



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

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SUBJECT: Hazardous Waste Management

July 10, 2020

Instruction 4139

(EHS)

ABSTRACT

This Instruction establishes policies and prescribes procedures for managing and controlling materials and hazardous waste generated and discarded at the Uniformed Services University of the Health Sciences (USU) sites located on Naval Support Activity Bethesda (NSAB), Maryland. This plan will address the requirements of the state of Maryland regulations otherwise known as Code of Maryland Regulations (COMAR) which complies with, and in some instances supersedes, the U.S. Environmental Protection Agency's (EPA), Resource Conservation and Recovery Act (RCRA).

A. Purpose. This Instruction establishes policies and prescribes procedures to standardize the management and control of materials and hazardous waste generated and discarded at USU sites located on NSAB.

B. References. *See Enclosure 1, Appendix 1.*

C. Applicability. The provisions of this Instruction apply to all USU personnel, military and civilian, as well as contractors, who use, store, or generate chemical, hazardous, or universal waste at the USU sites located on NSAB, to include construction waste generated by USU projects. It is only applicable to sites that fall under EPA Identification (ID) Number MD4672611111. Offsite locations that require an EPA ID Number in regards to hazardous waste are responsible for establishing and maintaining their own hazardous waste program.

D. Definitions. *See Enclosure 1, Appendix 2.*

E. Policy. It is USU policy to follow the regulatory guidelines of the EPA's RCRA and COMAR requirements, conditions set forth in the University's EPA Hazardous Waste Permit, and the procedures described in this Instruction.

F. Responsibilities.

1. The President, USU:

a. Shall maintain ultimate responsibility for the overall effectiveness of the Hazardous Waste Program and responsibility for the USU EPA ID Number MD49726211111.

b. Will issue delegation of authority memorandums to trained, experienced, and qualified Hazardous Waste Program Managers in order to oversee all aspects of the program.

c. Will ensure that hazardous materials used at USU are secured, handled and disposed of IAW local, state, Federal, and DoD laws and regulations and that their use does not pose a health risk to workers or the environment.

d. Will oversee the semiannual hazardous waste working group.

2. The Vice President for Finance and Administration (VFA) is responsible for oversight of the Environmental Health and Occupational Safety (EHS) Department and resource planning for the Hazardous Waste Program.

3. The Assistant Vice President, Health and Safety (AVS) shall maintain primary responsibility for managing the EHS Department and oversees the execution of all aspects related to environmental and occupational health and safety, to include occupational and environmental health, radiation safety, waste management, biosafety, and industrial hygiene and environmental issues.

4. The EHS Department, as the Office of Primary Responsibility for the hazardous waste management program, will:

a. Maintain the USU Hazardous Waste Management Plan (“Plan”);

1) Make the Plan available to all faculty, staff, and students who perform operations in which the plan applies;

2) Review at least annually and update as needed;

b. Manage the USU Hazardous Waste Program;

c. Provide instruction and training on safe work practices;

d. Conduct routine inspections of laboratories and work areas on government property as applicable;

e. Investigate accidents on government property and recommend preventative measures and corrective actions;

f. Review research protocols involving hazardous materials;

g. Review construction design for safety features and respond to emergencies that may impact the health and safety of employees; and

h. Employ USU *trained professionals* as defined by RCRA standards and training requirements in 40 CFR 262.17.

i. Only EHS personnel who have received training in hazardous waste management and who have received written delegation of authority from the USU President or who have been appointed in writing from the Hazardous Waste Program Manager may sign hazardous waste manifest.

j. Coordinate availability of spill response and prevention material, and emergency supplies. Review and laboratory and workplace spill response plans for compliance.

5. The Hazardous Waste Program Manager within the EHS Department shall:

a. Implement the USU Hazardous Waste Management Program IAW the procedures set forth in the EPA's RCRA, COMAR, and the USU HWMP (*see Enclosure 1*).

b. Have full knowledge of the purpose and requirements of the HWMP.

c. Inform executive management of any unusual incidents or accidents involving hazardous waste at USU.

d. Appoint additional qualified and trained personnel in writing, to execute the Hazardous Waste Program.

e. Timely advise the AVS, VFA and USU President of issues that could place USU into non-compliance with legal and regulatory requirements. Report compliance/non-compliance status of the program to the USU President on a semiannual basis.

6. Department Chair, Director, or equivalent shall ensure that workplaces and personnel within their respective areas of responsibility implement and adhere to the requirements established within this Instruction and HWMP.

7. The Principal Investigators (PI) and/or Workplace Supervisors (WS) shall administer the HWMP within their respective areas of responsibilities. The PI or WS has ultimate responsibility for administering the HWMP for their areas of responsibility. The PI or WS may delegate to a Laboratory Safety Manager (LSM) and/or program manager as appropriate.

8. Contracting Officers must ensure contractors performing work on Navy installations comply fully with applicable Federal, state, and local statutes, laws, regulations in the References, to include training requirements and subcontractor monitoring for compliance.

9. All University personnel and contractors shall adhere to the EPA's RCRA, the COMAR requirements, conditions set forth in the University's EPA Hazardous Waste Permit, and the procedures described in the HWMP.

G. Procedures. *See Enclosure 1.*

H. Effective Date. This Instruction is effective immediately.

Richard W. Thomas, MD, DDS, FACS
President

RW Thomas

Date

9 July 2020

Enclosures:

1. Hazardous Waste Management Plan



HAZARDOUS WASTE MANAGEMENT PLAN

**UNIFORMED SERVICES UNIVERSITY OF
THE HEALTH SCIENCES (USU)**

Bethesda, Maryland

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I. HAZARDOUS WASTE MANAGEMENT AT THE UNIVERSITY

A. POLICY STATEMENT. USU is committed to proper handling of the hazardous wastes that are generated on its campus. This Plan's approach is designed to ensure compliance with applicable Federal, State, DoD, and NSAB requirements for the proper handling of hazardous waste. It is also intended to reduce any potential impact on human health and the environment.

B. APPLICABILITY. The provisions of this Instruction apply to all USU personnel, military and civilian, as well as contractors, who use, store, or generate chemical, hazardous, or universal waste at the USU sites located on NSAB, to include construction waste generated by USU projects. It is only applicable to sites that fall under EPA Identification (ID) Number MD4672611111. Offsite locations that require an EPA ID Number in regards to hazardous waste are responsible establishing and maintaining their own hazardous waste program.

C. SCOPE. The intention of this plan is to provide USU faculty, staff, students, and contractors with an understanding of the Federal and State hazardous waste disposal regulations and explain the USU's program for compliance. USU is a large quantity generator of hazardous waste and must comply with all State and Federal waste disposal regulations. This Plan includes procedure for the management of chemical waste and does not include procedures for the management of infectious, biological, radioactive, or nonhazardous waste.

D. INTRODUCTION:

1. Individual generators of hazardous waste are responsible for ensuring that a hazardous waste determination is made at the point of generation, waste is properly labeled and stored prior to collection by EHS Department staff. Improperly identified waste material will not be collected until the contents of the hazardous waste container is determined.

2. EHS Department staff maintain, review, and revise this plan as necessary. EHS is responsible for managing the USU Hazardous Waste Management Plan (HWMP).

3. The Principal Investigator (PI) and/or Workplace Supervisor (WS) may designate a Laboratory Safety Manager (LSM) and/or program manager to administer the HWMP within their respective areas of responsibilities. Compliance with this program is very demanding and requires full cooperation by all USU employees.

4. Failure to adhere to the terms of this Plan may lead to civil and/or criminal prosecution by the Department of Justice. Non-compliance with any hazardous waste regulation may result in substantial fines and penalties against the USU. Individual generators causing a violation may also be found personally liable and are subject to adverse personnel actions

5. Once a listed or characteristic chemical is declared waste, it must be stored as such. All laboratories and work-centers who generate hazardous waste must establish and properly maintain a Satellite Accumulation Area (SAA). USU has a Central Accumulation Area (CAA)

located in rooms 008 and 009 of building 74. USU is not permitted to treat or dispose of hazardous waste locally. All hazardous waste must be transported to a permitted off-site facility for further storage, treatment, and/or disposal. It is illegal to dispose of hazardous waste by dilution, evaporation, dumping into the sewer (or drains), or dumping into the local landfill.

E. HAZARDOUS WASTE DISPOSAL REGULATIONS:

1. The Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA) was passed in 1976 and is administered by the EPA under Subtitle C, Hazardous Waste Management. The EPA has the responsibility of regulating hazardous chemical wastes. RCRA has established a cradle to grave Hazardous Waste Management Program. This program protects public health and the environment from improper disposal by ensuring that all hazardous waste is regulated and accounted for through a manifest system from the generation of the waste (cradle) to the proper disposal of the waste (grave), and all aspects in between. This law went into effect in November 1980 and has undergone revisions on a regular basis.

2. Hazardous waste generators may not store, process, dispose of, or transport hazardous waste without having received an EPA Identification Number. Nor can generators offer hazardous waste to transporters or to storage, processing, or disposal facilities without assigned EPA Identification Numbers. Before transporting or offering hazardous waste for transportation to an off-site facility, all requirements for packaging, labeling, marking, and placarding must be met IAW all Department of Transportation (DOT) regulations. A hazardous waste manifest must accompany every shipment. Only an EPA-permitted Municipal Hazardous Waste (or Class I Industrial Hazardous Waste) Disposal Facility can dispose of hazardous waste and is approved to perform incineration, neutralization, recycling, or landfill operations.

3. The USU and/or the generators may be cited or fined for numerous types of violations. Violations range from failure to properly label a container of hazardous waste, to intentionally disposing of hazardous waste into the air, down the drain, or in the trash.

II. ROLES AND RESPONSIBILITIES

A. Hazardous Waste Program Manager will:

1. Serve as the USU's central coordinator for the hazardous waste program and for questions regarding compliance with Federal, State, DoD, and NSAB requirements.
2. Set forth policies on all issues related to hazardous waste compliance regulations.
3. Prepare, distribute, review, and update the HWMP as appropriate; maintain, annually review, and revise the Contingency plan as necessary.
4. Assist work-centers and laboratories with establishing and maintaining SAA, and conduct period compliance monitoring visits to determine status of accumulation methods and management procedures.

5. Review and approve all training material regarding workers health and safety. Specifically individual laboratories and work-centers spill response plans and procedures (these may be cross-referenced or addressed in their Chemical Hygiene Plans and/or Hazardous Communication training).

6. Prepare and transmit reports concerning the generation, shipment, and disposal of hazardous waste. These include the Biennial report (40 CFR 262.41) and Exception Reports (40 CFR 262.42).

7. Oversee and manage the operations of the CAA (90-day storage facility). Conduct weekly inspections of the CAA.

8. Coordinate and oversee contract support and the hired contractor's disposal procedures to ensure smooth flow of hazardous waste and compliance with Federal, State, DoD, and NSAB procedures. Ensure that hired contract support provides EHS with Land Disposal Restriction (LDR) forms, manifest, and certificates of disposal as specified within the statement of work and IAW all Federal, State, DoD, and NSAB procedures.

9. Attend formal Instruction to meet RCRA, DOT, and Occupational Safety and Health Administration (OSHA) requirements within 90 days of assuming hazardous waste management duties and/or before handling of hazardous materials.

10. Maintain all records regarding the hazardous waste program and participate in Federal, State, DoD, and NSAB environmental compliance inspections.

B. PIs and/or WS will:

1. Comply with requirements found in EPA standards, the OSHA standards, this HWMP, and other State, Federal and local regulations that apply to the use and disposal of hazardous waste.

2. Ensure that all hazardous chemicals are entered into EHS Assistant.

3. Ensure all hazardous chemical waste pick-ups are requested as directed by EHS.

4. Ensure all personnel have received the appropriate level of training.

5. Establish a SAA at each point of generation.

6. Ensure that a hazardous waste determination is conducted at the point of generation for all chemical waste. Hazardous waste determinations must be kept on file (either electronic or hard copy) for a minimum of three years from the point of generation. See Appendix 6 – 7, and/or contact EHS for assistance. Ensure personnel are trained on how to properly make a hazardous waste determination.

7. PI's or WS may delegate and/or appoint a LSM or workplace hazardous waste program manager to oversee the execution for compliance with the hazardous waste program.

8. Complete and maintain a workplace or laboratory specific spill response plan and contingency quick reference. Annually review and document the spill response plan and contingency quick reference.

9. PI's or WS will receive training from EHS and subsequently train their respective areas of responsibility on work-place specific training topics.

C. All Employees:

1. Follow the USU's health and safety policies, follow workplace and/or laboratory specific procedures and the Instructions of the responsible PI, WS, LSM and/or workplace hazardous waste program manager.

2. Complete all required workplace or laboratory safety and hazardous chemical training

3. Immediately report any hazardous or potentially unsafe conditions to his/her PI, WS, LSM, and/or workplace hazardous waste program manager.

4. Follow all Federal, State, and local regulations regarding hazardous waste.

5. Minimize waste generation where possible (check the chemical inventory prior to ordering any chemical stocks to confirm that the USU does not already have the chemical in stock).

6. Correctly identify hazardous materials at the point of generation (e.g. laboratory waste material, empty pesticide containers) by using a chemical waste disposal label, by following the hazardous waste determination flow chart (Appendix 7), and by completing the hazardous waste determination form (Appendix 6) for each waste material. The steps for completing and attaching disposal labels are listed below:

a. Ensure that containers for all hazardous waste are in good condition and that the container is compatible with constituents.

b. List all chemicals on the waste disposal label and waste determination form using the common chemical name and the Chemical Abstract Service (CAS) number. **Chemical formulas and abbreviations are not acceptable under Federal and State regulations.**

c. Include the concentration and amount of waste on the waste disposal label.

d. Include on the waste disposal label the date that accumulation started as well as the date that the container was moved to the CAA.

e. Indicate the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the DOT requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the OSHA Hazard Communication (HAZCOM) Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Prevention Association code 704) must be present on the hazardous waste label or original container label.

f. Place labeled containers of liquid and/or solid hazardous waste in the designated SAA labeled "Hazardous Waste Satellite Accumulation Area." Employees will not store waste containers in corridors (e.g. hallways, passageways, etc.).

7. Coordinate with the EHS hazardous waste program manager to receive advance approval for the pickup of unknown hazardous waste.

8. Will receive work-place specific Hazard Communication/Hazardous Waste Training prior to undertaking duties, and annually thereafter.

9. Once a Hazardous waste determination has been made using the Hazardous Waste Determination Form (Appendix 6) and has been filed appropriately in the workplace or laboratory, submit an official disposal request to EHS at hazardous-waste-pick-up-ggg@usuhs.edu, using the EHS Hazardous Waste Pick-up Request Form (Appendix 11).

D. Contractors:

1. Incorporate this Plan and policies into standard operating procedures and training. Train all personnel who generate hazardous waste as defined by the EPA, consistent with this Plan, prior to entry onto duty and annually thereafter, and as otherwise directed by the Contracting Officer.

2. Provide hazardous waste training certificates through the Contracting Officer to the USU EHS staff, verifying satisfactory completion of training consistent with this Plan for all contractor workers who generate hazardous waste as defined by the EPA.

3. Provide copies of all hazardous waste determination documentation to the USU EHS staff.

4. Provide a copy of all hazardous waste manifest to EHS staff.

5. Provide a copy of all Land Disposal Certificates to EHS staff.

6. Follow all Federal, State, and local regulations regarding hazardous waste.

III. HAZARDOUS WASTE DISPOSAL GUIDELINES

A. A hazardous waste determination must be made at the point of generation. Employees will not dilute, mix, or otherwise alter hazardous waste to change its classification as hazardous waste.

1. In laboratory and workplace environments, a material is considered waste when the lab or workplace personnel determine the chemical or material will no longer be used and needs to be discarded. The waste regulations apply to any material, whether it is liquid, solid, semi-solid, or compressed gas. Wastes can be hazardous in one of four ways:

a. Wastes are spent materials that are hazardous by definition and contained in specific lists (see Appendix 1, References; paragraph (e), *EPA List of Lists*).

b. Chemicals that exhibit one or more of the four hazardous characteristics: ignitability, reactivity, corrosivity, or toxicity.

c. A mixture containing a listed hazardous waste and a non-hazardous waste.

d. A chemical that is not excluded from regulation as a hazardous waste.

2. The hazardous characteristics are defined in 40 CFR Sections 261.21-261.24. Hazardous waste are categorized into several groups including: flammable halogenated solvents, flammable non-halogenated solvents, acids, bases, heavy metals and oxidizers, flammable solids, non-flammable solids, and miscellaneous salts.

3. The hazardous waste accumulation areas are maintained under the control of the PI, LSM, WS, and/or workplace hazardous waste program manager with the assistance of the rest of the team members. These individuals are responsible for the care, custody, and control of the area. Keys and access to the hazardous waste storage areas are closely controlled.

4. All spent chemicals or unused chemicals that are intended to be discarded must be handled and managed as hazardous waste, unless determined otherwise by the PI, LSM, WS, and/or workplace hazardous waste program manager.

5. Each individual waste generator is personally responsible for ensuring that hazardous wastes are properly segregated, accumulated in safe, transportable containers, and stored properly to prevent the possible exposure to others working in that area of hazardous waste management personnel to the waste materials. Refer to RCRA's Chemical Waste Compatibility List found in Appendix 5 for guidance on the segregation of incompatible waste materials.

6. Individual waste generators are responsible for obtaining their own waste containers. All containers must have suitable screw caps or other secure means of closure. When special waste containers are warranted, contact EHS for assistance on selection and placement of appropriate container type and size.

7. The original chemical label must be destroyed or defaced on empty chemical bottles used for waste accumulation of other materials. Be sure the container is in good condition, will not leak, and is compatible with the contents (i.e. do not use metal containers for corrosive waste or plastic containers for organic solvents).

8. The generator must mark or label its container with the following:

a. The words "HAZARDOUS WASTE".

b. The date accumulation started for both the SAA and CAA.

c. An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the DOT requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the OSHA HAZCOM Standards at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Prevention Association code 704) must be present on the hazardous waste label or original container label.

9. Improper disposal of hazardous chemicals includes drain disposal, intentional evaporation (including in a fume hood), dumping in any location, and disposal in the regular trash.

10. The container must be dated and its contents fully identified on the label when the chemical waste is placed in the hazardous waste CAA.

11. Treatment of waste by the generator is prohibited under RCRA regulations without the proper RCRA treatment permit. However, reducing the hazard or quantity of generated waste can be done in the workplace/laboratory, without a RCRA treatment permit, when the treatment method is included as part of the experimental protocol.

12. Outside of experimental procedures, do not mix non-hazardous waste, such as water, with hazardous waste.

13. Containers with improper caps, leaks, outside contamination, or improper labeling must be corrected immediately by the generator prior to removal from the workplace/laboratories to the CAA.

14. Hazardous waste should be stored apart from non-hazardous waste.

15. Different hazardous waste streams must not be co-mingled in the same waste container.

16. Chemically contaminated sharps (i.e. needles, razor blades, syringes, etc.) must be disposed of in the white leak proof plastic containers for disposal and labeled properly.

17. Do not dispose of inorganic heavy metal compounds into hazardous waste containers with waste solvents.

18. Dry materials saturated with chemicals (paper, rags, towels, gloves, delicate task wipes, etc.) must be double-bagged in heavy-duty plastic bags and labeled with contents.

19. Whenever possible, return gas cylinders to the manufacturer or distributor. If they cannot be returned, tag and store them as hazardous waste.

20. Contact EHS for additional guidance on unknown chemicals.

B. Accumulation Containers and Labeling:

1. Containers used to accumulate hazardous waste must be in good condition and comply with the EPA specifications.

2. The containers must be clearly and properly labeled and identified. Waste containers must contain the words "HAZARDOUS WASTE," have the chemical components written out, and an accumulation start date. The accumulation start date is the date in which the container is placed in the CAA.

3. Containers must be kept closed except when adding waste.

4. Labels must be visible and legible.

5. Labels on containers of potentially explosive materials such as picric acid, silanes, nitro compounds, and ethers must indicate the percent concentration of these chemicals.

6. Labels must include any additional hazard information about container contents that may be helpful to waste handlers.

C. Filling Containers:

1. Containers must not be overfilled. Containers for liquids are generally rated by volume capacity. Jugs and bottles should not be filled past the shoulder of the container (where the container sides start to slope in towards the neck). When filling closed head drums larger than 5 gallons, leave approximately four inches of head space to allow for the expansion of the contents.

2. Containers for solids are generally rated by their weight capacity and/or volume capacity. Depending on the density of the solid material, the weight capacity of a container could be exceeded if its internal volume were completely filled. This generally is not a problem for jars and open head cans of 5 gallons or less. When filling open head drums larger than 5 gallons, with due consideration to weight, containers for solids can be filled within two inches of the level of the closure.

3. Hazardous waste containers will remain closed except when waste is being added or removed as required by COMAR 26.13.05.09D.

D. SAA:

1. Each USU workplace and laboratory that generates hazardous waste must establish a SAA.

2. SAA must be located at the point of generation of the hazardous waste and must be under the control of the operator of the process generating the hazardous waste. Hazardous waste containers must be kept in durable, leak proof secondary containers and incompatible hazardous waste must be segregated.

3. Each SAA must have signage posted stating: "HAZARDOUS WASTE SATELLITE ACCUMULATION AREA."

4. Laboratories that may accumulate flammable or ignitable hazardous waste materials, or that store these materials must have a "NO SMOKING" sign posted at the entrance of the workplace or laboratory.

5. SAA cannot accumulate more than 55 gallons of hazardous waste or one quart of acute hazardous waste at any one time.

6. When 55 gallons of hazardous waste or one quart of acutely hazardous waste is accumulated within a SAA, or if a waste container is full, that date should be added as the container accumulation start date on the label and the container must be moved by EHS to the CAA within 3 days.

7. All SAA's will be inspected weekly for evidence of leaks or deterioration of containers, correct labeling, and proper segregation. Inspection results or observations shall be recorded on the weekly Hazardous Weekly SAA Inspection Form and maintained on file in the office of the PI, LSM, WS, and/or workplace hazardous waste program manager for 3 years. See Appendix 9 for the weekly inspection sheet.

8. Situations requiring corrective action shall be reported immediately to the PI, LSM, WS, and/or workplace hazardous waste program manager or to EHS. Emergency situations (spills or leaks) must be reported to the PI, LSM, WS, and/or workplace hazardous waste program manager and EHS immediately (or contact emergency services if the scope of the emergency situation is beyond the capabilities of the USU).

E. CAA:

1. The USU CAA (90-day storage room) is located in building 74, rooms 008 and 009. The CAA is locked with access only granted to authorized and trained personnel. CAA Facility Information is listed below:

Facility Name	Facility Location	Facility EPA ID Number	Type of Waste Generator	Location of CAA
Uniformed Services University of the Health Sciences	4301 Jones Bridge Road, Bethesda, Maryland 20814	MD4972611111	Large Quantity Generator (LQG)	Bldg 74, Rooms 008 and 009

2. Secondary Containment (plastic bins or chemical storage cabinets) are required in the CAA to ensure protection against potential spills or leaks.

3. Containers that hold incompatible wastes must be separated from each other by means of secondary containment or chemical storage cabinet.

4. The secondary containment must have a sufficient capacity for 10% of the stored volume and designed to prevent mixing of incompatible waste if the containers leak.

5. The CAA must have the signage posted on all entryways stating: “CAUTION – HAZARDOUS WASTE STORAGE ROOM – AUTHORIZED PERSONNEL ONLY – NO SMOKING.”

6. The CAA must only hold hazardous waste for less than 90 days from the accumulation start date. Each item placed in the CAA must be dated upon arrival.

7. The CAA will be inspected weekly by EHS personnel for evident of container leaks or deterioration of containers, correct labeling, proper segregation, emergency notification system (i.e. phone), and spill kits. Inspection results or observations shall be recorded on the Hazardous Waste Weekly Central Accumulation Area Inspection Form and maintained on file in the office of EHS for at least three years.

8. Situations requiring corrective action, or emergency situations (spill or leaks) shall be reported immediately in accordance with the USU Hazardous Waste Spill Contingency Plan (i.e. EHS , AVS, etc.).

F. Empty Containers:

1. EPA regulations stipulate that an empty chemical container cannot contain free liquid or solid residue.

2. An empty container must be triple rinsed and the label defaced or removed prior to disposal. USU does not utilize the triple rinse method as it typically generates more waste than turning in empty containers. (NOTE: Triple rinsing may generate additional hazardous waste regulated under RCRA. Contact EHS with any questions pertaining to rinsing any containers.)

3. Turn in empty chemical containers to EHS as hazardous waste.

G. Hazardous Waste Determinations:

1. A hazardous waste determination is a required document by the EPA that provides specific information regarding the waste, such as chemical composition and properties, the DOT description, and the EPA hazardous waste code.

2. The generator of all hazardous waste is responsible for making a proper hazardous waste determination using the Hazardous Waste Determination Form provided by EHS (Appendix 6). The EHS service contractor will provide EHS with the DOT description and EPA hazardous waste codes prior to shipment.

3. Contact EHS for information on materials or if there are any questions. The following notes apply:

a. As new waste streams are generated, profiles will be developed through coordinated efforts of the generator of the waste stream, EHS, the contracted service provider, and the Treatment Storage and Disposal Facility (TSDF).

b. Completed Hazardous Waste Determination forms will be signed by the PI, LSM, WS, and/or workplace hazardous waste program manager and maintained for at least 3 years by the generating work place.

H. Manifest & Land Bans:

1. Only EHS personnel who have received training in hazardous waste management and who have received written delegation of authority from the USU President or the Hazardous Waste Program Manager may sign hazardous waste manifest.

2. Hazardous Waste Manifest Recordkeeping:

a. A completed manifest is the copy that has been signed by the representative of the TSDF in block 20. This signifies that the shipment has reached its destination. Once the completed manifest is received, it will be filed in the manifest binder.

b. If a completed manifest is not received back within 30 days, EHS will contact the designated facility (Block 9 and Block H) and determine if the shipment has been received.

c. If the completed manifest is not received back within 45 days, EHS will initiate notification to the Regional Administrator of the United States EPA to inform them of the discrepancy.

d. When the manifest package is complete, EHS will place this record in the manifest binder.

e. Manifest must be kept for a minimum of three years.

3. All Land Ban Forms are signed at the time the manifest is signed by the same authorized individual. EHS will file the Land Ban Form in the manifest binder, with the corresponding waste manifest.

I. Source Reduction and Hazardous Waste Minimization:

1. Prevention of pollution and reduction of waste generation is a priority.
2. USU employees should identify potential points of operation where source reduction and waste minimization can be implemented using the Waste Source Reduction and Waste Minimization Techniques and Procedures:
 - a. USU utilizes a chemical inventory management system (EHS Assistant) to oversee chemicals on site. It is important to maintain current inventories of chemical stocks to prevent the ordering of chemicals that may already be in stock and monitor the shelf life of remaining chemicals. It also reduces “warehousing” and promotes the sharing of chemicals.
 - b. All chemicals arriving to USU shall be added into EHS Assistant by the respective PI, LSM, WS, and/or workplace hazardous waste program manager immediately upon receipt.
 - c. All chemicals must have a label that adheres to all Federal and State regulations. All secondary containers within USU must have a complete NFPA diamond label and/or meet the requirements of OSHA HAZCOM Standards (29 CFR 1910.1200). Replace all deteriorating labels on primary and secondary containers.
 - d. Chemicals should be purchased in quantities that are appropriate to the scale of the experiment being conducted. Limit acquisition of chemicals to quantities required for immediate use and do not order quantities to obtain a special unit cost savings. This savings will normally be lost due to eventual disposal costs if the chemical is not entirely used.
 - e. Substitute less hazardous chemicals whenever possible.
 - f. Rotate chemical stocks to use chemicals before their shelf lives expire.
 - g. Minimize the use of heavy metal chemicals (silver, chrome, mercury, barium, cadmium, and lead).
 - h. Minimize solvent waste by recycling or substitution.
 - i. Keep waste streams segregated by storing them in separate waste containers. Label waste containers with the term “HAZARDOUS WASTE,” full name(s) of the waste material(s) stored in them, and date. Keep the waste containers stored separately from reagent containers still in use to avoid accidental contamination of the reagent chemicals.
 - j. Include waste generation as a criterion in equipment selection.

IV. UNIVERSAL WASTE

A. A subset of very common hazardous waste is collected, managed, and labeled as universal waste and is therefore not subject to the same regulations as other hazardous waste; typically this means they may be collected and stored in greater quantity and for longer periods of time.

B. The following items are common universal waste materials generated at USU:

1. Fluorescent light bulbs: tubes – all lengths, compact fluorescents.
2. High intensity (HID) lamps: mercury vapor, metal-halides.
3. Intact mercury-containing equipment: Broken or breached mercury-containing equipment should be reported immediately to EHS. Do not attempt to clean up a mercury spill.
4. Pesticides, fertilizers, insecticides, and herbicides: Include all containers that contain or previously contained pesticides, insecticides, or herbicides.
5. Lead acid batteries: All caps on the battery must be present. Battery terminals without caps shall be taped with duct tape, or electrical tape. Leaking batteries should be placed in secondary containment to prevent a release to the environment, labeled as hazardous waste, and reported to EHS immediately.
6. Rechargeable Batteries such as Nickel cadmium, Lithium ion, Nickel metal Hydride (e.g., NiCad, Li-ION, NiMH) must be collected in sealed containers and labeled with their contents.

C. All materials characterized as “Universal Waste” must be marked with the EHS approved “Universal Waste” Label and placed in the appropriate storage location. Contact EHS for additional information.

V. EMERGENCY PROCEDURES

For emergency and contingency procedures related to chemicals spill or hazardous waste operations, refer to the USU Hazardous Waste Spill Contingency Plan or the USU EAP.

VI. TRAINING

A. Documented training is required for all personnel involved in the management of hazardous waste.

B. Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within

the same company. Training records will be maintained by EHS and the PI, LSM, WS, and/or workplace hazardous waste program manager for their respective program/workplace/laboratory.

1. The Hazardous Waste Program Manager will maintain training records for EHS personnel, applicable contractors, PI, LSM, WS and/or workplace hazardous waste program managers as appropriate.

2. PI, LSM, WS, and/or workplace hazardous waste program manager will maintain subsequent workplace specific training records for their designated areas of responsibility.

C. Training includes proper management of the waste streams, labeling, containers, and emergency procedures outlined in the USU Hazardous Waste Spill Contingency Plan, USU EAP, Workplace/Laboratory Specific HAZCOM Training/Chemical Hygiene Plan (CHP) Training.

D. Hazardous waste handlers and their WS/managers must complete classroom training and the on-the-job Instruction relevant to their duties to include hazardous waste management procedures and emergency response procedures.

E. Training must be completed prior to any duties being performed where hazardous materials are present and annually thereafter.

F. Hazardous Waste Program Managers must have the following levels of training:

1. All mandatory items listed in Appendix 12 of this Plan.
2. Attended a RCRA waste management course within six months of assuming responsibility for the program and annually thereafter.

G. Hazardous Waste Program Managers must maintain the following training documents and records:

1. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job.
2. A written job description for each position. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position.
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed.
4. Records that document the training or job experience required has been given to, and completed by personnel.

VII. PLAN REVIEW

A. The following items will be reviewed annually by EHS and the Hazardous Waste Program Manager, with summaries to the AVS, for compliance and necessary improvements:

1. USU HWMP.
2. USU Hazardous Waste Spill Contingency Plan.
3. Inspection records of the CAA and all SAAs.
4. Manifest (for signatures, return copies) and Land Ban Forms.
5. Waste Minimization Procedures.

B. The Delegation of Authority Memorandum (Appendix 4) will be updated when there is turn-over from the USU President and/or EHS Staff who are responsible for the management of the hazardous waste program.

APPENDIX 1 – REFERENCES

- (a) Resource Conservation and Recovery Act (RCRA), 42 United States Code (U.S.C.) Chapter 82 Solid Waste Disposal, Subchapter III Hazardous Waste Management
- (b) 42 U.S.C. CHAPTER 133 Pollution Prevention
- (c) Code of Federal Regulations, Title 40, Subchapter I Solid Wastes, Part 260 to Part 299.
- (d) Maryland Department of the Environment - Title 26, Subtitle 13 of the Code of Maryland Regulations (COMAR 26.13) Disposal of Controlled Hazardous Substances/
- (e) Environmental Protection Agency (EPA) List of Lists:
www.epa.gov/sites/production/files/2015-03/documents/list_of_lists.pdf
- (f) EPA Hazardous Waste Listing Code: https://www.epa.gov/sites/production/files/2016-01/documents/hw_listref_sep2012.pdf
- (g) OPNAV-M 5090.1, *Environmental Readiness Program Manual*
- (h) OPNAV-M 5090.1E, *Environmental Readiness Program*
- (i) Naval Support Activity Bethesda, *Environmental Policy*
- (j) Naval Support Activity Bethesda, *Spill Contingency Plan*
- (k) EHS Standard Operating Procedures.

APPENDIX 2 – DEFINITIONS

1. **Central Accumulation Area** (< 90 day storage area) – Area designated for the storage of hazardous waste prior to shipment to permitted disposal facilities.
2. **Code of Federal Regulations** (CFR) – The regulations published in the Federal Register by the executive departments and agencies of the federal government. Broken down by title, part, section, and paragraph.
3. **Disposal** – The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including ground waters.
4. **EPA Identification Number** – The number assigned by the Environmental Protection Agency to each generator, transporter, processing, storage, and disposal facility.
5. **Facility** – Includes (1) all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste, or for managing hazardous secondary materials prior to reclamation. A facility may consist of several treatment, storage, or disposal operational units (e.g. one or more landfills, surface impoundment, or combinations of them). (2) For the purpose of implementing corrective action under 40 CFR 264.01 or 267.101, all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h). (3) Notwithstanding paragraph (2) of this definition, a remediation waste management site is not a facility that is subject to 40 CFR 261.101, but is subject to correction action requirement if the site is located within such a facility.
6. **Generator** – Any person, by site, whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation.
7. **Hazardous Material** – A substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce.
8. **Hazardous Waste** – Any solid waste material listed or identified in 40 CFR 261, Subpart C and D, or exhibiting the characteristics of ignitability, corrosivity, reactivity, or toxicity also defined in Part 261. A hazardous waste is defined in COMAR 26.13.02.03 as synonymous with Controlled Hazardous Substance (CHS), except as provided in COMAR 26.13.02.06.
9. **Manifest** – The shipping document, EPA Form 8700-22 (including, if necessary, EPA Form 8700-22A), originated and signed by the generator or offeror IAW the Instructions in the Appendix to 40 CFR 262 and the applicable requirements of COMAR 26.13.03.04 and 40 CFR Parts 262 through 265.

10. **Offeror** – A person that performs, or is responsible for performing, any pre-transportation function required under the U.S. Department of Transportation's (DOT) hazardous material regulations of 49 CFR Parts 171 through 180 for transportation of a hazardous material in commerce; or tenders or makes a hazardous material available to a carrier for transportation in commerce.

11. **On-site** – The same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties, owned by the same person but connected by a right-of-way which the property owner controls and to which the public does not have access, are also considered on-site property.

12. **Operator** – The person responsible for the overall operation of a facility.

13. **Owner** – The person who owns a facility or part of a facility.

14. **Processing** – The extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal.

15. **Reclaimed Material** – Material that is processed or regenerated to recover a usable product. Examples include the recovery of lead from spent batteries and regeneration of spent solvents.

16. **Recyclable Materials** – Material that is used, reused, or reclaimed.

17. **Satellite Accumulation Area** – An area, system, or structure used for temporary accumulation of hazardous waste prior to transport to the CAA. Accumulation must not exceed 55 gallons of hazardous waste or 1 quart of acutely hazardous waste.

18. **Solid Waste** – Any garbage, refuse, sludge or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from institutional activities.

19. **Spill** – The accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or onto any land or water.

20. **Storage** – The holding of solid waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

21. **Transporter** – A person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

22. **Universal Waste** – Any of the following hazardous wastes that are managed under the universal waste requirements of COMAR 26.13.10.06—.25: (a) Batteries as described in COMAR 26.13.10.07; (b) Pesticides as described in COMAR 26.13.10.08; or (c) Mercury-

containing equipment, lamps, or PCB containing lamp ballasts, each as described in COMAR 26.13.10.09.

23. **Used Oil** – Oil that has been refined from crude oil, or any synthetic oil that has been used and, as a result of the use, is contaminated by physical or chemical impurities.

24. **Waste** – Any material for which there is no use and is to be discarded as valueless.

25. **Workplace Supervisor** – Any individual responsible for overseeing specific work places and assigned personnel.

APPENDIX 3 – ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used in spill response and emergency incident management. Not all of these acronyms and abbreviations appear in the plan but they are included for general knowledge.

A2R2	Annual Allowance and Requirements Review
AFRRI	Armed Forces Radiobiology Research Institute
AOR	Area of Responsibility
BOA	Basic Ordering Agreement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHP	Chemical Hygiene Plan
CNIC	Commander Navy Installations Command
CO	Commanding Officer
COMAR	Code of Maryland Regulations
DC	District of Columbia
DLA	Defense Logistics Agency
DoD	Department of Defense
DON	Department of the Navy
DOT	Department of Transportation
EM	Emergency Management
EAP	Emergency Action Plan
EOC	Emergency Operations Center
EPD	Environmental Programs Division
ERC	Environmental Response Coordinator
ERG	Emergency Response Guide
EO	Executive Order
FIC	Facility Incident Commander
FOSC	Federal On-Scene Coordinator
HAZWOPER	Hazardous Waste Operations and Emergency Response
HM	hazardous material
HS	hazardous substance
HW	hazardous waste
IAP	Incident Action Plan
IAW	in accordance with
IC	Incident Commander
IH	Industrial Hygiene
IRT	Immediate Response Team
ISSA	Installation Services Support
JIC	Joint Incident Commander
LEPC	Local Emergency Planning Committee
MDE	Maryland Department of the Environment
MIDLANT	Mid-Atlantic
MOU	memorandum of understanding
MSDS	Material Safety Data Sheet
NAVFAC	Naval Facilities Engineering Command
NAVREGFINCEN	Navy Regional Finance Center

USU Instruction 4139

NCP	National Contingency Plan
NDW	Naval District Washington
NFPA	National Fire Protection Association
NICoE	National Intrepid Center of Excellence
NIF	Navy Industrial Fund
NIH	National Institutes of Health
NNMC	National Naval Medical Center
NOSC	Navy On-Scene Coordinator
NRC	Nuclear Regulatory Commission
NSAB	Naval Support Activity Bethesda
OHS	oil and hazardous substances
OPA 90	Oil Pollution Act of 1990
OPNAVINST	Office of the Chief of Naval Operations Instruction
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSOT	On-Scene Operations Team
OWS	oil water separator
PAO	Public Affairs Office
POL	petroleum, oil, and lubricants
PPE	Personal Protective Equipment
PREP	Preparedness for Response Exercise Program
PWD	Public Works Department
QA	quality assurance
QI	Qualified Individual
RQ	reportable quantity
RRT	Regional Response Team
SCBA	Self-contained breathing apparatus
SCP	Spill Contingency Plan
SMT	Spill Management Team
SOP	standard operating procedure
SPCC	Spill Prevention, Control, and Countermeasure
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SSSCP	Site Specific Spill Contingency Plan
US	United States
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
USU	Uniformed Services University
VOC	volatile organic compound
WCD	worst case discharge
WRNNMC	Walter Reed National Naval Medical Center
WSSC	Washington Suburban Sanitary Commission
WWTP	wastewater treatment plant

APPENDIX 4 – EXAMPLE DELEGATION OF AUTHORITY



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

OFFICE OF THE PRESIDENT
4301 JONES BRIDGE ROAD
BETHESDA, MARYLAND 20814-4799
www.usuhs.edu



DD MMM YYYY

MEMORANDUM FOR **RANK FIRST MI LAST**

**FROM: UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES (USU)
OFFICE OF THE PRESIDENT
BETHESDA, MD 20814**

**SUBJECT: Delegation of Authority and Appointment as USU Hazardous Waste Program
Manager**

1. You are hereby appointed as the Hazardous Waste Program Manager for the Uniformed Services University of Health Sciences, EPA ID MD4972611111. Your responsibilities include but are not limited to managing the Hazardous Waste Program in accordance with all applicable Federal regulations and ensuring continual improvement of the program. You will ensure that signature authority for hazardous waste manifests is only authorized to properly trained Environmental Health and Occupational Safety (EHS) military or civilian staff.
2. The University retains all legal liability regarding the execution of this program. This memorandum supersedes previous delegation of authority for the same subject.
3. Your performance in this role is vital to the University and integral to the success of our overall mission. I have great confidence that you will provide strong leadership and exceptional professional expertise in this assignment. Your commitment to serve stands as a positive indication of your dedication to the University and its goals. Thank you.

**FIRST MI LAST, rank/Grade, Branch
President**

cc: VP for Finance and Administration
Assistant VP for Health and Safety

Learning to Care for Those in Harm's Way

APPENDIX 5 – CHEMICAL COMPATIBILITY LIST

- EPA Chemical Compatibility List
 - o <https://www.epa.gov/hwpermitting/method-determining-compatibility-hazardous-wastes>
- Chemical Incompatibility Chart
 - o Mixing these chemicals purposely or as a result of a spill can result in heat, fire, explosion, and/or toxic gases. This is a partial list.

Chemical	Incompatibilities
Acetic Acid	Chromic Acid, nitric acid, hydroxyl-containing compounds, ethylene glycol, perchloric acid, peroxides, and permanganates.
Acetone	Bromine, chlorine, nitric acid, sulfuric acid, and hydrogen peroxide.
Acetylene	Bromine, chlorine, copper, mercury, fluorine, iodine, and silver.
Alkaline & Alkaline Earth Metals such as calcium, lithium, magnesium, sodium, potassium, powdered aluminum	Carbon dioxide, carbon tetrachloride and other chlorinated hydrocarbons, water, Bromine, chlorine, fluorine, and iodine. Do not use CO₂, water or dry chemical extinguishers. Use Class D extinguisher (e.g., Met-L-X) or dry sand.
Aluminum and its Alloys (especially powders)	Acid or alkaline solutions, ammonium persulfate and water, chlorates, chlorinated compounds, nitrates, and organic compounds in nitrate/nitrate salt baths.
Ammonia (anhydrous)	Bromine, chlorine, calcium hypochlorite, hydrofluoric acid, iodine, mercury, and silver.
Ammonium Nitrate	Acids, metal powders, flammable liquids, chlorates, nitrates, sulfur and finely divided organics or other combustibles.
Aniline	Hydrogen peroxide or nitric acid.
Bromine	Acetone, acetylene, ammonia, benzene, butadiene, butane and other petroleum gases, hydrogen, finely divided metals, sodium carbide, turpentine.
Calcium Oxide	Water.
Carbon (activated)	Calcium hypochlorite, all oxidizing agents.
Caustic (soda)	Acids (organic and inorganic).
Chlorates or Perchlorates	Acids, aluminum, ammonium salts, cyanides, phosphorous, metal powders, oxidizable organics or other combustibles, sugar, sulfides, and sulfur.
Chlorine	Acetone, acetylene, ammonia, benzene, butadiene, butane and other petroleum gases, hydrogen, finely divided metals, sodium carbide, turpentine.
Chlorine Dioxide	Ammonia, methane, phosphine, hydrogen sulfide.
Chromic Acid	Acetic acid, naphthalene, camphor, alcohol, glycerin, turpentine and other flammable liquids.
Copper	Acetylene, hydrogen peroxide.
Cumene Hydroperoxide	Acids.
Cyanides	Acids.
Flammable Liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, bromine, chlorine, fluorine, iodine.
Fluorine	Isolate from everything.
Hydrazine	Hydrogen peroxide, nitric acid, and other oxidizing agents.
Hydrocarbons	Bromine, chlorine, chromic acid, fluorine, hydrogen peroxide, and sodium peroxide.

Hydrocyanic Acid	Nitric acid, alkali.
Hydrofluoric Acid	Ammonia, aqueous or anhydrous.
Hydrogen Peroxide (anhydrous)	Chromium, copper, iron, most metals or their salts, aniline, any flammable liquids, combustible materials, nitromethane, and all other organic material.
Hydrogen Sulfide	Fuming nitric acid, oxidizing gases.
Iodine	Acetylene, ammonia (aqueous or anhydrous), hydrogen.
Mercury	Acetylene, alkali metals, ammonia, fulminic acid, nitric acid with ethanol, hydrogen, oxalic acid.
Nitrates	Combustible materials, esters, phosphorous, sodium acetate, stannous chloride, water, zinc powder.
Nitric acid (concentrated)	Acetic acid, acetone, alcohol, aniline, chromic acid, flammable gases and liquids, hydrocyanic acid, hydrogen sulfide and nitratable substances.
Nitrites	Potassium or sodium cyanide.
Nitroparaffins	Inorganic bases, amines.
Oxalic acid	Silver, mercury, and their salts.
Oxygen (liquid or enriched air)	Flammable gases, liquids, or solids such as acetone, acetylene, grease, hydrogen, oils, phosphorous.
Perchloric Acid	Acetic anhydride, alcohols, bismuth and its alloys, paper, wood, grease, oils or any organic materials and reducing agents.
Peroxides (organic)	Acid (inorganic or organic). Also avoid friction and store cold.
Phosphorus (white)	Air, oxygen.
Phosphorus pentoxide	Alcohols, strong bases, water.
Potassium	Air (moisture and/or oxygen) or water, carbon tetrachloride, carbon dioxide.
Potassium Chlorate	Sulfuric and other acids.
Potassium Perchlorate	Acids.
Potassium Permanganate	Benzaldehyde, ethylene glycol, glycerol, sulfuric acid.
Silver and silver salts	Acetylene, oxalic acid, tartaric acid, fulminic acid, ammonium compounds.
Sodium	See Alkali Metals.
Sodium Chlorate	Acids, ammonium salts, oxidizable materials and sulfur.
Sodium Nitrite	Ammonia compounds, ammonium nitrate, or other ammonium salts.
Sodium Peroxide	Any oxidizable substances, such as ethanol, methanol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerol, ethylene glycol, ethyl acetate, methyl acetate, furfural, etc.
Sulfides	Acids.
Sulfur	Any oxidizing materials.
Sulfuric Acid	Chlorates, perchlorates, permanganates, compounds with light metals such as sodium, lithium, and potassium.
Water	Acetyl chloride, alkaline and alkaline earth metals, their hydrides and oxides, barium peroxide, carbides, chromic acid, phosphorous oxychloride, phosphorous pentachloride, phosphorous pentoxide, sulfuric acid, sulfur trioxide.

APPENDIX 6 – HAZARDOUS WASTE DETERMINATION FORM

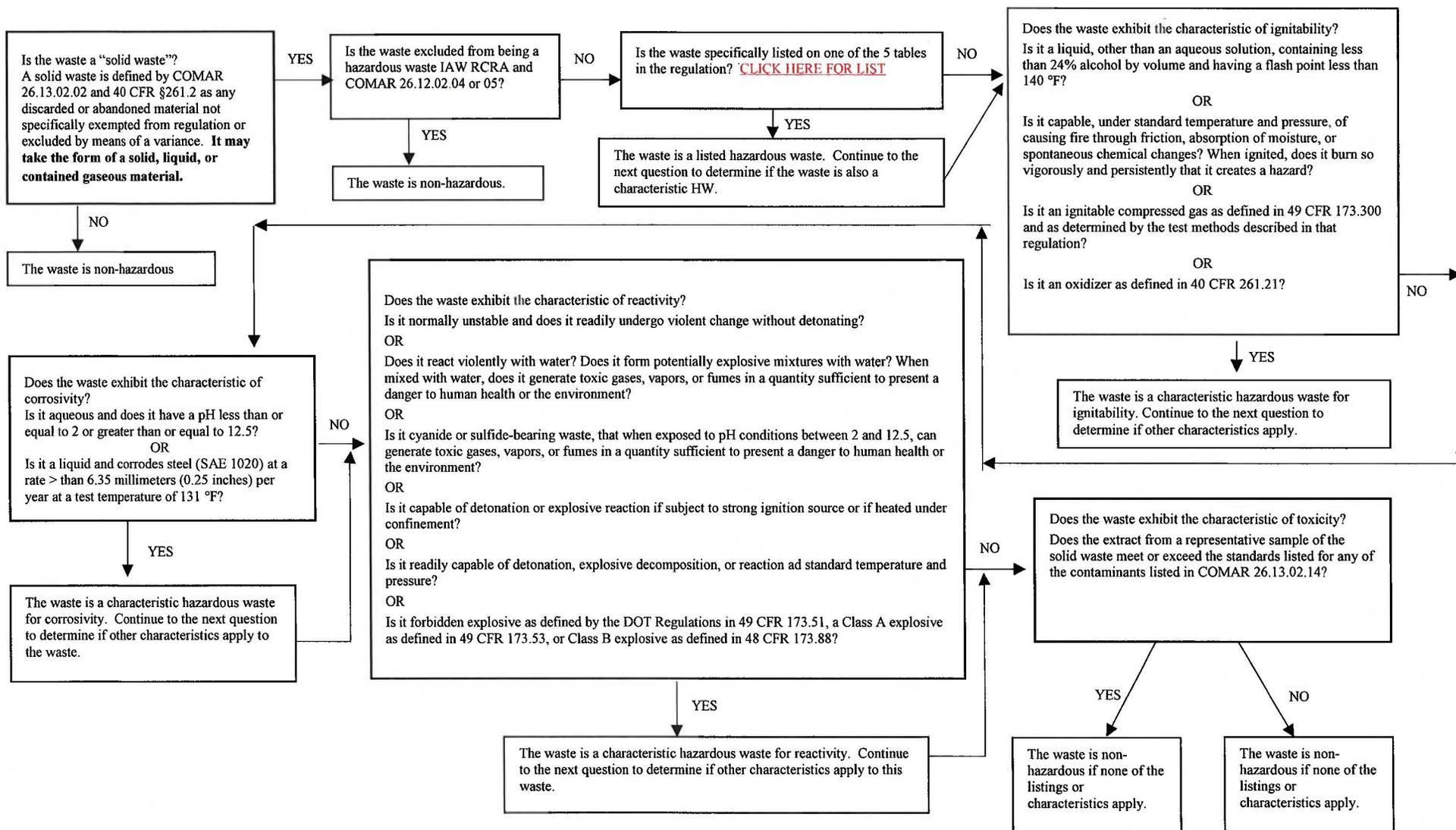
**USUHS HAZARDOUS WASTE
DETERMINATION FORM**

<u>Department</u>	<u>PI Name</u>	<u>Date</u>
<u>Building No.</u>	<u>Room No.</u>	<u>Phone No.</u>
A. Waste Process and description		
Waste description (including chemical/physical description):		
Process generating the waste:		
B. Waste stream determination		
Waste determination based on:		Date:
<input type="checkbox"/> User knowledge (process evaluation, SDS, and interview)		Date:
<input type="checkbox"/> Waste analysis (list all sampling data and attach analytical results)		
Is the waste a DEA regulated controlled substance?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the waste a "solid waste" according to §261.2?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the solid waste excluded under §261.4 or exempt from regulation as hazardous waste?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the waste listed hazardous waste? (Detail rationale (i.e. list chemicals))		
F-Listed per §261.31		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
K-Listed per §261.32		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
P-Listed per §261.33(e)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
U-Listed per §261.33(f)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the waste a characteristic hazardous waste?		
Ignitable per §261.21 (flash point <140°F)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Corrosive per §261.22 (pH ≤2 or ≥12.5) pH is		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reactive per §261.23		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Toxic per §261.24		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C. RCRA Waste Determination:		
<input checked="" type="checkbox"/> Waste is RCRA Hazardous Waste		
<input type="checkbox"/> Waste is nonhazardous waste because		
<input type="checkbox"/> Waste is RCRA exempt because		
<input type="checkbox"/> Used oil		
<input type="checkbox"/> Universal waste		
D. Remarks (i.e. known chemical incompatibilities, additional safety precautions, etc.)		
I, the undersigned, confirm that the items listed above generate a "solid waste" as defined by 40 CFR §261.2; and, are to the best of my knowledge, a hazardous waste as defined by 40 CFR §261.3. I have received the appropriate level of training from EHS.		
Completed By:		Signature:

This form must be kept on file by each laboratory generating hazardous waste for a minimum of 3 years accordance with 40 CFR §262.11. For a listing of all Listed chemicals visit: https://www.epa.gov/sites/production/files/2016-01/documents/hw_listref_sep2012.pdf

APPENDIX 7 – HAZARDOUS WASTE DETERMINATION FLOWCHART

This flowchart should be used in conjunction with Appendix 6 – Hazardous Waste Determination Form. A hazardous waste determination must be accomplished and documented for ALL hazardous waste generated at the University.



APPENDIX 8 – SAA RULES POSTING

**CAUTION
HAZARDOUS WASTE
SATELLITE ACCUMULATION AREA**

STORAGE REQUIREMENTS

CONTAINERS MUST BE:

- Capped at **ALL** times except during transfers
- Compatible with contents
- In good condition
- **LIMIT** the Satellite Accumulation Area waste volume to **NO MORE** than **55 GALLONS** of waste, or **1 KG SOLID (1 QT)** of **“P AND U – LISTED”** waste at any one time
- **SEGREGATE** chemicals by compatibility
- Use secondary containment trays for segregation

****SUBMIT CHEMICAL WASTE PICK-UP REQUEST AS SOON AS LIMIT IS REACHED****

LABELING REQUIREMENTS

- **ALL** Hazardous waste containers **MUST** be conspicuously labeled with the words **“HAZARDOUS WASTE”** and **INDICATE** the **HAZARD(S)** present (i.e. flammable, oxidizer, corrosive, reactive, toxic)
- **Each container MUST** be labeled with the **full name of the chemical contents**
- Abbreviations or chemical formulas are not acceptable

PREPAREDNESS

- ALL SAAs must have access to a: **FIRE ALARM, FIRE EXTINGUISHER, SPILL KIT, COMMUNICATION DEVICE, AND STAFF MUST MAINTAIN ADEQUATE AISLE SPACE**

Chemical Spill – Minor

1. Don appropriate PPE
2. Stop/cover the spill
3. Inform supervisor
4. Contact EHS
5. Coordinate disposal w/ EHS

Chemical Spill – Major

1. Evacuate the area
2. Isolate and prevent entry
3. Call 777
4. Contact EHS

Fire, Explosion, or Spill threatening life or health outside of facility:

1. Pull Fire Alarm
2. Evacuate, call 777 or 911
3. Contact EHS

Know the location of your fire alarm, fire extinguisher, spill kit, emergency shower and emergency exits

Laboratory Safety Manager: _____

EHS Information: Office hours 0700-1600

Tel: (301) 295-9443 After Hours: (301) 295-3038

APPENDIX 9 – WEEKLY SAA CHECKLIST

**Uniformed Services University
Hazardous Waste
Weekly Satellite Accumulation Area Checklist**

MONTH: [Click here to enter text.](#)

Department: [Click here to enter text.](#)
PI: [Click here to enter text.](#)

Building Number: [Click here to enter text.](#)
Phone number: [Click here to enter text.](#)

Room Number: [Click here to enter text.](#)

	Date				
	Time				
	Initials				
1	Waste is accumulated at or near the point of generation and "under the control of the operator."				
2	Container has less than 55 gallons of HW or less than 1 quart/1 kg of acute HW.				
3	Container is in good condition and non-leaking.				
4	Waste is compatible with container that it is stored in.				
5	Only compatible wastes are accumulated in the container, and the container is separated from nearby incompatible materials.				
6	Container is closed except when adding, removing, or consolidating waste, or when temporary venting is necessary.				
7	Container is marked with the words "Hazardous Waste" and an indication of the hazards of the contents.				
8	Is the spill control procedure posted and emergency information entered?				
9	Is the spill control kit readily available and in good condition?				
10	Are personnel familiar with emergency procedures?				
11	Has the door been posted with the appropriate warning placards?				
12	Has a waste determination been made for all HW?				
13	Are employees prohibited from dumping chemicals down the drain?				

**"No" responses indicate deficiencies and must be addressed

Comments and corrective actions taken:

Inspection Completed/Certified by: _____ Date: _____

Weekly Satellite Accumulation Area Checklist
**This form must be kept in file for a minimum of three years. **

APPENDIX 10 – WEEKLY 90-DAY CAA CHECKLIST

**Uniformed Services University
Hazardous Waste
Weekly 90-Day Container Accumulation Area Checklist
EPA ID No.: MD4972611111**

Month []	Year []	USUHS 90-Day Storage Facility Large Quantity Generator Bldg 74 Room 008 and 009	Date [] [] [] [] [] []	Time [] [] [] []	Initials [] [] [] [] [] []
Container Requirements—Part 262, Subpart A					
1	Accumulation start dates are ≤90 days old, unless an extension has been approved by the state per §262.17(b).		Select ▾	Select ▾	Select ▾
2	Container complies with Subpart CC air emission controls. §262.17(a)(1)(i)		Select ▾	Select ▾	Select ▾
3	Container is in good condition and non-leaking. §262.17(a)(1)(ii)		Select ▾	Select ▾	Select ▾
4	Waste is compatible with container that it is stored in. §262.17(a)(1)(iii)		Select ▾	Select ▾	Select ▾
5	Container is closed except when adding or removing waste. §262.17(a)(1)(iv)(A)		Select ▾	Select ▾	Select ▾
6	Container is not stored in a way that would cause it to spill or leak. §262.17(a)(1)(iv)(B)		Select ▾	Select ▾	Select ▾
7	Weekly inspections are conducted. §262.17(a)(1)(v)		Select ▾	Select ▾	Select ▾
8	Ignitable and reactive wastes are stored at least 15 meters (50 feet) from facility's property line (unless a waiver from this requirement is in facility files). §262.17(a)(1)(vi)(A)		Select ▾	Select ▾	Select ▾
9	Ignitable and reactive wastes are separated and protected from sources of ignition or reaction, and "No Smoking" signs are posted. §262.17(a)(1)(vi)(B)		Select ▾	Select ▾	Select ▾
10	Only compatible wastes are accumulated in the container, and the container is separated from nearby incompatible materials. §262.17(a)(1)(vii)		Select ▾	Select ▾	Select ▾
11	Container is marked with the words "Hazardous Waste" and an indication of the hazards of the contents. §262.17(a)(5)(i)(A-B)		Select ▾	Select ▾	Select ▾
12	Container is marked with the accumulation start date. §262.17(a)(5)(i)(C)		Select ▾	Select ▾	Select ▾
13	90-day area complies with all preparedness and prevention requirements. §262.17(a)(6)		Select ▾	Select ▾	Select ▾
Preparedness and Prevention—Part 262, Subpart M					
14	Area is maintained in a manner to prevent fire, explosions, or spills. §262.251		Select ▾	Select ▾	Select ▾
15	Immediate access to communication equipment when handling hazardous waste. §262.252 and 254		Select ▾	Select ▾	Select ▾
17	Fire extinguishers, spill control equipment, and decon equipment & fire suppression. §262.252		Select ▾	Select ▾	Select ▾
19	Testing and maintenance equipment (current inventory posted) §262.253		Select ▾	Select ▾	Select ▾
21	Adequate aisle space. §262.255		Select ▾	Select ▾	Select ▾

**No" responses indicate deficiencies and must be addressed
Comments and corrective actions taken:

[]

Inspection Completed/Certified by: []

Date: []

Weekly 90-Day Container Accumulation Area Checklist
**This form must be kept in file for a minimum of three years. **

APPENDIX 12 – TRAINING REQUIREMENTS

Course	EHS Personnel				Facility Incident Commander or Emergency Manager	HW Generators		All USU Personnel
	Hazardous Waste (HW) Manager	EHS Personnel Assisting w/HW Operations	90-Day Operations Personnel	Assistant Vice President, Health and Safety		Satellite Accumulation Responsible Personnel	Lab Workers and Workplace Personnel	
Advanced Environmental Law CECOS CIN: A-4A-0068 (OPNAV-M 5090.1, Table 3.1)	*			*				
Advanced Environmental Management CECOS CIN: A-4A-0063 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	X			X				
Basic Environmental Law CECOS CIN: A-4A-0058 (OPNAV-M 5090.1, Table 3.1)	*			*				
Emergency Planning and Community Right-to Know Act (EPCRA) and Toxics Release Inventory (TRI) Reporting CECOS CIN: A-4A-0082 or suitable equivalent (OPNAV-M 5090.1, Table 3.1)	X			*				
Environmental Awareness Training (NSAB Training Course provided through EHS Assistant) (OPNAV-M 5090.1, para 3-3.3)	X	X	X	X	X	X	X	X
Environmental Negotiation Workshop CECOS CIN: A-4A-0067 (OPNAV-M 5090.1, Table 3.1)	*			*				
Environmental Protection CECOS CIN: A-4A-0036 (OPNAV-M 5090.1, Table 3-1)	*		*	*				
Hazardous Waste Facility Operators CECOS CIN: A-493-0076 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	X	*	X	*				
Hazardous Waste Operations and Emergency Response (HAZWOPER) 29 CFR 1910.120 (24 hours) or Hazardous Substance Incident Response Management (HSIRM) NAVSAFENVTRACEN: A-493-0077 (OPNAV-M 5090.1, Table 3-1)	X	X	X		X			
Hazardous Waste Operation, Annual Refresher (HAZWOPER) 29 CFR 1910.120 (8 hours) or HSIRM Refresher NAVSAFENVTRACEN: A-493-0083 (OPNAV-M 5090.1, Table 3-1)	X	X	X		X			

Course	EHS Personnel				Facility Incident Commander or Emergency Manager	HW Generators		All USU Personnel
	Hazardous Waste (HW) Manager	EHS Personnel Assisting w/HW Operations	90-Day Operations Personnel	Assistant Vice President, Health and Safety		Satellite Accumulation Responsible Personnel	Lab Workers and Workplace Personnel	
Health and Environmental Risk Communication Workshop CECOS CIN: A-4A-0036 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	*	*	*	*				
Integrated EMS and Compliance Auditing CECOS CIN: A-4A-0079 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	*			*				
Introduction to Hazardous Waste Generation and Handling CECOS CIN: A-493-0080 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	*	*	*			X	*	
Resource Conservation and Recovery Act (RCRA) Hazardous Waste Review CECOS CIN: A-493-0081 or suitable equivalent (OPNAV-M 5090.1, Table 3-1)	X	*	X	*				
Incident Command System 300 (ICS 300)	*	*	*					
Hazardous Waste Manifest/Department of Transportation (DOT) Certification and Recertification USACE: 223 (Initial: 56HWM01A)/429 (refresher: 56HWR01A) or suitable equivalent	X		X					
USU Orientation	X	X	X	X	X	X	X	X
USU HAZCOM and/or CHP and Annual Refresher (29 CFR 1910.1200 and 1450)	X	X	X	X	X	X	X	X
Workplace Specific On-the-Job Training (COMAR 26.13.03.05.E) (40 CFR 265.16)	X	X	X		X	X	X	X
X * Mandatory Training Recommended Training								

