



UNIVERSITY POLICY

SUBJECT: HEALTH AND SAFETY **TITLE:** HAZARDOUS WASTE MANAGEMENT

CODING: 00-01-45-35:00 **ADOPTED:** 07/26/93 **AMENDED:** 04/27/07

LAST REVIEWED: 04/27/07

I. PURPOSE

The University of Medicine and Dentistry of New Jersey (UMDNJ) generates various hazardous chemical waste streams because of laboratory research, health care activities, and other facility operations. This policy is for the management of all hazardous chemical wastes generated University-wide as carried out under the UMDNJ Hazardous Waste Management Program (HWMP). Under this program, Environmental and Occupational Health and Safety Services (EOHSS) has established procedures for all UMDNJ academic, research and health care facilities for:

- waste minimization,
- waste determination, accumulation and storage,
- risk minimization,
- transportation and disposal, and
- training and education.

These procedures are consistent with the requirements of the United States Environmental Protection Agency (USEPA) regulations 40 CFR Parts 260-268 "Resource Conservation and Recovery Act (RCRA)." The policy and procedures are shared with all departments having HWMP responsibility. EOHSS reviews these documents annually and updates them as necessary.

II. ACCOUNTABILITY

Under the direction of the President, the Executive Vice President for Academic and Clinical Affairs, Senior Vice President for Administration, Deans, Vice Presidents and Presidents/CEOs of the Healthcare Units shall ensure compliance with this policy. The Director of EOHSS, under the Office of Emergency Management and Occupational Health and Safety (EMOHS) shall implement this policy and provide guidance and technical assistance to all UMDNJ Departments in complying with the Hazardous Waste Management Program (HWMP).

III. APPLICABILITY

A. The HWMP covers the following chemical waste categories:

1. Ignitable Wastes (flammable and combustible materials that are liquid, solid, or gaseous)
2. Corrosive Wastes (strong acids or bases)
3. Reactive Wastes (explosive or unstable materials)
4. TCLP Wastes (subject testing using the toxicity characteristic leaching procedure)
5. Toxic Wastes (materials that contain heavy metals and other organic constituents)
6. Acute Hazardous Waste (one of 500 chemicals listed by the USEPA)

- B. The HWMP does not cover radioactive or medical waste. Separate policies are in place to address these requirements. Contact the Office of Radiation Safety Services or Campus Radiation Safety Officer for specific departmental policies/procedures on managing radioactive waste.

IV. REFERENCES

- A. Regulated Medical Waste [00-01-45-15:00](#)
- B. NJ Worker and Community Right to Know Act [00-01-45-25:00](#)
- C. Laboratory Safety [00-01-45-55:00](#)
- D. Fire and Life Safety [00-01-45-60:00](#)

V. DEFINITIONS

- A. Typical Hazardous Waste - Common acid, caustic, or solvent; excludes acutely hazardous chemicals, explosive materials, and carcinogens.
- B. Acute Hazard Waste - As defined by the U.S. Environmental Protection Agency (EPA) listed in 40 CFR 261.33.
- C. Mixed Waste - A combination of hazardous chemical waste and radioactive or medical waste.
- D. Waste Generator - Any individual UMDNJ employee (e.g., Researcher, Supervisor, etc.) or group of employees (i.e., Department/Division) who creates a chemical compound or mixture of chemicals determined to be a hazardous waste.
- E. Waste Coordinator - A UMDNJ employee who has completed the appropriate waste management training and is designated by a Principal Investigator (PI) or Director as having responsibility for managing hazardous wastes for a specific department or area.
- F. Accumulation Limit – The amount of time, designated by law, that a chemical waste can be stored on site, prior to disposal.
- G. Satellite Accumulation – An area controlled by a department, where hazardous chemical waste is generated. Once the container is full, the department transfers the waste to EOHSS for storage prior to disposal.
- H. Central Accumulation – A controlled area managed by EOHSS, where chemical waste is stored until disposed through a licensed vendor to a state permitted facility.
- I. Toxicity Characteristic Leaching Procedure (TCLP) - USEPA test method for determining whether a given toxic chemical exhibits a concentration causing it to be considered hazardous.
- J. Large Quantity Generator (LQG) - Fully regulated by USEPA RCRA based on the amount of pounds of waste generated per month.
- K. Small Quantity Generator (SQG) – Partially regulated by USEPA RCRA based on the amount of pounds of waste generated per month.
- L. Conditionally Exempt Small Quantity Generator (CESQG) – Exempt from USEPA RCRA regulations due to minimal quantities of waste generated per month.

VI. POLICY

- A. Requirements:

The University shall comply with all requirements of USEPA, RCRA (40 CFR Parts 260-268) for the appropriate management of chemical waste. In conjunction with these requirements, UMDNJ shall adhere to the following guidelines.

1. Waste Minimization

All activities that generate hazardous chemical waste covered under this program shall be conducted in a manner to minimize unnecessary generation of such hazardous wastes. General principles for waste minimization are:

- a. Eliminating the use of a hazardous substance
- b. Substitution of the hazardous substance with a less or non hazardous material
- c. Reducing the amount of a hazardous material used in a process.

All chemical waste streams shall be considered for recycling, reuse, detoxification, neutralization or otherwise rendered non-hazardous as part of the process generating the waste, whenever possible. Used, expired, or unwanted hazardous materials shall be characterized by hazard category and disposed in a proper and timely manner.

In research laboratory settings, employees should use techniques that require minimal volumes of hazardous materials for analytical procedures, whenever possible.

2. Hazardous Waste Determination (pursuant to 40 CFR §262.11)

The requirements of this program apply to all solid wastes in order to ascertain whether a waste stream is defined as hazardous waste or can be excluded from regulation. This includes materials that have no intended use or reuse.

A chemical waste may be considered hazardous due to a general characteristic, the process by which it was generated or because it is specifically listed by name. UMDNJ uses the systematic approach outlined in the HWMP to decide whether a chemical waste is hazardous. Contact EOHSS for a copy of this program or access the program online at <http://www2.umdj.edu/eohssweb/eohss.htm>

3. Accumulation of Hazardous Waste (pursuant to 40 CFR § 265.16(a))

a. Risk Minimization

All laboratory personnel shall observe safe work practices, outlined in University policy, Laboratory Safety, 00-01-45-55:00, when working with hazardous materials and accumulating hazardous wastes; all other personnel should consult their departmental Standard Operating Procedure (SOP). Hazardous chemicals SHALL NEVER be poured into laboratory or other drains or disposed in the regular trash or a regulated medical waste "red bag" (see University policy, Regulated Medical Waste, 00-01-45-15:00).

i. Segregation

Hazardous chemicals shall be used, stored and handled in accordance with requirements of New Jersey Uniform Fire Code N.J.A.C. Incompatible waste chemicals shall not be mixed in the same waste container (consult EOHSS for guidance, if necessary).

ii. Inspections

Personnel responsible for hazardous chemical waste management in their department shall inspect satellite accumulation areas weekly. A logbook is not required; however, the HWMP outlines the inspection process.

iii. Emergency Response

EOHSS provides a system of 24-hour on-call emergency response coordinators for all campus locations. All UMDNJ campuses have developed and maintain a full contingency plan. This emergency response system is activated by calling the campus Public Safety department.

Departmental personnel shall follow their campus-specific Emergency Response Guide in the event of a spill or release of a hazardous chemical substance or waste. The Guide is provided by EOHSS and is posted in all areas where hazardous materials are present. EOHSS reviews the Guide annually and updates it as necessary.

iv. Inventory Control Measures

EOHSS maintains a database of the chemical inventories and conducts annual inventories to keep them current. Departments must take the steps necessary to ensure proper and timely disposal of old, expired or unwanted chemicals.

- a) Keep chemical purchases to a minimum. Purchase through General Stores whenever possible.
- b) Employ elimination, substitution, and source reduction procedures (refer to IV.B.).
- c) Retain a chemical inventory for each area of responsibility (as required by the New Jersey Worker Right to Know Law). Departments must work with EOHSS to establish and maintain their chemical inventory.
- d) Ensure that all containers have a label that meets the New Jersey Worker Right to Know Law or Hazard Communication Standard requirements. (Refer to policy 00-01-45-25:00 for labeling requirements.)
- e) Date reactive materials and materials with expiration dates when received and opened to ensure proper disposal before the expiration date.
- f) Redistribute excess chemicals to colleagues. Consult the HWMP or contact EOHSS for assistance.
- g) Adhere to laboratory vacating procedures when relocating, leaving or renovating to ensure an area is free of old chemicals and properly decommissioned.

b. Container Management (pursuant to 40 CFR Part 265)

Whenever hazardous chemical wastes are placed into a container for disposal, the generator of the waste must immediately label the container with the words "Hazardous Waste" using labels provided by the Department of EOHSS. The generator of the waste must ensure that all waste containers are kept closed unless adding or removing waste. When filled, the generator must date the container label with the current date and arraign for EOHSS to move the container to the Central Accumulation Area (CAA) for that building within 3 days. Containers in the Satellite Accumulation Area (SAA) shall be inspected by the generator at least weekly for leakage, deterioration, and damaged labels. As stated previously, the HWMP outlines the inspection process. (EOHSS manages all CAA throughout the UMDNJ campuses and maintains an electronic database of all SAAs throughout the state.)

- c. Empty Containers
 - i. Typical hazardous wastes - the container must be completely emptied through pouring, etc. and no liquid shall remain in the container.
 - ii. Acute hazardous wastes - the container must be completely emptied and triple rinsed to remove residual liquid and vapor. The rinse water shall be contained and prepared for disposal as hazardous waste.
 - iii. Empty compressed gas cylinders shall be returned to the vendor or owner for re-use or disposal whenever possible.
- 4. Requests for Hazardous Waste Disposal
 - a. A "Chemical Waste Disposal Request" form (available directly from EOHSS, or online <http://www2.umdnj.edu/eohssweb/publications/wastedisposal.htm>) listing the chemical name/constituents and percentage for each chemical added to the container, must be maintained for all hazardous waste containers.
 - b. Waste generators shall fax a photocopy or email a completed disposal request form approximately one week before the container is full.
 - c. Once EOHSS confirms a drop-off date, the generator shall transport the waste along with the original Disposal Request form for each container to the CAA using a wheeled cart with raised sides at the time scheduled by EOHSS.
- 5. Budgetary Considerations
 - a. Analytical costs for determining unknown ingredients in unlabeled or improperly labeled containers will be the responsibility of the department generating the waste material. EOHSS will work with the department to conduct unknown testing of hazardous waste streams.
 - b. Disposal costs for the following atypical waste types shall be charged directly to the department generating the waste. (EOHSS will work with the department to achieve this through the Inter Departmental Transfer or IDT process.)
 - i. Containers of hazardous chemicals earmarked for disposal due to a laboratory closure;
 - ii. Any amount of a potentially explosive, peroxide forming compound whose expiration date has passed;
 - iii. Certain highly toxic or otherwise highly hazardous materials essential to a special research project (e.g., PCB wastes, mixed wastes);
 - iv. Quantities of non-lab materials (e.g., cleaning materials, dental applications, pharmaceuticals, etc.) that have accumulated over time and cannot be disposed of as non-hazardous solid waste; and
 - v. Hazardous chemical spills that require the assistance of an outside contractor to cleanup
- 6. Storage of Wastes in Central Waste Accumulation Areas (CAA)
 - a. EOHSS has jurisdiction over all CAAs University-wide and manages all activities conducted in and associated with these areas.
 - b. All chemical wastes shall be stored in a safe manner. The containers shall be leak free, sturdy, tightly closed, and in good condition. Waste containers shall be stored so that each label is visible and each container is available for

inspection. EOHSS shall inspect CAAs weekly and keep a log of all inspections for a minimum of three years. Properly trained EOHSS staff shall conduct all activities in the CAA.

- c. During all activities within the CAA, a minimum of one means of communication shall be available to summon assistance in case of emergency. This may be achieved via telephone, two-way radio, and/or voice contact.
- d. CAAs shall be outfitted with the following equipment, including but not limited to:
 - i. Standard or intrinsically safe electrical features
 - ii. General ventilation
 - iii. Local exhaust ventilation
 - iv. Impervious flooring
 - v. Secondary containment
 - vi. Fire suppression
 - vii. Portable fire extinguisher
 - viii. Fire alarm system
 - ix. Standard or spark proof telephone
 - x. Shower and eye wash
 - xi. Polycoated storage shelves
 - xii. Flammable storage cabinets
 - xiii. Bench top and sink

7. Disposal of Wastes via Licensed Disposal Vendor (pursuant to CFR 40 §262.12(c))

- a. No wastes shall be stored in the CAA beyond the waste accumulation limited allowed by law (90 days for Large Quantity Generator - LQG; 180 days for Small Quantity Generator – SQG). This will be ensured by EOHSS and tracked using the container full date on the UMDNJ Hazardous Waste label.
- b. EOHSS shall contact the licensed transportation/disposal vendor under contract with UMDNJ to arrange pick-up and disposal of wastes from the CAA to ensure that the designated waste accumulation limit is not exceeded. The vendor shall be responsible for packing, labeling and shipping all wastes to a designated treatment, storage, and disposal facility (TSDF) with the appropriate EPA ID Number. The vendor shall also prepare appropriate hazardous waste manifests and "Land Ban" forms for the EOHSS representative's review.
- c. EOHSS shall inspect all manifests for accuracy and ensure that the transportation vehicle is properly placarded before leaving the premises. Hazardous waste manifests and all other transportation and disposal related documents shall only be signed by an EOHSS representative.
- d. Appropriate copies of the manifest shall be forwarded to the origin and destination state. Generator copies of the Hazardous Waste Manifest and all associated records shall be retained for a period not less than three years. The disposal vendor shall be notified by telephone if the TSD copy of the manifest is not returned to the Waste Manager within 30 days from shipment, as required by RCRA regulations.

8. Mandatory Training of Personnel (pursuant to 40 CFR § 265.16)

- a. EOHSS shall provide training for all UMDNJ staff with hazardous waste related duties. All such staff will receive instruction consistent with the federal RCRA Standard, commensurate with their job description, as required by USEPA. Supervisors are required to ensure that appropriate staff participate in the training. A copy of the documentation of participation should be kept with individual's personnel record. Persons coordinating the collection of hazardous

waste and/or dropping off waste chemicals to the CAA will be trained as follows:

- i. EOHSS will provide initial and annual refresher training to all LQG site personnel.
 - ii. EOHSS will provide basic initial and annual refresher training for all SQG site personnel.
 - iii. Conditionally Exempt SQG sites do not require personnel training; however, EOHSS will provide introductory training to all such personnel.
- b. EOHSS staff acting as campus waste managers will be trained as required by 40 CFR Subparts B, C, and D.
 - c. EOHSS and each department will retain a copy of all such training records. These records are transferable throughout UMDNJ. Employee training records will be maintained for the life of the facility. Training records of former employees will be kept for three years. EOHSS and each individual department will retain these records for the prescribed time.

B. Responsibilities:

The Hazardous Waste Management Program specifies areas of responsibility for Waste Generators and personnel responsible for hazardous waste management for their department (including PI, Laboratory Managers and Supervisors, Laboratory Technicians, Physical Plant, Support Services Managers and Supervisors), and EOHSS staff.

Personnel responsible for hazardous waste management for their department shall be appointed by the PI or Director of the respective department or area. All UMDNJ employees generating hazardous chemical waste shall comply with the provisions of the UMDNJ Hazardous Waste Management Program.

C. Enforcement:

1. Compliance with the provisions of the USEPA RCRA regulations and the guidelines set forth in this policy by all faculty, staff and administration is mandatory. Violations of the provisions of RCRA may result in civil or criminal actions against an individual or the University.
2. Noncompliance will result in EOHSS issuing a Notice to Comply, requiring corrective actions on the part of the violator.
3. Any fines for violations shall be paid by the department, whose actions incurred the violation.
4. Policy violations will result in appropriate disciplinary action, up to and including termination, and unfavorable performance appraisals.

By Direction of the President:

Senior Vice President for Administration