



Chemical Management Policy and Procedures

Policy Title: Chemical Management Policy

Policy Type: Administrative

Policy Number: 42- ????

Responsible Office: Environmental Health, Safety and Risk Management

Approved:

Responsible Executive: Vice President for Finance and Administration

Applies to: Faculty Staff, Students and Visitors

POLICY STATEMENT

Norfolk State University requires the management of chemicals and use of protocols that marginalize the probability of accidents and minimize consequences should accidents occur in conjunction with use. Implementation of safe practices, appropriate administrative and engineering controls and utilization of appropriate personal protective equipment (PPE) is required to protect employees, staff, students and visitors. Use of the least quantity of chemicals necessary for tasks, substitution of less hazardous chemicals and utilization of basic chemicals safety practices reduce risk.

These procedures are applicable for all chemicals that will be stored or used on campus. Contact the Environmental Health Safety and Risk Management Office (EHS&RM) with questions.

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DEFINITIONS

Acid - any of various typically water-soluble and sour compounds that in solution are capable of reacting with an alkali to form a salt, redden litmus, and have a pH less than 7.

Alkali - a chemical compound that neutralizes or effervesces with acids and turns litmus blue; typically, a caustic or corrosive substance of this kind such as lime or soda.

Air reactive - liquids and solids spontaneously ignite within 5 minutes after coming into contact with air.

Authorized individual – Person within a department or other administrative unit who received necessary training and is authorized to review and approve chemical and hazardous material requests.

Carcinogen – Refers to any substance that is an agent directly involved in the development of cancer or increases the potential of developing cancer over a period of time (acute or chronic exposures).

Combustible - chemicals able to catch fire and burn easily.

EHS&RM – Environmental Health, Safety and Risk Management Department

EPCRA - Emergency Planning and Community Right-To-Know Act

Flammable - ability of a substance to burn or ignite, causing fire or combustion. The degree of difficulty required to cause the combustion of a substance is quantified through fire testing. Internationally, a variety of test protocols exist to quantify **flammability**.

Mixtures - a combination of two or more pure substances in which each pure substance retains its individual **chemical** properties.

MOF – Material Order Form – Norfolk State University departments use this form to submit purchase requests. Quantity, location, SDS, user and authorized personnel approval (an attached e-mail is sufficient) must be attached to or included on this form.

Organic - relating to, being, or dealt with by a branch of chemistry concerned with the carbon compounds of living beings and most other carbon compounds

OSHA (Occupation Safety and Health Administration) - This agency develops, issues and enforces employee safety regulation. In Virginia, the Virginia Occupational Safety and Health Agency may issue and enforce additional safety standards as well as ensuring compliance with OSHA standards.

Oxidizers - chemicals that transfer electronegative atoms, usually oxygen, to a substrate.

Purchasing cards (P-cards) – These credit cards are used to make purchases for equipment and materials of which total expenditures are less than \$5000.00. Cards may be used for purchasing small quantities of chemical following approval by an authorized individual.



Reagents - substances used in detecting or measuring a component, in preparing a product, or in developing photographs because of its chemical or biological activity

RQ – (Reportable Quantity) Amount of chemical that if released to the environment, requires notification to emergency response agencies.

SDS – Safety Data Sheets (formerly referred to as MSDS – Material Safety Data Sheets). Product safety and handling information supplied by the product manufacturer. The OSHA Hazard Communication Standard requires that a SDS for each chemical stored or used on-site be available to employees at all times.

Solution - solid, liquid, or gaseous substances homogeneously mixed with a liquid or sometimes a gas or solid

TPQ – (Threshold Planning Quantity) the amount of chemical that if possessed by University requires the development and implementation of a chemical specific risk analysis and risk management plan.

Water reactive – chemicals which become spontaneously flammable or emit flammable gases in potentially dangerous quantities upon contact with water, steam or moisture.

CONTACT(S)

The Environmental, Health, Safety and Risk Management Office (EHS&RM) officially interprets this policy. EHS&RM is responsible for obtaining approval for any revisions as required by BOV Policy # 01 (2014) *Creating and Maintaining Policies* through the appropriate governance structures. Questions regarding this policy should be directed to the EHS&RM Office.

STAKEHOLDERS

Personnel procuring, handling, storing, using and disposal of chemicals on the NSU campus for cleaning, educational instruction and laboratory research procedures. Personnel working adjacent to or near these activities are also vulnerable to potential risks.

POLICY CONTENTS

- **Purchase** – Chemicals used on the NSU campus must be purchased through the Procurement Department. **SDS for samples, gifts or chemicals from outside sources must first be approved by authorized personnel prior to being brought on campus.** The University has an obligation to make SDS for all chemicals on-campus available. EHS&RM cannot provide data sheets for chemicals which appear surreptitiously. SDS must be obtained for chemicals purchased “over-the counter”.
- **Training** - Authorized individuals will be provided with Hazard Communication, Laboratory Safety and/or Hazardous Waste training as required by their job function. Training will cover relevant safety and environmental issues that must be considered when reviewing a request for chemicals.



- Currently Authorized Individuals – Lab Managers in RISE, Wood Science Center; EHS staff
- **Responsibilities**
 - **Material Requestor** – Responsible for ensuring all provisions of this policy are followed when requesting and procuring chemicals.
 - **Authorized Individuals:** Responsible for reviewing all chemical requisitions to ensure applicable compliance issues are addressed prior to purchase. If an authorized individual has concerns about a request, the concern must be resolved with the requestor as soon as possible. The Authorized individual will indicate in the text field on the requisition if an SDS is required from the material supplier.
 - **Faculty and Staff:** Responsible for ensuring policy is followed by staff, graduate and under graduate students.
 - **Procurement Services:** Monitors chemical requisitions and ensures the approval of authorized individuals is obtained prior to purchase.
- **Preventing the generation of Hazardous Waste:** Hazardous waste reduction begins at the source of generation. Purchases should be reviewed by authorized individuals to determine if it is possible to alter process or materials used in order to reduce the quantity or hazard of the waste generated. Determine if a less hazardous material (or recyclable or reusable) can be substituted for the same job. Suppliers often have suggestions for safer or more environmentally friendly products.
 - Purchase only the quantity of material necessary for the job at hand. Excess materials that age past shelf life become hazardous waste. In most cases purchase no more than five (5) gallons of a single material unless justification (experiments, research protocol requirements) is provided prior to purchase approval.
 - Conduct chemical inventories periodically to ensure materials are used prior to expiration.
- **Chemical Storage**
 - Appropriate cabinets or rooms for storage of corrosive, flammable, reactive or toxic materials must be obtained prior to materials purchase. Cabinets or rooms must be labelled to indicate the type of materials stored within. Typical storage considerations may include temperature, ignition control, ventilation, segregation and identification.

Requirements for Safe Chemical Storage

Ensure all containers of hazardous chemicals are properly labeled with the identity of the hazardous chemical(s) and appropriate hazard warnings.

- All chemicals should be labeled and dated upon receipt in the lab and on opening. This is especially important for peroxide-forming chemicals such as ethers, dioxane, isopropanol, and tetrahydrofuran.
- Segregate all incompatible chemicals for proper storage by hazard class. In other words, store like chemicals together and away from other groups of chemicals that might cause reactions if mixed. Refer to [Appendix B.docx](#) for examples of incompatible chemicals.



- Do not store chemicals alphabetically except within a grouping of compatible chemicals. Refer to [Appendix C](#) for Basic Chemical Segregation
 - Flammable materials should be stored in an approved, dedicated flammable materials storage cabinets or storage rooms if the volume exceeds ten gallons.
- **Keep** cabinet doors closed except when transferring chemicals to smaller containers for use in experiments and research. All chemicals should be labeled and dated upon receipt and on opening. This is especially important for peroxide forming chemicals such as ethers, dioxane, isopropanol and tetrahydrofuran.
- Chemicals should be stored no higher than eye level and never on the top shelf of a storage unit. Do not overcrowd shelves. Each shelf should have an anti-roll lip.
- Do not store chemicals on the floor (even temporarily) or extending into traffic aisles.
- Liquids should be stored in unbreakable or double-contained packaging, or the storage cabinet should have the capacity to hold the contents if the container breaks.
- Store acids in a dedicated acid cabinet. Nitric acid may be stored there, but only if it is kept isolated from all other acids.
- Store highly toxic or controlled materials in a locked, dedicated poison cabinet. Volatile or highly odorous chemicals block proper air flow in hoods and reduce available work space.
- Solutions should be labeled and dated. Chemicals shall be stored in ventilated cabinets. Chemical fume hoods shall not be used for storage.
- **Look** for unusual conditions in chemical storage areas, such as:
 - Improper storage of chemicals
 - Leaking or deteriorating containers
 - Spilled chemicals
 - Temperature extremes (too hot or cold in storage area)
 - Lack of or low lighting levels
 - Blocked exits or aisles
 - Doors blocked open, lack of security
 - Trash accumulation
 - Open lights or matches
 - Fire equipment blocked, broken or missing
- Lack of information or warning signs ("Flammable liquids", "Acids", "Corrosives", "Poisons", etc.)
- First aid supplies, emergency phone numbers, eyewash and emergency shower equipment, fire extinguishers, spill cleanup supplies and personal protective equipment should be readily available and personnel trained in their use.
- Chemicals stored in explosion-proof refrigerators or cold rooms shall be sealed and labeled with the name of the person who stored the material in addition to all other required hazard warnings.
- Only compressed gas cylinders that are in use and secured in place shall be kept in the laboratory. All others, including empties, shall be sent to the compressed gas cylinder storage area for the particular facility.
- Keep all stored chemicals, especially flammable liquids, away from heat and direct sunlight.
 - Proper segregation is necessary to prevent incompatible materials from inadvertently coming into contact. A physical barrier and/or distance is effective



for proper segregation.

- No other materials (cardboard, rags, etc.) should be stored inside cabinets. Doors must be kept closed and vents opened.
 - Proper storage information can usually be obtained from the Safety Data Sheet (SDS), label, or other chemical reference material. As required by 29 CFR 1910.1200, an SDS must be on hand for every hazardous chemical in your workplace. SDSs must be provided by the manufacturer or distributor of chemicals purchased.
- **Waste Disposal**
 - Wastes should be accumulated in drums or containers less than or equal to 55 gallons.
 - Waste storage areas should be checked weekly for leaks or spills.
 - Waste containers should be labeled with contents, hazards (flammable, combustible, acid, etc.) and accumulation dates. As a Very Small Quantity generator, waste quantities stored on campus must be limited to 1000 kilograms (2205 lb.).
 - Waste must be transported and disposed of by state certified vendors with approved financial and operational resources.

SUMMARY TIPS

Do not purchase compounds in quantities greater than can be used in the specified storage time period.

- Label containers with receiving, opening and disposal dates.
- Ethers should be stored in the dark and under nitrogen if possible.
- Always check for the presence of peroxides before distilling any peroxide-former.
- Consult safety references (i.e., [SDS](#)) before working with peroxidizable compounds.
- If old containers of peroxide-forming chemicals are found, do not move them. Contact EHS & RM for assistance in disposing of the container. Refer to [Appendix A](#) – storage time limits for common peroxidizable compounds.

PUBLICATION

Upon approval, policy may be found in the Norfolk State University Policy Library and the Facilities Management EHS&RM webpage.

REVIEW SCHEDULE

- Next Scheduled Review: MM/DD/YYYY
- Approval by, date: Board of Visitors, MM/DD/YYYY
- Revision History: None
- Supersedes: None



RELATED DOCUMENTS

Administrative Policy 43-14 General Purchasing Policy

<https://www.nsu.edu/policy/admin-43-14.aspx>

Chemical Hygiene Program
Hazard Communication Program
Laboratory Safety Policy

[Chemical Hygiene Program - draft2.doc](#)
[Hazard Communication Program.doc](#)
[2020 General Laboratory Safety Policy.docx](#)

FORMS

None



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