procedures.
- Provide an appropriate spill kit capable of absorbing the maximum volume of any chemical stored in the work area, and ensure employees are trained in its proper use for cleaning up incidental spills.
- Maintain an up-to-date Chemical Inventory by identifying hazardous chemicals in the work area, organizing them into a list form, and ensuring their current SDSs are stored in SciShield.
- Guarantee compliance with the System of Marking and Labeling for hazardous chemicals during receipt, storage, and use.
- Evaluate SDSs for relevant health and safety information and communicate any updates to affected employees when they are revised.
- Provide SDSs to contractors as needed.
- Seek guidance from the OSO whenever concerns arise regarding unsafe conditions.
- Report exposures, accidents, and other physical incidents to Occupational Health, and ensure employees are trained to do the same.

Employees

- Adhere to the guidelines provided in the HazCom Program.
- Complete the required HazCom Training Course(s).
- Review and follow all safe work practices and SOPs in your work area.
- Utilize engineering controls, follow managerial safety measures, and wear proper PPE.
- Adhere to all safety instructions provided by equipment manufacturers, on labels, and in SDSs.
- Consult with the Supervisor before initiating any non-routine task.
- Provide SDSs to contractors as needed.
- Report any unsafe conditions to the Supervisor.
- Report accidents and exposures to the Supervisor and Occupational Health.

Assistant Director of Facilities

Oversight of precautionary measures to protect facilities' employees from chemical hazards during routine workplace operations and foreseeable emergencies.

Evaluate contractor SDSs in which they plan to utilize onsite and evaluate them for potential risks to employees.

Provide SDSs to contractors as needed.

Secure documents from contractors that are relevant to the HCS, i.e. chemical-specific certifications, chemical monitoring data, product safety training records, etc.

Contracts & Purchasing

- Provide all contractors, upon initiation of an agreement, with a printed hard copy of the HazCom Program and/or an electronic link to access it via the following website:
<https://www.odu.edu/brock-virginia-health-sciences-ehs/occupational-safety>.

III. CHEMICAL INVENTORY

Each supervisor is responsible for creating and maintaining an up-to-date chemical inventory for all chemicals used or stored in their work area. The inventory must be in list form and include the Product Identifier for each chemical, exactly as it appears on the manufacturer's label and corresponding SDS. Supervisors must review and verify the accuracy of their chemical inventory at least once per year to ensure it reflects current on-site chemical usage and storage.

This institution uses [SciShield](#) to manage chemical inventories. Chemical inventories are still allowed in paper format but must be used in conjunction with SciShield. Access to SciShield is obtained by having an ODU Information Technology Services (ITS) user account. Contact the [ITS Help Desk](#) for support or email support@scisure.com to request assistance. One-on-one training on how to navigate SciShield can be arranged through the OSO.

IV. SAFETY DATA SHEETS

SDSs are a fundamental component of the HCS. They provide employees with essential information regarding the hazards of chemicals in the workplace. SDSs have 16 sections:

1. **Identification** – Includes the product's unique name, number, or specific code known as the "Product Identifier." It is recommended use, the manufacturer or supplier's address, contact information, and emergency phone number.
2. **Hazards Identification** – Identifies the chemical's Hazard Statements, Class, and Categories (with 1 being the highest degree of danger and 4 being the lowest), Pictograms, Signal Words, and Precautionary Statements.
3. **Composition/Information on Ingredients** – Identifies the chemicals in the product, including the common name, synonyms, concentrations of ingredients, chemical abstracts service number, and other unique identifiers (except for trade secrets).
4. **First Aid Measures** – Immediate first aid to take in case of an overexposure and medical attention measures, subdivided according to the different routes of exposure, i.e., inhalation, ingestion, injection, and skin/eye contact.
5. **Firefighting Measures** – Provides guidance on actions to take in case of a fire, including appropriate (and inappropriate) firefighting agents, potential hazards associated with the combustion of the substance, as well as the required protective equipment, and additional safety precautions for firefighters.
6. **Accidental Release Measures** – Provides precautions and emergency procedures in case of a spill or an accidental release, suggesting methods and materials for containment and clean up.
7. **Handling and Storage** – How to safely handle and store the chemical, including any incompatibilities.
8. **Exposure Controls/Personal Protection** – Detailed information on how to minimize exposure and ensure safe handling by outlining the recommended exposure limits and other relevant standards, engineering controls, necessary PPE, and general hygiene practices.
9. **Physical and Chemical Properties** – Provides essential details about the chemical's intrinsic properties, which are crucial for understanding how the chemical behaves in various conditions, such as during storage, handling, and emergency response situations. This information includes physical state, color, odor, pH, solubility, vapor pressure, density, flammability, explosion limits, flash point, melting point, boiling point, and freezing point.
10. **Stability and Reactivity** – Information on reactivity, chemical stability, possible hazardous reactions, incompatible materials, hazardous decomposition products, and other environmental conditions to avoid.
11. **Toxicological Information** – Describes exposure routes, symptoms, target organ effects, immediate and delayed effects, and long-term exposure effects. It also notes whether the product or its chemicals are listed in the National Toxicology Program Report on Carcinogens or identified as potential carcinogens by the International Agency for Research on Cancer or by OSHA.

12. **Ecological Information** (*Non-mandatory section*) – The effects on living organisms and their physical surroundings, such as ecotoxicity, bioaccumulation, degradability, mobility in soil, marine pollution, and other environmental adverse effects.
13. **Disposal Considerations** (*Non-mandatory section*) – Describes the chemical’s waste residues and information on its safe handling and methods of disposal, including the disposal of any contaminated packaging.
14. **Transportation Information** (*Non-mandatory section*) – Provides the United Nations Number and the Department of Transportation’s (DOT) Proper Shipping Name, Hazard Classes, and Packing Groups, along with other special transport precautions.
15. **Regulatory Information** (*Non-mandatory section*) – Environmental health and safety regulations specific to the product, such as information related to do with the Toxic Substance Control Act, the Superfund Amendment and Reauthorization Act, the Comprehensive Environmental Response, Compensation, and Liability Act, and other such regulations.
16. **Other Information** – Any information that the manufacturer considers notable. For example, this section may provide classifications of the National Fire Protection Association, the Hazardous Materials Information System, and the date of the preparation of the SDS or the last change to it.

It is the responsibility of the Supervisor to secure and manage all SDSs for their work areas, making them readily accessible to employees upon the first use of the chemical. SDSs in languages other than English are permissible, provided that an English copy is also available.

Under the HCS, all chemical manufacturers, distributors, and importers are to provide SDSs for each hazardous chemical they produce or import. If an SDS is not delivered with the chemical, check the manufacturer’s website or contact the manufacturer directly to request it. Additionally, an internet search using the chemical’s *name/product identifier*, its *manufacturer*, and the term “SDS” is an effective method for finding an SDS. SDSs are also readily accessible through the SciShield platform. If assistance is needed to find an SDS or if there are concerns about the information within an SDS, contact the OSO.

SDSs are to be stored, managed, and organized within SciShield. While hard copies stored in binders are still allowed, this method is to be used in conjunction with managing SDSs in SciShield. If SDSs are stored in binders, they must be organized alphabetically and kept in the respective work area.

Employers must retain SDSs (or their predecessors, Material Safety Data Sheets) for 30 years after the substance’s last use in the workplace, in accordance with [29 CFR 1910.1020](#), because they serve as employee exposure records. This is done in SciShield by “Removing” a chemical from the work area’s Chemical Inventory. The removed SDS can then be found in the “Only Removed Containers” list. If the SDS binder method is used, physical paper copies of the SDSs are retained by EH&S. Storage cabinets for the retention of SDSs are in Lewis Hall, room 2142. The OSO will help with the archiving process as needed.

V. SYSTEM OF MARKING & LABELING

The System of Marking and Labeling is based on the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). A compliant GHS label allows users to cross-reference a substance with the Chemical Inventory and its corresponding SDS. Therefore, all chemical containers on campus, including those brought by contractors, must display a GHS compliant label.

It is the responsibility of each Supervisor to ensure that all chemical containers within their designated work areas are properly labeled with a compliant GHS label upon receipt, during storage, and throughout use. Employees must verify that each chemical container displays the required GHS label elements upon receipt and prior to use.

GHS labels must be affixed to, printed on, or attached to the chemical container in a manner that is prominent, legible, and in English. Labels must not be defaced or removed from incoming containers unless they are immediately replaced with a compliant GHS label.

If a chemical container is missing a proper GHS label, corrective action must be taken. Unidentified chemicals must not be used, and for safety reasons, must be properly disposed of through EH&S.



The six elements of a standard GHS Label are:

1. **Product Identifier** - Identifies the hazardous chemical and may include the chemical name, common name, trade name, chemical code number, or batch number. The product identifier must be consistent on the manufacturer's label and in Section 1 of its SDS.
2. **Signal Words** - The severity of the hazard, with "Danger" used for more severe hazards and "Warning" for less severe ones.
3. **Hazard Statements** - Describe the nature of the hazards of a chemical. All of the applicable GHS hazard statements must appear on the label. Hazard statements may be combined where appropriate to reduce redundancies and improve readability.
4. **Precautionary Statements** - Recommends measures to minimize or prevent adverse effects from exposure, improper storage, or negligent handling. These include four types of precautionary statements: Prevention, storage, disposal, and response to accidental spills and exposures, which include emergency response and first aid guidelines.
5. **Pictograms** - Graphic symbols that convey specific pictures representing chemical hazards. OSHA has adopted nine standardized pictograms as part of the GHS, these ensure consistent global visual communication of chemical hazards. Illustrations of the GHS pictograms, with their designated hazards, are shown below.
6. **Supplier Information** - The name, address, and phone number of the chemical manufacturer, importer, or other responsible party.

* **Supplementary Information** - *(Non-mandatory) Other relevant information included on the label if the manufacturer has additional details to communicate. This information can encompass Hazards Not Otherwise Classified, recommendations for PPE, usage instructions, expiration dates, or other specific guidance related to the chemical's application. These extra details can help provide clarity on safe handling practices and precautions.*

An example of a Standard GHS Label:

Acetone

DANGER

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness and cracking.

PREVENTION

Keep away from heat, sparks, and open flames. — No smoking. Keep container tightly closed.

Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Wear eye protection.

RESPONSE

If on skin: Rinse skin with water.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.










If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

My Company, My Street, My Town, NY 00000, Tel.: 800-456-7890

Shown is a standard GHS label for Acetone, demonstrating the six required GHS elements.

The Nine GHS Pictograms:

<p style="text-align: center;">Health Hazard</p>  <ul style="list-style-type: none"> ■ Carcinogen ■ Mutagenicity ■ Reproductive Toxicity ■ Respiratory Sensitizer ■ Target Organ Toxicity ■ Aspiration Toxicity 	<p style="text-align: center;">Flame</p>  <ul style="list-style-type: none"> ■ Flammables ■ Pyrophorics ■ Self-Heating ■ Emits Flammable Gas ■ Self-Reactives ■ Organic Peroxides 	<p style="text-align: center;">Exclamation Mark</p>  <ul style="list-style-type: none"> ■ Irritant (skin and eye) ■ Skin Sensitizer ■ Acute Toxicity ■ Narcotic Effects ■ Respiratory Tract Irritant ■ Hazardous to Ozone Layer (Non-Mandatory)
<p style="text-align: center;">Gas Cylinder</p>  <ul style="list-style-type: none"> ■ Gases Under Pressure 	<p style="text-align: center;">Corrosion</p>  <ul style="list-style-type: none"> ■ Skin Corrosion/Burns ■ Eye Damage ■ Corrosive to Metals 	<p style="text-align: center;">Exploding Bomb</p>  <ul style="list-style-type: none"> ■ Explosives ■ Self-Reactives ■ Organic Peroxides
<p style="text-align: center;">Flame Over Circle</p>  <ul style="list-style-type: none"> ■ Oxidizers 	<p style="text-align: center;">Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> ■ Aquatic Toxicity 	<p style="text-align: center;">Skull and Crossbones</p>  <ul style="list-style-type: none"> ■ Acute Toxicity (fatal or toxic)

Shown are the nine GHS pictograms with their designated hazards.

GHS Small Container Labeling Requirements

Small Container Labeling is designed to maintain GHS labeling requirements while accommodating practical limitations due to the lack of labeling space of the container. When it is impractical to include a full GHS label directly on a small container, due to a container size constraint or if a label prevents the container from being used properly, the manufacturer, importer, or distributor can use alternative labeling methods. These include pullout labels, fold-back labels, or tags so that all six GHS labeling requirements are met.

However, some containers are still too small to accommodate these alternatives. When the chemical manufacturer, importer, or distributor can show that the use of a pullout label, a fold-back label, or a tag with full GHS label information is not possible because it would interfere with the normal use of the container, the following label information is then required.

For Small Containers (≤ 100 ml):

- The Product Identifier.
- Pictogram(s).
- Signal word.
- The chemical manufacturer's name and phone number.
- A statement that a full GHS label is located on the outer package, where the small containers are to be stored when not in use.

For Very Small Containers (≤ 3 ml):

- Only the Product Identifier is required to be displayed on the container.

Additionally, a full GHS label must be located on the outer package of Very Small containers, along with a statement stating that the Very Small container is to be stored in its outer package when not in use.

GHS Secondary Container Labeling Requirements

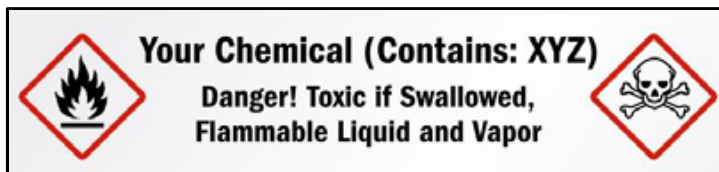
When a chemical is transferred from the manufacturer's original, or primary container, to a secondary container, the transferee shall ensure the new container has a secondary label. Secondary containers are smaller receptacles that hold a portion of the original substance. Examples of secondary containers include smaller containers such as bottles, jugs, or other types of storage vessels.

Best practice is to match the secondary label to the primary container label for consistency, using as many of the six required elements of a standard GHS label as possible. Also, it is recommended to place the date of the transfer on the secondary container, the name of the person who made the transfer, and to notate the percentage of the original solution (if the chemical was diluted).

Nonetheless, the Secondary Container Label must at least have the following information:

- The Product Identifier.
- Hazard information that conveys the physical and health hazards of the material, which can be communicated by words, pictures, symbols, or a combination thereof.

An example of a GHS Secondary Container Label:



Shown is a GHS Secondary Label.

GHS Portable Container Labeling Requirements

A portable container is a secondary container used to hold chemicals for a single work period, typically up to 8 hours. Labels are not needed on portable containers, provided ALL the following conditions are met:

- The contents of the portable container is for IMMEDIATE USE by the person making the transfer.
- The portable container is used ONLY by and stays under the control of the person making the transfer.
- The unlabeled portable container is used ONLY within the work shift during which it was originally transferred.

GHS Stationary Process Container Labeling Requirements

Stationary process containers are fixed in place due to manufacturing requirements or operational procedures. Examples include chemical mixing containers, reaction vessels, and distillation columns. Because their contents may vary between batches or products, standard storage container labeling may not be ideal. Instead, alternative methods such as signs, placards, process sheets, or batch tickets can be used to identify the containers. These must convey the product identifier and general hazard information through words, symbols, pictures, or a combination thereof. SDSs for the chemicals in stationary process containers must be readily accessible to employees in the immediate work area and throughout each shift.

VI. ADDITIONAL METHODS OF HAZARD COMMUNICATION

While the primary System of Marking and Labeling at our institution is based on the GHS, additional methods of hazard communication are used to enhance the understanding of chemical hazards. These methods, outlined in this section, provide warnings that go beyond GHS requirements to encourage adherence to safety protocols across campus.

Pharmaceutical and Over-the-Counter Labeling Requirements

In accordance with OSHA's labeling requirements set forth in 21 CFR 201, original manufacturer labels on prescription and over-the-counter medications must not be removed or defaced. Package inserts must also remain readily accessible in the work area for reference. Although prescription medications always include inserts, over-the-counter products may not, provided that all required information is included on the label.

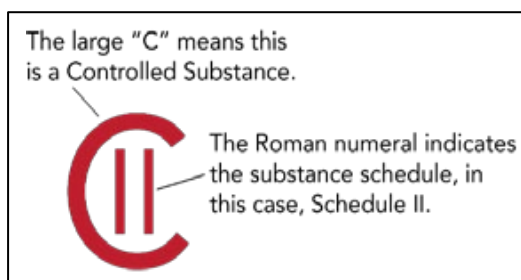
Controlled Substance Symbol Requirements

As required by the Code of Virginia 54.1-3443 et seq. and 21 CFR 1302.03, controlled substances are classified into six schedules based on their potential for abuse and accepted medical use. Schedules one (I) through five (V) are identified a "C" followed by its Roman numeral. Substances classified under schedule six (VI) must bear a legend such as "Rx Only," "Caution: Federal Law Prohibits Dispensing Without Prescription," or another similar statement. As part of the HazCom Program, it is unlawful to remove, alter, or deface any labeling required by law on controlled substances.

Here is a brief overview of the Controlled Substance Schedules:

- I. High abuse potential, with no medical use.
- II. High abuse potential, accepted medical use with restrictions.
- III. Moderate potential for abuse, acceptable medical use.
- IV. Low abuse potential, acceptable medical use.
- V. Exceptionally low abuse potential, acceptable medical use.
- VI. Little to no abuse potential, some safety risks, acceptable medical use.

An example of a Controlled Substance Symbol:



Shown is an example of a Controlled Substance Symbol "CII", on a container of Ketamine, accompanied by an illustration explaining the symbol.

Hazardous Materials Identification System

The Hazardous Materials Identification System (HMIS) is designed to effectively communicate the hazards associated with a product through a four-part colored label. The first three sections, blue for health, red for flammability, and yellow for reactivity use a numerical Hazard Index to indicate the severity of each hazard from 0 (minimal risk) to 4 (serious risk). The fourth and last section, which is white, uses the Personal Protective Index (PPI) to specify the necessary PPE through a series of letters. A label using the HMIS system delivers effective hazard communication by integrating the Hazard Index and PPI indicators. It can also include pictograms, precautionary statements, and other supplementary information to enhance clarity and safety awareness.

Examples of HMIS Labels:
















































HAZARDOUS MATERIALS IDENTIFICATION SYSTEM			
HAZARD INDEX		PERSONAL PROTECTION INDEX	
4	Severe Hazard	A	G
3	Serious Hazard	B	H
2	Moderate Hazard	C	I
1	Slight Hazard	D	J
0	Minimal Hazard	E	K
* An asterisk or other designation corresponds to additional information on a data sheet or separate chronic effects notification		F	X
		Consult your supervisor or S.O.P. for "Special" handling directions	
HEALTH		A	n
FLAMMABILITY		o	p
PHYSICAL HAZARD		q	r
Personal Protection		s	t
		u	v
		w	y
		z	



Shown is a HMIS Label for Acetone with a GHS pictogram, its signal word, and precautionary statements.

Shown is an illustration of the Hazard Materials Identification System with its Hazard Index, Personal Protection Index, and a blank label.

The HMIS Personal Protection Index:

A		Safety glasses												
B		Safety glasses and gloves												
C		Safety glasses, gloves, and apron												
D		Face shield, eye protection, gloves, and apron												
E		Safety glasses, gloves, dust respirator												
F		Safety glasses, gloves, apron, and dust respirator												
G		Safety glasses, gloves, vapor respirator												
H		Splash goggles, gloves, apron, and vapor respirator												
I		Safety glasses, gloves, dust and vapor respirator												
J		Splash goggles, gloves, apron, dust and vapor respirator												
K		Airline hood or mask, gloves, full suit, and boots												
<table><tr><td> A - Safety glasses</td><td> N - Splash goggles</td><td> O - Face Shield & Eye Protection</td><td> P - Gloves</td><td> Q - Boots</td><td> R - Apron</td></tr><tr><td> S - Full Suit</td><td> T - Dust mask</td><td> U - Vapor Respirator</td><td> W - Dust & Vapor Respirator</td><td> Y - Full Face Respirator</td><td> Z - Airline Hood or Mask</td></tr></table>			 A - Safety glasses	 N - Splash goggles	 O - Face Shield & Eye Protection	 P - Gloves	 Q - Boots	 R - Apron	 S - Full Suit	 T - Dust mask	 U - Vapor Respirator	 W - Dust & Vapor Respirator	 Y - Full Face Respirator	 Z - Airline Hood or Mask
 A - Safety glasses	 N - Splash goggles	 O - Face Shield & Eye Protection	 P - Gloves	 Q - Boots	 R - Apron									
 S - Full Suit	 T - Dust mask	 U - Vapor Respirator	 W - Dust & Vapor Respirator	 Y - Full Face Respirator	 Z - Airline Hood or Mask									

Shown is the HMIS Personal Protection Index with letter designations of all corresponding PPE with graphics.

The HMIS Hazard Index:

HMIS Hazard Rating Chart with the hazards listed and the numerical degrees of hazards with detailed explanations.

	Health Hazard (blue)	Fire Hazard (red)	Reactivity Hazard (yellow)
0 Minimal Hazard	No significant risk to health.	Materials that do not have a fire hazard.	Normally stable materials.
1 Slight Hazard	Irritation or minor reversible injury possible.	Materials that must be preheated before ignition will occur. Including liquids, solids, and semi-solids having Flash Points > 200°F.	Materials that are normally stable but can become unstable and self-react at elevated temperatures or pressures.
2 Moderate Hazard	Temporary or minor injury may occur.	Materials that must be moderately heated or exposed to high ambient temperatures before ignition will occur. Including liquids having Flash Points ≥ 100°F, but < 200°F.	Unstable materials that may undergo violent chemical changes at normal temperatures and pressures, and may react with H ₂ O, or form peroxides upon exposure to air.
3 Serious Hazard	Major injury is likely, unless prompt action is taken, and medical treatment is given.	Materials that are capable of being ignited under almost all normal temperature conditions, and those that are capable of detonating in the presence of a strong initiating source. Includes flammable liquids with flash points < 73°F and boiling points > 100°F, as well as liquids with flashpoints between 73°F and 100°F.	Materials may polymerize, decompose, self-react, or undergo other chemical changes at normal temperatures and pressures, including the moderate risk of exploding. They may form explosive mixtures with H ₂ O.
4 Extreme Hazard	Life-threatening, major, or permanent damage may result from a single exposure or repeated overexposures.	Flammable gases, or very volatile flammable liquids with Flash Points < 73°F and boiling points < 100°F. Materials may ignite spontaneously with air.	Readily capable of exploding in the presence of H ₂ O, detonation or explosive decomposition, polymerization, or self-reaction at normal temperatures and pressures.

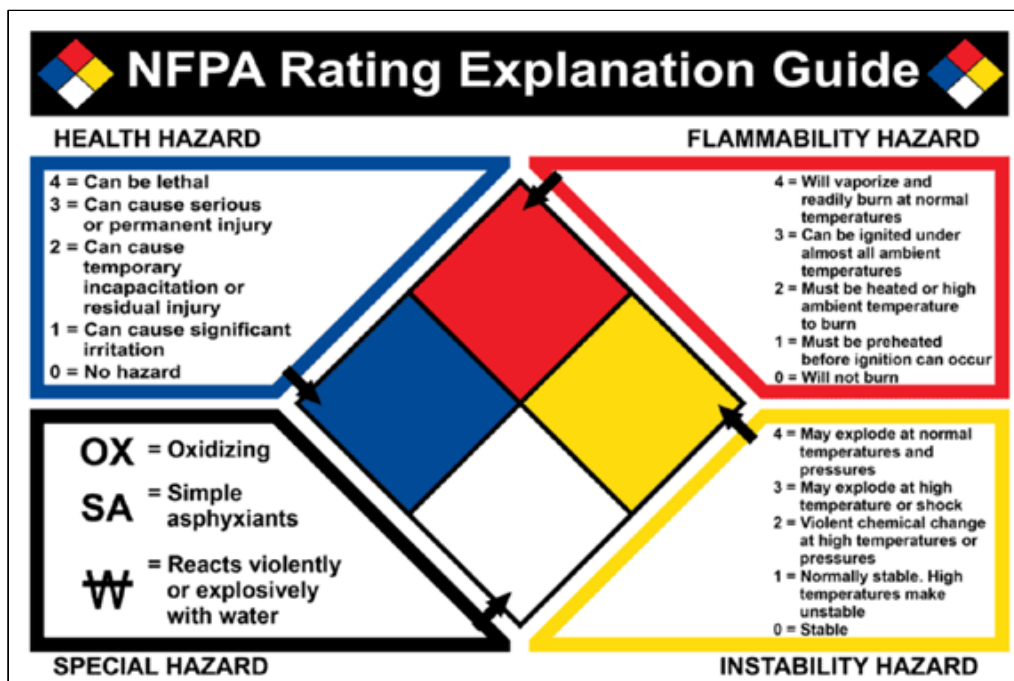
Shown is the HMIS Hazard Rating Chart, with the hazards listed across the top row and the numerical degrees of hazards down the left column. The squares where the rows and columns intersect contain detailed explanations.

NFPA 704 Hazard Diamond

The National Fire Protection Association (NFPA) 704 Hazard Diamond is used by firefighters and responders during an emergency. It helps them decide which suppression equipment is needed, what safety procedures should be followed, and what special precautions to take. These should be posted on at least two exterior walls of a building, near access points to a space, and on each principal means of access to an exterior storage area (including tanks). They can also be used on container labels.

The 704 Hazard Diamond is divided into four color-coded quadrants, each representing a different type of hazard: Red represents a flammability hazard, blue represents a health hazard, yellow represents an instability hazard, and white represents a special hazard. The upper three quadrants of the diamond (red, blue, and yellow) use the numbers 0 – 4 to indicate the degree of a hazard. The higher the number, the greater the level of danger associated with the materials present during an emergency event. The white quadrant, positioned at the bottom of the diamond, uses letters and symbols to represent specific hazards.

The 704 Hazard Diamond Quadrants:



Shown is an illustration of the NFPA 704 Hazard Diamond's colored hazard quadrants, with the explanations of the numerical hazard ratings, and annotations for the specific hazards.

Examples of NFPA 704 Hazard Diamonds:



Shown is a Secondary Container of Sodium Hypochlorite depicting the NFPA 704 Hazard Diamond on its GHS label.



Shown is a NFPA 704 Hazard Diamond posted on an exterior brick wall.

Biological Hazard Warning Symbol

Biological hazards, also known as biohazards, refer to any biological substance that poses a threat to the health of living organisms. The universal symbol designating a biohazard consists of three interlocking circles, resembling a triple-lobed structure, with the word BIOHAZARD in all capital letters. The three parts of the symbol represent the types of biological agents that can pose health risks, such as microorganisms, toxins, and bioactive agents.



Biohazard Warning Symbol is shown.

Examples of materials labeled with a Biohazard Warning Symbol:

- Regulated Medical Waste.
- Contaminated Animal Bedding.
- Pathogenic Microorganisms.
- Biologically Active Agents.
- Recombinant Deoxyribonucleic Acid.
- Human Source Materials.



Shown are three pictures of labeled Biohazard Materials: Biohazard red bagged waste, a vacuum trap, and a contaminated sharps container.

Examples of equipment labeled with a Biohazard Warning Symbol:

- Centrifuges.
- Refrigerators.
- Freezers.
- Biosafety cabinets.
- Cage washers.
- Incubators.
- Hematology analyzers.



Shown are three pieces of equipment labeled with Biohazard Warning Symbols: A mini centrifuge, a biosafety cabinet, and a refrigerator.

Radioactive Material Warning Signs

A Radioactive Material Warning Sign features the radiation symbol, also known as the “trefoil,” which consists of three curved blades emanating from a central point, accompanied by the words “Caution: Radioactive Materials” or other wording with a similar meaning. This sign is displayed wherever radioactive materials are present to alert personnel of potential radiation hazards. Any equipment, containers, or surfaces that house or come into contact with radioactive materials must be clearly labeled with the appropriate radiation warning. This includes signs posted at the entrances of rooms or areas where such materials are used or stored to indicate the presence of radiation hazards within.



Shown is a Caution Radioactive Materials Warning Sign.

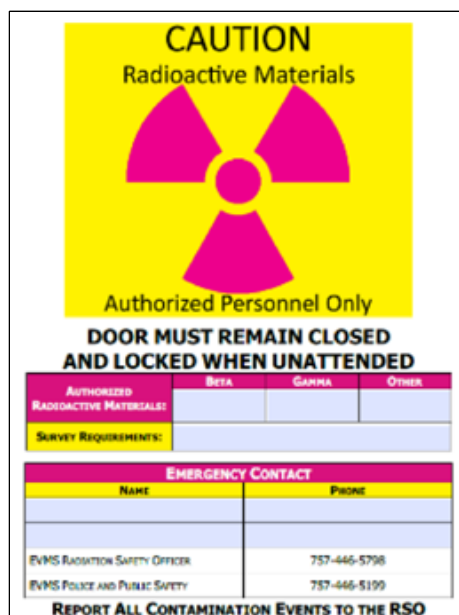
Examples of articles labeled with Radioactive Material Warning Signs:

- Containers.
- Plexiglass.
- Benchtops.
- Analytical equipment.
- Entryways.
- Storage areas.



Radioactive Materials Warning labels are shown on a biohazard sharps container and on a metal transfer bucket.

The Radioactive Material Warning Door Sign:



A yellow rectangular sign with black text and a red trefoil symbol. The text reads: "CAUTION Radioactive Materials", "Authorized Personnel Only", "DOOR MUST REMAIN CLOSED AND LOCKED WHEN UNATTENDED". Below this is a table for "AUTHORIZED RADIOACTIVE MATERIALS" with columns for "BETA", "GAMMA", and "OTHER". Below the table is a section for "SURVEY REQUIREMENTS:". At the bottom is an "EMERGENCY CONTACT" table with columns for "NAME" and "PHONE".

AUTHORIZED RADIOACTIVE MATERIALS		
BETA	GAMMA	OTHER

EMERGENCY CONTACT	
NAME	PHONE
EVMS RADIATION SAFETY OFFICER	757-446-5798
EVMS POLICE AND PUBLIC SAFETY	757-446-5199

REPORT ALL CONTAMINATION EVENTS TO THE RSO

Shown is the Radioactive Material Warning Door Sign

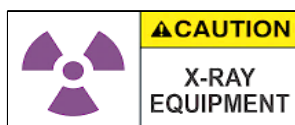
X-ray Warning Signs

X-rays are a form of high-energy electromagnetic radiation that can harm bodily tissues at high dosages. The Warning Sign for X-rays consist of the radiation symbol, the trefoil, with the words "Caution X-ray" or words having a similar intent. Each area containing analytical X-ray equipment must have a conspicuously posted X-ray Warning Sign at the entryway and the equipment must also be labeled.



Shown is an X-ray Warning Sign.

Examples of X-ray Warning Signs:



Shown is a label stating "Caution: X-ray Equipment" and its placement on a cabinet irradiator.



Shown is an door entry warning sign stating, "Controlled Area X-rays, Do Not Enter."

Laboratory Door Placards

Laboratory door placards are strategically placed at the entrances of laboratories to provide hazard warnings for safe entry. The placards feature various hazard warning symbols, such as the NFPA 703 Hazard Diamond, GHS pictograms, biohazard symbols, radioactive warnings, and Laboratory Entry Pictograms. All of these hazard warnings on the placard should be reviewed and considered in preparation for safely entering a space. Furthermore, the placards display information such as the Principal Investigator's (PI) name and contact phone number, as well as the building name and door number. They also list emergency contact numbers, such as those for Security and EH&S. While primarily intended for laboratories, these placards may also be used at the entrances of other spaces where appropriate.

The Laboratory Door Placard:



Shown is a sample Laboratory Door Placard.

The Laboratory Entry Pictograms and their meanings:



Do not enter unless authorized.



No food or drink allowed.



Lab coat required.



Appropriate laboratory footwear.



Eye protection required



Protective gloves required.

Shown are the six Laboratory Entry Pictograms followed by their meanings.

Laboratory Biosafety Level Postings

Laboratory Biosafety Level Postings indicate the specific Biosafety Level (BSL) of a laboratory based on the Centers for Disease Control and Prevention's Biosafety in Microbiological and Biomedical Laboratories Guidelines. The higher the designation, the more hazardous the biological agents. The BSL reflects the safety measures, work practices, and containment systems necessary for working with various biological agents. BSL postings are required on every laboratory door containing biological agents and pathogens greater than or equal to BSL-2.

Key Elements of Biosafety Level Laboratory Postings:

- BSL Designation: Clearly labeled biosafety level indicating the pathogenic virulence level and the safety practices required.
- PI's Information: Name and contact details of the lab director or responsible individual.
- Hazard Identification: Specific pathogen information or biological material being handled.
- PPE: Symbols or descriptions of necessary PPE for entering the lab (e.g., gloves, lab coats, face shields).
- Access Restrictions: Indications of who is authorized to enter (i.e., trained personnel only).
- Emergency Contacts: Phone numbers for Security and EH&S.
- Safety Procedures: A brief overview of key safety practices and protocols to follow in the lab.

Biosafety Levels:

BSL-1 – Suitable for work with well-characterized agents that are not known to cause disease in healthy humans.

BSL-2 – Designed for work with agents that pose moderate hazards to humans and the environment.

BSL-3 – When working with agents that can cause serious or potentially lethal disease through inhalation.

BSL-4 – Reserved for work with highly dangerous and exotic agents that pose a high risk of life-threatening disease, often with no available vaccines or treatments.

A Laboratory Biosafety Level Posting:

Biosafety Level 2

BIOHAZARD BIOPELIGRO

AUTHORIZED PERSONNEL ONLY!

BIOHAZARD MATERIALS:	
ENTRY / EXIT PROCEDURES	Responsible Pathogens listing required BSL, containment, gloves, eye protection required for work. Discard or store PPE, avoid hands contact entry air.

EMERGENCY CONTACT	
NAME	PHONE
VHS ENVIRONMENTAL HEALTH & SAFETY	(757) 446-5798
POLICE DISPATCH	446-5199

Environmental Health & Safety

Shown is a Laboratory Biosafety Level Posting.

DOT Hazardous Material Labels

If a material poses a risk to health, safety, or property during transport, the outer package will feature a Department of Transportation (DOT) Hazardous Material Label. This label can warn of the potential hazards inside the package before it is opened.

The nine classes of DOT Hazardous Materials with their corresponding labels are as follows:

Class 1. Explosives:

- 1.1 - Mass explosive hazard.
- 1.2 - Projection hazard.
- 1.3 - Fire hazard with a minor blast hazard or a minor projection hazard, or both.
- 1.4 - Minor explosive hazard.
- 1.5 - Very insensitive explosives.
- 1.6 - Extremely insensitive articles without a mass explosive hazard.



Shown are the DOT Class 1 Explosive pictograms.

Class 2. Gases:

- 2.1- Flammable gases.
- 2.2- Non-Flammable gases.
- 2.3- Poisonous or Toxic gases.



Shown are DOT Class 2 Gas pictograms.

Class 3. Flammable Liquids:



Shown are DOT Class 3 Flammable Liquids pictograms.

Class 4. Flammable Solids:

- 4.1- Flammable solid.
- 4.2- Spontaneously combustible material.
- 4.3- Dangerous when wet.



Shown are DOT Class 4 Flammable Solid pictograms.

Class 5. Oxidizing Substances and Organic Peroxides:

- 5.1- Oxidizer.
- 5.2- Organic peroxide.



Shown are DOT Class 5 Oxidizing Substances and Organic Peroxide pictograms.

Class 6. Toxic and Infectious Substances:

- 6.1- Poisonous/Toxic material.
- 6.2- Infectious substance.



Shown are DOT Class 6 Toxic and Infectious Substance pictograms.

Class 7. Radioactive Materials:



Shown are DOT Class 7 Radioactive Material pictograms.

Class 8. Corrosive Substances



Shown is the DOT Class 8 Corrosive Substances pictogram.

Class 9. Miscellaneous Dangerous Substances and Articles:

*This category includes Environmentally Hazardous Substances, Elevated Temperature Materials, Hazardous Wastes, and Marine Pollutants.



Shown is the DOT Class 9 Miscellaneous Dangerous Substance and Article pictogram.

VII. EMPLOYEE INFORMATION AND TRAINING

We are committed to empowering our employees to safely handle hazardous chemicals through comprehensive HazCom Training. This training ensures that employees are informed about the hazards associated with the chemicals they could be exposed to during routine operations and foreseeable emergencies. The scope and depth of the training is tailored to specific job responsibilities, ensuring that all personnel are adequately equipped to maintain chemical safety in their respective roles.

All employees are required to complete a HazCom Onboarding Course online prior to their initial assignment. This course addresses the fundamental principles of the HazCom Program, ensuring that all new employees are prepared to work safely with hazardous chemicals. The HazCom Onboarding Course is part of a broader suite of initial onboarding courses offered by Human Resources.

Personnel working in Facilities, Procurement Services, and Police and Public Safety are required to complete a Secondary HazCom training course. This course offered online, mandatory on an annual basis, is specifically designed for employees with increased exposure to hazardous chemicals.

Employees with laboratory roles are exempt from participating in the Secondary HazCom Training Course. They will receive Chemical Hygiene Plan (CHP) Training annually. This encompasses all aspects of Secondary HazCom Training while also meeting the training requirements outlined in the Occupational Exposure to Hazardous Chemicals in Laboratories Standard [29 CFR 1910.1450](#).

Supervisors are responsible for providing on-the-job training to employees regarding chemicals present in their work area, regardless of whether the chemical is retained by the institution or a third-party contractor. This training must be conducted at the time of an employee's initial assignment and whenever a new chemical is introduced into the work area. The training is to be based upon the hazards associated with the chemicals, rather than the specific chemicals themselves, though training on individual chemicals is permitted. During this training, employees must be given the opportunity to ask questions and seek clarification.

VIII. NON-ROUTINE TASKS

Non-routine tasks involving hazardous chemicals refer to activities not conducted regularly. Because these tasks fall outside the daily routine, employees must receive specific training on potential hazards and applicable safety protocols before beginning the work. Before initiating any non-routine task involving hazardous chemicals, employees are required to consult with their Supervisor and/or the OSO to ensure a thorough understanding of the necessary precautions and emergency response measures. After a non-routine task is performed successfully for the first time, a standard operating procedure is to be documented to outline the proper method. This ensures an effective reminder of the task's steps and emergency protocols, promoting safe execution when the task needs to be performed again.

IX. UNLABELED PIPES

Work activities are frequently conducted in areas where residual chemicals from glassware washing may remain in the drainpipes. While this type of pipe system is not required to be labeled, employees need to be aware of potential hazards. Before any employee, including Contractors, begins work on unlabeled pipes, they must contact the Assistant Director of Facilities to ascertain the following:

- The identity of the chemicals present in the pipes.
- The potential hazards associated with those chemicals.
- The necessary safety precautions to reduce risk.

X. CONTRACTORS

This institution operates as a *multi-employer workplace*, where multiple third-party contractors may be present on-site at any given time to perform services under contractual agreement. Contractors are required to maintain their own HazCom Program and ensure their employees comply with their internal program as well as this institution's HazCom Program. Contracts and Purchasing will give contractors a printed hard copy of the HazCom Program or provide them with the web address to the program: <https://www.odu.edu/brock-virginia-health-sciences-ehs/occupational-safety>. Contractors may request HazCom Program training by emailing ehs@odu.edu.

Contractors must give all SDSs for hazardous chemicals they intend to bring onto the campus to the Assistant Director of Facilities, so that they can be reviewed to determine whether the materials introduce any new or significant risks to personnel. The institution reserves the right to prohibit the use of any chemical that presents an excessive hazard or requires additional training for ODU employees.

Contractors are required to implement appropriate precautionary measures to protect their employees from chemical hazards during routine operations and foreseeable emergencies. This includes ensuring their employees are trained on the hazards of any chemical they may encounter on-site, regardless of whether the chemical is the responsibility of their own company, another contractor, or the medical school.

Prior to beginning work Contractors are required to provide the Assistant Director of Facilities with:

- SDSs for all hazardous chemicals brought on-site.
- Appropriate documentation for tasks which necessitate chemical-specific certifications, safety training, or other relevant materials.
- Emergency Contact Information.

XI. DEFINITIONS

Supervisor: The appointed leader of a department or division.

Employee: Any person employed by Virginia Health Sciences at Old Dominion University as a full or part-time faculty, staff, work study personnel, temporary employee, or volunteer.

Employee Exposure Record: Any record that reveals the identity of a toxic substance or harmful physical agent, along with information on where it was used and when. Examples include environmental workplace monitoring data, biological monitoring results, Safety Data Sheets (SDSs), and records of chemical usage and exposure incidents. For full details, refer to [29 CFR 1910.1020\(c\)\(5\)\(i-iv\)](#).

Hazardous Chemical: Any chemical that is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, or Hazard Not Otherwise Classified.

Hazard Not Otherwise Classified: An adverse physical or health effect, identified through the evaluation of scientific evidence, which does not meet the specified criteria for a GHS Hazard Class. The hazard effect either falls below the cut-off value and/or concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA.

Incidental Spill: A small release of a hazardous substance that does not pose a significant safety or health risk to employees.

Occupational Safety and Health Administration (OSHA): The federal agency that sets and enforces the Code of Federal Regulations and ensures safe and healthy working conditions.

Occupational Safety Officer (OSO): The HazCom Program manager, who is a designated representative of EH&S, is responsible for ensuring that the university complies with all applicable federal, state, and local regulations pertaining to the [OSHA HCS 29 CFR 1910.1200](#).

Pictogram: An illustration that includes a symbol, plus other graphic elements, such as a border, background pattern, or color, which is intended to convey specific information about a hazard of a chemical.

Portable Container: A container to which hazardous chemicals are transferred for use during a work period (i.e., 8 hours).

Product Identifier: The name, number, or code used to identify a hazardous chemical on the manufacturer's container label and on its SDS. The Product Identifier provides a unique means by which the user can identify the chemical, allowing for cross-references to be made between the container label, the Chemical Inventory, and the SDS.

Safety Data Sheet (SDS): A document that is prepared by the manufacturer or importer that identifies the chemical, its health and physical hazards, exposure limits, and precautions that should be taken when working with the chemical.

Contractors: Third-party entities performing contract work or temporary services who are not directly employed through ODU.

Work Area: A room or defined space in a workplace where hazardous chemicals are produced, used, and/or stored, where employees are present.

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

XII. UPDATES & REVISIONS

The HazCom Program is performance driven. It is subject to comprehensive review and revision annually, or as circumstances dictate, to ensure it aligns with our workforce's evolving safety needs. HazCom Program revisions are based on accident and injury reports, adherence to industry best practices, employee feedback, and recommendations from the Academic Occupational Health & Safety Committee. These efforts guarantee that the HazCom program stays current, relevant, and fully compliant with regulatory standards while effective in achieving its objectives.

Date	Revision(s)	Justification	By Whom
07/2025	Program revised and updated	ODU Integration	Genette Stump