

# **CHEMICAL WASTE MANAGEMENT PROGRAM**

**Summary:** The Temple University Chemical Waste Management Program (CWMP) provides cost-effective chemical and universal waste management to comply with Federal, State, and local laws and regulations.

## **1. Program Description**

Temple University (TU) Environmental Health & Radiation Safety (EHRS) has developed the Chemical Waste Management Program (CWMP) to develop and implement policies and procedures for the safe, environmentally sound, and compliant management of chemical waste generated on any Temple university campus in accordance with all local, state, and federal regulations.

## **2. Scope**

This Program applies to all students, faculty, staff, visitors, and contractors that participate in any activity that generates chemical waste of any kind, including but not limited to laboratory, research, operations, maintenance, grounds keeping and academic instruction at Temple University.

## **3. Responsibilities**

**3.1. Waste Generators** are responsible for:

- Participating in training programs to gain the necessary skills and knowledge to appropriately identify, label, segregate, store and dispose of regulated chemical waste.
- Adhering to the procedures and guidelines provided in this program; and
- Ensuring that all regulated chemical waste that cannot be reused or recycled are discarded in compliance with the provisions of the most recent edition of the TU Chemical Waste Management Manual and associated guidance documents.

**3.2. Supervisors / Principal Investigator (PI) / Lab Managers** are responsible for:

- Ensuring that all personnel and/or contractors working under their direction are properly trained and adhere to the regulated chemical waste management concepts and procedures provided in this program as well as any departmental internal procedures.

- Ensuring that all audit findings are immediately corrected and reported back to EHRS.
- Ensuring that all waste generated that cannot be reused or recycled are discarded in compliance with the provisions of the most recent edition of the TU Chemical Waste Management Manual and associated guidance documents.

### **3.3. Department Directors / Chairs / Deans**

- Responsible for ensuring that Supervisors, PIs, and Managers comply with the concepts and procedures provided in this program.

### **3.4. Environmental Health & Radiation Safety (EHRS) is responsible for:**

- Developing and implementing the Chemical Waste Management Program.
- Providing training and/or technical guidance on waste management requirements and procedures to all affected waste generators.
- Ensuring regulatory compliance and acting as the University liaison for regulatory agencies that oversee chemical waste related activities and/or conduct on-site inspections.
- Maintaining chemical waste contracts with vendors; and
- Facilitating chemical waste shipments.

## **4. Program Components**

### **4.1. General Requirements**

Waste materials are typically divided into four broad categories: biological, chemical, general refuse, and radiological. Each of these waste types has unique handling and disposal protocols based on regulations and best management practices.

General refuse is not covered by this Program except for certain non-regulated chemicals that require special handling to avoid impermissible or unsafe disposal.

Radiological and biological waste are covered in the Radiation Safety Manual and the Biosafety Manual respectively and are therefore not covered by this Program.

The U.S. Drug Enforcement Agency (DEA) regulates Schedule I-V controlled substances according to 21 CFR 1300-1321. Compliant recordkeeping and disposal of these materials is the responsibility of the authorized registrant. Registrants must be aware that certain controlled substances are also regulated as hazardous waste under RCRA. EHRS can provide guidance but does not have the authority to provide disposal for controlled substances in accordance

with DEA requirements. See the Controlled Substance Program for Researchers (Non-Practitioners).

The primary focus of this Program is on chemical waste handling and disposal. Chemical waste is divided into five types based on regulatory requirements:

- **Hazardous Waste** as defined in 40 CFR 261, incorporated by reference in 25 Pa Code 261a
- **Universal Waste** as defined in 40 CFR 273, incorporated by reference in 25 Pa Code 266b
- **Polychlorinated biphenyl (PCB) Waste** as defined in 40 CFR 761, incorporated by reference in 25 Pa Code 288.301.
- **Electronic Waste**; and
- **Non-regulated waste** with special handling requirements; this class includes materials that are not regulated, but present safety or logistical concerns due to their physical and/or health characteristics.

*Detailed guidance for chemical waste management is published in the Temple University Chemical Waste Management Guide and associated guidance documents. The most recent version of the guide and associated guidance documents can be found online at:*

<https://campusoperations.temple.edu/ehrs/chemical-safety/chemical-safety-programs/chemical-waste-management-program>

#### **4.2. Satellite Accumulation Areas (SAA)**

Satellite Accumulation Areas (SAA) are managed in accordance with all applicable EPA and PADEP regulations. Each area is required to be labeled as a “Satellite Accumulation Area”. Waste chemicals are stored in secondary containment bins to collect spills and prevent mixing of incompatible chemicals. Details on the management of accumulation areas can be found in the EHRS Chemical Waste Management Guide (see References below). A listing of SAA’s is maintained and available from EHRS.

#### **4.3. Central Accumulation Areas (CAA)**

Chemical waste that is collected from the University by EHRS may be stored, consolidated, and packaged for disposal at a central accumulation area. This location is a secure area that is marked with applicable signs indicating the hazard present and is inspected weekly (or when required by law). In the event of a spill or accidental release, spill kits are available onsite to

facilitate a timely response and cleanup. A listing of CAA's is maintained and available from EHRS.

#### **4.4. Hazardous Materials Emergency Response Plan (HAZMAT-ERP)**

The Hazardous Materials Emergency Response Plan is established to formalize the University's response to and mitigation of incidents involving hazardous materials and chemical waste. The plan is designed to minimize hazards to human health, the environment and property. The plan contains detailed emergency information and is reviewed annually and updated, as necessary. Copies of the plan and applicable Quick Reference Guides (QRG) are available from EHRS.

#### **4.5. Training**

EHRS personnel, trained in chemical waste management procedures, provide classroom, virtual or online instruction to incoming employees that will be performing waste handling functions to ensure that employees understand their roles and responsibilities to comply with applicable chemical waste management regulations. Refresher training is also required annually.

Additional training is required for EHRS staff involved in the direct management and disposal of chemical waste. Additional training includes 40-hour HAZWOPER, 8-hour DOT/RCRA hazardous materials training and annual refresher for each.

It is the responsibility of supervisors, and/or principal investigators in the case of laboratories, to ensure that proper site-specific on-the-job training is completed and includes standard operating procedures for chemical waste handling and emergencies.

#### **4.6. Chemical Waste Minimization and Pollution Prevention Program**

The University has a written Chemical Waste Minimization and Pollution Prevention Program that describes methods to reduce the volume of chemical waste generated. The program is reviewed annually, updated as necessary, and is available from EHRS.

#### **4.7. Recordkeeping**

The following records are maintained by EHRS: all permits, licenses, hazardous waste shipping documents, inspection logs, training records (except site specific), and regulatory agency correspondence. These documents are kept on file for a minimum of three years.

Additional records may be maintained by other University departments who oversee specific chemical waste management activities not directly managed by EHRS.

## 5. REFERENCES

- US DEA Controlled Substance Regulations 21 CFR 1300-1321
- US EPA Resource Conservation and Recovery Act (RCRA) Regulations 40 CFR 239-282
- US EPA Toxic Substance Control Act (TSCA) Regulations 40 CFR 761
- Pennsylvania Code Title Chapters 260-270 Hazardous Waste Management Regulations
- Temple University Chemical Waste Minimization and Pollution Prevention Program
- Temple University Chemical Waste Management Guide

## APPENDIX A: Glossary

**Best Management Practices:** Methods or techniques found to be the most effective and practical means in achieving an objective (such as preventing or minimizing pollution) while making the optimum use of their resources.

**Biological Waste:** Material that contains or may contain pathogens that can cause disease in human or animals, or poses any other risk requiring autoclave treatment or disinfection before final disposal.

**Central Accumulation Area (CAA):** Site designated by EHRS to be used for the accumulation of chemical waste prior to shipment to permitted disposal facilities.

**CFR:** Code of Federal Regulations

**DEA:** Drug Enforcement Agency

**Electronic Waste:** Includes electrical or battery-operated devices, or appliances such as computers or lab equipment that require recycling or special disposal due to the presence of toxic metals or other contaminants.

**EPA:** Environmental Protection Agency

**Hazardous Material:** Any substance regulated by the Department of Transportation because the material poses an unreasonable risk to health, safety, and property during transport.

**Hazardous Waste:** listed or characteristic waste regulated for handling and disposal as defined by the EPA Resource Conservation & Recovery Act.

**Non-Hazardous Waste:** Waste that does not meet the definition of a RCRA hazardous waste; but may still be regulated as a hazardous material under Department of Transportation Regulation during transportation.

**Non-Regulated Waste:** Waste that does not meet the definition of a RCRA hazardous waste and does not meet the definition of a Department of Transportation hazardous materials during transportation.

**PADEP:** Pennsylvania Department of Environmental Protection

**Polychlorinated Biphenyls (PCB) Waste:** Waste contaminated with polychlorinated biphenyls more than 50 parts per million.

**RCRA:** Resource Conservation and Recovery Act

**Satellite Accumulation Area (SAA):** Satellite Accumulation Area (SAA) is the name given to the location where chemical waste are generated and stored prior to transport to a campus Central Accumulation Area (CAA) or to a permitted off-site destination.

**TSCA:** Toxic Substance Control Act

**Universal Waste:** Certain waste that meet the definition of a hazardous waste but have modified regulatory requirements that encourage recycling. Includes batteries, fluorescent light bulbs, mercury containing equipment and certain pesticides.

**Waste Chemical:** Any expired, spent, or unwanted chemical or chemical mixture, including hazardous and non-hazardous wastes.

**Waste Minimization:** Procedures to minimize the volume and/or toxicity of hazardous waste produced at the University.