

WASTE MANAGEMENT

STANDARD

OPERATING

PROCEDURES

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1. SCOPE

This program is to ensure that West Virginia University (WVU) is in compliance with federal, state, and local waste regulations.

As an employer, it is the responsibility of WVU to protect all faculty, staff, students, and visitors from any exposures while at WVU. No employee shall engage in, or be required to perform, any task involving waste which is determined to be unsafe or unreasonably hazardous.

Acting as the representative of the WVU President, the Director of Environmental Health and Safety (EHS) is the overall coordinator of the University's program. The Hazardous Materials Manager for EHS will act as program manager.

2. PURPOSE

This program is to ensure the proper handling and legal disposal of all waste from all WVU facilities. This program is an aide to summarize the applicable requirements of many different waste types and regulations, but should not be considered all inclusive of every waste regulation. As new regulations are promulgated and/or other facets of waste become part of this program, updates will be made. **This Program does not include the regulations for Office Trash, Food Garbage, Radioactive, Asbestos, or Biological wastes, since these are currently managed under other programs.**

Trash and Garbage wastes:	Contact FM Grounds & Labor at 293-6022
Sewage and Manure wastes:	Contact EHS Public Health at 293-5785
Radiation waste:	Contact Radiation Safety at 293-3413
Asbestos waste:	Contact EHS Industrial Hygiene at 293-3106
Biological waste:	Contact Biohazard Safety at 293-7157

All requirements of the WVU Waste Management Program will apply to the following:

- A. Any liquid, solid, semi-solid, or gaseous substance defined as hazardous waste.
- B. Waste which consists of or contains a hazardous material.
- C. Waste which consists of or contains a toxic substance.
- D. A waste mixture formed by mixing any waste or substance with a hazardous waste.
- E. A hazardous sludge, residue, concentrate, or ash originating from a hazardous waste.
- F. Hazardous material disposed of to land, accidentally discharged onto land or accidentally spilled onto land.
- G. Any waste contaminated with hazardous, toxic, radioactive, or biological waste.
- H. Any waste or waste-like substance that is defined as an industrial waste or special waste due to its inherent properties, volume, condition, or potential harm to people or the environment.
- I. Any material or article declared "universal waste" as indicated by 40 CFR 261.9
- J. Used Oil

3. DEFINITIONS

Abandoned – Accumulated or stored instead of being disposed

Acutely Hazardous Waste – Those specific wastes identified in 40 CFR 261.33(e) commonly referred to as “P-Listed” (i.e. cyanides, arsenics, osmium oxide) and the “H” coded dioxin-containing wastes in 40 CFR 261.31. See Attachment. This list is also available in Excel format at <http://ehs.wvu.edu/>

Asbestos Waste – asbestos containing waste which contains greater than (1%) asbestos by weight

Biological Waste – Infectious agents, pathological wastes, cell cultures, stocks and isolates, human or animal blood, blood contaminated material and/or sharps.

Central Accumulation Area (CAA) – An area where waste is accumulated that is not the original generation site or a hazardous waste accumulation area with hazardous waste accumulating in units subject to either §262.16 (for small quantity generators) or §262.17 (for large quantity generators). These were formerly 90 Day Areas or 180 Day Areas.

Commercial Chemical Product (CCP) – A chemical substance which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. (Example: Acetone, Phenol, or Sodium Cyanide in original, unused form or container) See Section 5.2.3 - P listed and U listed wastes. This does not include manufactured articles that simply contain these listed chemicals in which they are not pure, technical grade, or the sole active ingredient. (Example: many solutions contain Sodium Azide as a preservative, but the solution is not pure Sodium Azide, therefore it is not a listed waste)

Conditionally Exempt Small Quantity Generator (CESQG) – A generator who generates less than 100 kilograms of hazardous waste and less than 1 kilogram of acutely hazardous waste in a calendar month.

Container – Any portable device, in which a material is stored, transported, treated, disposed of, or otherwise handled.

DEP – The West Virginia Department of Environmental Protection

Discarded – Any material that is abandoned, recycled, or inherently waste-like

Disposal – The discharge, discarding, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste on or into any land or water so that such solid waste or hazardous waste may enter the environment or be emitted into the air or discharged into any waters.

EHS – West Virginia University, Environmental Health and Safety Office. Contact us at (304) 293-3792 or www.ehs.wvu.edu

EPA – The United States Environmental Protection Agency

EPA Identification Number – Number assigned by the Environmental Protection Agency to each hazardous waste generator site; transporter; and treatment, storage, or disposal facility.

Food Garbage – Waste from the preparation or consumption of food products.

Generator – Any person whose act or process produces hazardous waste characterized or listed in 40 CFR 261. Any researcher, lab assistant, principal investigator, CHO, or authorized person having responsibility for and proper training in the handling, use, storage, and disposal of hazardous chemicals and chemical processes. Also referred to as “Lab Worker”

Handling – The transportation from one place to another, loading, unloading, pumping, or packaging of waste.

Hazardous Waste – As defined in 40 CFR 261 Subpart C & D or Toxicity Characteristic Leaching Procedure (TCLP) as defined in Part 261. A hazardous waste is any “discarded” waste that can cause or contribute to an increase in mortality or serious illness, or threaten human health or the environment if mismanaged. As a practical matter, a substance is regulated as a hazardous waste if it is specifically listed as such in State or Federal regulations, is mixed with or derived from one of those “listed” wastes, or exhibits certain characteristics defined in 40 CFR 261. The characteristics of hazardous waste include ignitability, corrosivity (strong acids or caustics), reactivity (explosives or items which can release toxic gases when mixed with water), and toxicity (substances which will release certain levels of specific toxics when subjected to a test simulating conditions in a landfill).

Hazardous Waste Manifest – The form to accompany all shipments of hazardous waste as defined by 40 CFR 260.10.

Incompatible Waste – A hazardous waste which is unsuitable for (1) placement in a particular device or facility because it may cause corrosion or decay of containment materials or (2) commingling with another waste or material under uncontrolled conditions potentially producing heat, pressure, fire, explosion, violent reaction, toxic dust, mist, fumes, or gases.

Laboratory – A workplace where relatively small quantities of hazardous chemicals are used on a non-production basis.

Large Quantity Generator (LQG) – A generator who generates greater than or equal to 1,000 kilograms (2200 lbs.) of non-acute hazardous waste; or greater than 1 kilogram (2.2 lbs.) of acute hazardous waste in a calendar month.

Land Disposal Restrictions (LDR) – The criteria wastes are required to meet before disposition can occur to earthen surfaces. 40 CFR Part 268 Subpart B & C.

Office Trash – Waste from the normal operations in an office environment such as paper and plastics.

Parts Per Million (PPM) – Also written as mg/L (milligrams per liter)

Radioactive Waste – waste that is solid, liquid, or gas, which emits ionizing radiation spontaneously

RCRA – Resource Conservation and Recovery Act.

Satellite Accumulation Area (SAA) – A location at or near the point of generation where wastes initially accumulate under the control of the operator of the process generating the waste. Location must comply with the requirements specified under ~~40 CFR 262.34(c)~~.

Secondary Containment – A container used to accumulate overflow or spillage from the primary waste container or tank. Can be a pan or other leak-proof container that will collect spills.

Small Quantity Generator (SQG) – A generator who generates less than 1,000 kilograms of hazardous waste and less than 1 kilogram of acutely hazardous waste in a calendar month.

Solid Waste – Herein referred to as “Waste.” As defined in 40 CFR 261.2- any garbage, refuse, trash, or material that is inherently waste-like, not currently needed, or is being stored or accumulated instead of being disposed, or any discarded material that is not excluded by 262.4(a) or that is not excluded by variance under 260.30 and 260.31. Its physical state can be solid, semi-solid, liquid, or contained gaseous material.

Special Waste – A subset of solid waste that is not hazardous waste; however, it is managed in a similar way due to potential for harm to humans or the environment or disposal concerns or restrictions. Examples include glycol solutions, ethidium bromide, formalin, etc.

TCLP – Toxicity Characteristic Leaching Procedure

Treatment – Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste; or so as to recover energy or material resources from the waste; or so as to render such waste non-hazardous or less hazardous; safer to transport, store, or dispose of; or amenable for recover amenable for storage; or reduced in volume.

Universal Waste – As defined in 40 CFR 261.9 (i.e., nickel-cadmium batteries, lead-acid batteries, mercury containing equipment, fluorescent lamps).

Waste Stream – A waste material generated either one time or routinely at a single generating facility with physical characteristics and chemical composition that does not vary significantly from shipment to shipment.

4. ROLES & RESPONSIBILITIES

4.1 Environmental Health & Safety (EHS)

Develop, implement, and maintain the Waste Management Program in compliance with federal, state, and local requirements applicable to Hazardous Waste CESQG, SQG, and LQG regulations.

Manage notifications of waste activity to EPA and/or WV DEP.

Represent West Virginia University during regulatory or compliance inspections pertaining to hazardous waste and respond to any deficiencies, if required.

Assist departments in complying with the program by providing them with waste consultation, waste minimization concepts, and proper containers for chemical waste collection, on an as needed basis.

Assist with waste determinations, especially when TCLP or other sampling is needed.

Remove properly labeled, containerized, and sealed hazardous waste from generation locations (i.e. laboratories, shops, maintenance areas).

Provide off-site hazardous waste disposal to all generators at WVU via Hazardous Waste Contractor.

Assist departments with the redistribution of useable materials.

Periodically audit facilities for hazardous waste management compliance.

Maintain all documentation required by the EPA regarding waste determinations, inspections, contingency plans, manifests, LDR, transportation, storage, and final disposal.

Prepare, submit, and maintain Annual Reports for DEP fee assessments.

Prepare, submit, and maintain Biennial Waste Reports for large quantity generator sites.

Develop contingency plans for large quantity generator sites with assistance from effected departments.

Offer hazardous waste management training to appropriate faculty, staff, and students.

4.2 Departments / Units

Follow procedures to ensure effective compliance with the Waste Management Program.

Consult with EH&S prior to implementation of department specific procedures to prevent confusion or compliance issues.

Provide Environmental Health and Safety with notification prior to implementing changes that increase or reduce waste streams.

Ensure that all appropriate personnel strictly adhere to the Waste Management Program.

Ensure that employees working with hazardous waste attend initial training and annual refresher on the Waste Management Program and emergency procedures.

Maintain training records for current and past employees.

Maintain RCRA contingency plan on site, and available for inspection.

Comply with Federal mandates that require hazardous waste minimization.

Ensure that all departing personnel strictly adhere to the Laboratory Closeout Policy.

4.3 Generators (Faculty, Staff, Student, Researcher, etc.)

Understand the hazards of the chemicals you work with. Make informed decisions based on that understanding.

Complete training on proper waste management.

Comply with hazardous materials procedures and protocols, whether written or oral, while performing assigned duties.

Become familiar and comply with West Virginia University's Waste Management Program.

5. PROCEDURE

5.1 Waste

5.1.1 What is a Waste?

Waste has a very long and broad definition. If it is a waste, a waste determination must be completed to define what type of waste it is. A proper determination must be made initially as many requirements are different depending on the waste type.

Note: Many household wastes are not subject to the regulations that apply to commercial, educational, and industrial settings; however, while at WVU, these regulations do apply and are enforced.

At WVU most waste is defined by this condensed definition:

A waste is any garbage, refuse, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities.

Discarded material is any material that is abandoned, recycled, or inherently waste-like.

Abandoned means accumulated or stored instead of being disposed.

5.1.2 Waste Determination

Every waste must have a Written Waste Determination completed in order to properly manage the waste during disposal. This is similar to the decision one must make when disposing of simple office trash; such as, paper and plastics go into recycling and food goes into the trash. In order to complete the written waste determination, you must be familiar with what each type of waste encompasses and the process that generated the waste. Written waste determinations must be maintained for 3 years after the last shipment of waste. At minimum the following sections should be followed to make a waste determination.

5.2 Hazardous Waste

5.2.1 Determining Hazardous Waste Classification

In order to decide whether you have a hazardous waste, you must determine whether your waste has certain characteristics (40 CFR 261 Subpart C) or appears on one of several lists (40 CFR 261 Subpart D) found in the regulations. If your waste does not meet these criteria and is not a hazardous waste, please confirm it is not regulated as another type of waste to determine if it is appropriate to dispose of your waste down the sink or in regular trash.

Although some waste you generate may not be a hazardous waste, it still may be harmful or cause adverse effects to health, safety, or the environment; therefore, it may be necessary to manage it as another type of waste to minimize adverse effects or to comply with other regulations.

A waste that meets any of the definitions or requirements below IS a Hazardous Waste.

Treatment of a waste so that this regulation does not apply is prohibited. It is a felony to treat hazardous waste without a Permit, and WVU has no Permits.

5.2.2 Characteristic Waste (40 CFR 261 Subpart C)

- A. **Ignitability** – Wastes that exhibit the characteristic of ignitability. Also included are:
- Oxidizers: any chemical that may cause or enhance the combustion or other materials.
 - Solids: capable of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
 - Liquids: exhibit a closed cup flashpoint less than 140°F (60°C).
 - Gasses: ignitable or oxidizing compressed gas.
- (Examples: Sodium Nitrate, Acetone, Xylenes, Gasoline, Potassium Permanganate, Chlorine, Methane)
- B. **Corrosivity** – Wastes that exhibit the characteristic of corrosivity. Corrosive wastes are aqueous solutions having a pH of less than or equal to 2.0 or greater than or equal to 12.5, or are liquids that corrode steel at greater than 0.25 inch per year.
- (Examples: sodium hydroxide, potassium hydroxide, hydrochloric acid, sulfuric acid, formic acid, ferric chloride)
- C. **Reactivity** – Wastes that exhibit the characteristic of reactivity, including unstable compounds, mixtures that react violently or form explosive gases with the addition of water, cyanides or sulfides that produce toxic gases or vapors when mixed with (or when exposed to) pH below 2.0 or above 12.5, substances that are capable of detonation or explosion at standard temperature and pressure, or when irritated or heated, or explosives as defined by the US Department of Transportation as a hazard 1.1 thru 1.6 and explosives forbidden from shipment. (Examples: Azides, Picric Acid, Perchloric Acid (60%), old chemicals that may have formed peroxides (see Time Sensitive Materials and Peroxide Formers), aerosol cans, fireworks, blasting caps).

D. Toxicity – Wastes exhibiting the toxicity characteristic. Toxic hazardous waste is usually identified as heavy metals or restricted pesticides. For some materials, hazardous waste determinations are made by TCLP analysis, the Toxicity Characteristic Leaching Procedure. If the TCLP analysis has any values at or above the regulated level, the waste is hazardous for the toxicity characteristic as defined in 40 CFR 261.24. Notice these values are in mg/L, also known as PPM. **See Table Below**

Contaminant	CAS No.	Regulated Level (mg/L)
Arsenic	7440-38-2	5.00
Barium	7440-39-3	100.00
Benzene	71-43-2	0.50
Cadmium	7440-43-9	1.00
Carbon tetrachloride	56-23-5	0.50
Chlordane	57-74-9	0.03
Chlorobenzene	108-90-7	100.00
Chloroform	67-66-3	6.00
Chromium	7440-47-3	5.00
o-Cresol	95-48-7	200.00
m-Cresol	108-39-4	200.00
p-Cresol	106-44-5	200.00
Cresol		200.00
2,4-D	94-75-7	10.00
1,4-Dichlorobenzene	106-46-7	7.50
1,2-Dichloroethane	107-06-2	0.50
1,1-Dichloroethylene	75-35-4	0.70
2,4-Dinitrotoluene	121-14-2	0.13
Endrin	72-20-8	0.02
Heptachlor	76-44-8	0.01

Contaminant	CAS No.	Regulated Level (mg/L)
Hexachlorobenzene	118-74-1	0.13
Hexachlorobutadiene	87-68-3	0.50
Hexachloroethane	67-72-1	3.00
Lead	7439-92-1	5.00
Lindane	58-89-9	0.40
Mercury	7439-97-6	0.20
Methoxychlor	72-43-5	10.00
Methyl ethyl ketone	78-93-3	200.00
Nitrobenzene	98-95-3	2.00
Pentachlorophenol	87-86-5	100.00
Pyridine	110-86-1	5.00
Selenium	7782-49-2	1.00
Silver	7440-22-4	5.00
Tetrachloroethylene	127-18-4	0.70
Toxaphene	8001-35-2	0.50
Trichloroethylene	79-01-6	0.50
2,4,5-Trichlorophenol	95-95-4	400.00
2,4,6-Trichlorophenol	88-06-2	2.00
2,4,5-TP (Silvex)	93-72-1	1.00
Vinyl chloride	75-01-4	0.20

5.2.3 Listed Waste (40 CFR 261 Subpart D)

By definition, The United States Environmental Protection Agency has determined that some wastes are hazardous. These wastes are incorporated into lists published by the agency. These lists are organized into three categories:

- A. **The F List** – (non-specific source). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning and degreasing operations and the rag, wipe or media used in the process. These solvents have been divided into chlorinated and non-chlorinated. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources. Wastes found on the F-list can be found in 40 CFR 261.31.
(Examples: methylene chloride, xylene, toluene, methanol, ethyl acetate).

- B. **The K List** – (source specific). This list includes certain wastes from specific industries, such as petroleum refining, coking, or pesticide manufacturing. Wastes included on the K – list can be found in 40 CFR 261.32. While this list is rarely encountered at WVU, industrial samples received to conduct research, may have been listed at their point of origin. Contact EHS immediately if you believe your research may involve this type of waste. Wastes found on the K-list can be found in 40 CFR 261.32
(Examples: spent potliners from primary aluminum reduction, process residues from the recovery of coal tar)

- C. **The P List and U List** – (discarded commercial chemical products). These lists include specific commercial chemical products in an unused or technically pure form. Some chemicals, pesticides, and pharmaceutical products are hazardous waste when discarded. Wastes found on the P-list and U-list can be found in 40 CFR 261.33
(Examples: acetone, arsenic trioxide, chloroform, nicotine, warfarin)

5.2.4 Identification and Labeling

If the waste is identified as a hazardous waste, each container shall bear the words "Hazardous Waste". A hazard identifier must also be marked on the container from these options: **Ignitable**, **Corrosive**, **Reactive**, or **Toxic**. Oxidizers are considered Ignitable and should be written as "**Oxidizer (Ignitable)**". Containers must be clearly labeled with the chemical name (no abbreviations) and concentration, if known. When using a container which differs from the original chemical to collect waste, always obliterate the original label to avoid confusion, then relabel as hazardous waste and list the contents. Unused chemical reagents in original containers with intact labels that are deemed waste still need to be labeled Hazardous Waste and marked with a hazard identifier word. **Do not use chemical formulas, chemical symbols, chemical equations or abbreviations.**

Example:

HAZARDOUS WASTE

Ignitable Corrosive Reactive Toxic
 Oxidizer (Ignitable)

Contains:

Glacial Acetic Acid

Date when full: ___/___/___

For Disposal: ehs.wvu.edu

If the waste is not hazardous waste, do not label it as hazardous waste.

The Generator **MUST** provide EHS information on the contents of the chemical waste to assist hazardous waste management personnel in classifying the waste and selecting the appropriate method of disposal. EHS reserves the right to determine the final destination facility of all hazardous waste.

5.2.5 Generation and Accumulation Areas

There are only 2 different areas in which hazardous waste can be accumulated. Also, there are major regulatory differences in what must occur in these areas.

- A. **Satellite Accumulation Areas (SAA)** – At WVU, each laboratory is treated as a SAA unless the requirements cannot be met. If waste is generated in a laboratory, it cannot be moved out of that laboratory. For instance, if you generate waste in room 101, you are forbidden to move that waste to another room, even 101A, unless more requirements are met. Requirements that must be met in an SAA are as follows:

- a. Waste accumulated must be at or near the point of generation (in the same lab)
 - b. Container must be labeled with the words “Hazardous Waste.”
 - c. Container must be labeled with Hazard Identifier: “Ignitable, Corrosive, Reactive, Toxic, or Oxidizer (ignitable)”.
 - d. Container must be labeled with waste constituents (no chemical formulas).
 - e. Container must be marked with a **Date when it is FULL.**
 - f. Container must be compatible with the waste inside.
 - g. Container must ALWAYS be CLOSED, unless actively adding waste or venting for safety reasons. (If venting, it is recommended to do so inside a fume hood and place a sign on the container stating “Venting in Progress”.)
 - h. Containers that are venting should utilize a pressure release vent cap or lid designed for the container. If no vent cap or lid is available, contact EHS for alternative options to remain in compliance.
 - i. Cannot accumulate more than 55 gallons of hazardous waste.
 - j. Cannot accumulate more than 1 quart / 1 Liter of liquid or 2.2 lb. / 1 Kg of solid acutely hazardous waste.
 - k. Cannot move waste to any other SAA or room that is not a CAA or TSDF.
- Note: Failure to comply with ANY part of the SAA requirements will forfeit the reduced regulatory burden and invoke the requirements below for CAA.

B. Central Accumulation Area (CAA) – These areas are setup to accumulate waste until the waste vendor can move the waste offsite. These areas have many additional requirements that involve documentation at many levels. You must contact EHS prior to establishing and accumulating waste. Requirements that must be met in an this type of area are as follows:

- a. Container of Hazardous Waste must be labeled with the words “Hazardous Waste.”
- b. Container must be labeled with Hazard Identifier: “Ignitable, Corrosive, Reactive, Toxic, or Oxidizer (ignitable)”.
- c. Container must be in good condition and compatible with the waste.
- d. Container must ALWAYS be CLOSED, unless actively adding waste.
- e. Container must be **dated when the first drop of waste is placed inside.**
- f. Container must be non-leaking and stored in a manner to prevent releases.
- g. Cannot accumulate for more than 90 days at LQG sites.
- h. Cannot accumulate more than 270 days at SQG sites.
- i. Area must be inspected weekly (≤ 7 calendar days) with documentation kept on file for review.
- j. Area must be maintained in a manner to prevent fire, explosion, and spills.
- k. Area must have a communication device for emergencies.
- l. Area must have all emergency equipment tested and maintained.

- m. Area must meet all aisle space requirements to allow movement of personnel and emergency equipment.
- n. All emergency equipment must be maintained and listed in the contingency plan.
- o. Area must meet requirements for WV State Fire Marshall and marked accordingly.

5.2.6 Accumulation of Hazardous Waste

Generators of hazardous waste must accumulate the waste properly to prevent releases and avoid compliance issues.

- A. All hazardous waste must be placed into containers that are adequate to contain the material until final disposal. Examples are as follows:
 - a. The original container.
 - b. Container that is compatible with the waste that can be securely closed, sealed, and will not leak.
 - c. EHS supplied waste containers, if compatible with waste contents.
- B. **Before** placing hazardous waste in the container, it must be labeled with the intended contents, using IUPAC chemical names, and the words “Hazardous Waste.” This label must be on the outside of the closed collection container. If many smaller containers are inside, the outer container must be closed and labeled. **Simply labeling an open container, pail, drum, or cart containing unlabeled waste(s) is a violation**
- C. Fill containers to 95% capacity or less. Always leave 5% headspace for the waste to expand during transportation.
- D. Do not combine hazardous waste with any other materials or wastes. If they are combined, then **the entire mixture** is classified as hazardous waste.
- E. Acutely Hazardous Waste (**P List**) which are unused commercial chemical products and contaminated items, must be managed in 1 quart containers or smaller. Also, non-specific source acutely hazardous waste (only including F020, F021, F022, F023, F026, F027, and F035 on the **F List**) must be managed in 1 quart containers, or smaller. If the container is full you must contact EHS at 304-293-3792 to have the waste removed within 3 calendar days. If using 1 quart containers cannot be accomplished, contact EHS for other options for your specific laboratory.
- F. Secondary containment, especially during collection activities, is highly recommended.
- G. Certain combinations of chemicals are explosive, poisonous, or hazardous in other ways. Wastes can react in the same manner. Laboratory personnel **SHALL ENSURE** that different types of chemicals and wastes are segregated so that a substance cannot

accidentally come into contact with an incompatible substance. Here are a few incompatible mixtures that must be avoided:

- a. Corrosives (acids) react with caustics (bases).
 - b. Cyanides react with acids.
 - c. Oxidizers can react violently with combustible materials (paper, common solvents) and may cause a fire.
 - d. Hydrides (e.g., sodium hydride) can react with water to form flammable gas.
 - e. Phosphides (e.g., sodium phosphide) can react with water to form toxic gas.
 - f. Unsaturated compounds (carbonyls, double bonds, etc.) may polymerize violently in the presence of acids or bases.
 - g. Hydrogen peroxide/acetic acid solutions may explode when heated.
 - h. Hydrogen peroxide/sulfuric acid mixtures are susceptible to spontaneous and unpredictable chemical reaction.
 - i. Water reactives, primary metals, and pyrophorics must be stored individually.
- H. Highly hazardous, time sensitive, reactive, and/or shock sensitive waste requires specialized handling and disposal. **BEFORE HANDLING**, Contact EHS (304-293-3792) for guidance, hazard information, and/or removal.

5.2.7 Prohibited Substances in Waste Streams

All hazardous waste must be treated utilizing proven treatment technologies according to the EPA. Due to currently available treatment technologies and/or exponentially higher accumulation, transportation, and treatment costs, the following cannot be mixed with any other wastes or substances:

- A. Radioactive Materials-(Contact Radiation Safety)
- B. PCB's (polychlorinated biphenyls, arochlor, chlorextol, chlorodiphenyl)-(Contact EHS)
- C. Infectious Waste or Biologicals (human blood, serum, body fluids, etc.)- (Contact EHS)
- E. Dioxin Waste (TCDD, pentachlorophenol, tri- and tetrachlorophenol)-(Contact EHS)
- F. Asbestos-(Contact EHS)
- G. Mercury and Mercury Compounds-(Contact EHS)

5.2.8 Time Sensitive Materials and Peroxide Formers

Some materials are [time sensitive](#) and over time can become unstable. Also, peroxide forming chemicals can undergo auto oxidation to form organic peroxides that can become explosive with impact, heat or friction. These chemicals may become more hazardous as they age, and peroxides may form even when the container has not been opened. Please follow these guidelines when dealing with peroxide formers. All laboratories utilizing peroxides or time sensitive chemicals shall have access to and use a peroxide testing kit. Most laboratory suppliers have peroxide testing kits for purchase.

- A. Label the container with the date of purchase, the date of opening, required 6 month test date, and required discard date.
- B. Test the chemical for peroxides. If **ANY** peroxides are found, the chemical must be submitted for disposal.
- C. For all [Time Sensitive Materials and High Hazard items](#), the earlier of 12 months from receiving or the manufacturer's expiration date, shall be the required discard date. **BEFORE** this date lapses, Submit a [Chemical and Hazardous Waste Disposal Form](#).
- D. A list of common Time Sensitive & Highly Hazardous items can be found at ehs.wvu.edu

Failure to properly manage time sensitive materials can result in serious bodily injury. It also significantly increases handling and disposal costs, which can be \$1900 or more per container. In order to mitigate the hazards and manage these materials in an economically responsible manner, EHS has a SAA reactivities management program. In cases where materials have not been properly managed, EHS will install a protective box for the time sensitive materials. While the box is small, it will still require floor space in the SAA and will remain in the area for an extended period of time. The images below show boxes that have been utilized previously.



5.2.9 Acutely Hazardous Wastes

Hazardous Waste that is listed waste on the [P list](#) is considered Acutely Hazardous Waste. Also, wastes containing unused formulations of Tri-, tetra-, or pentachlorophenol are acute hazardous wastes. P listed waste are only regulated as such if they are Commercial Chemical Products (CCP). This would include if the waste is Commercially Pure Grade, Technically Pure, or the Sole Active Ingredient. Mixtures of a CCP and water or other solvent would still be deemed a CCP if only dilution is taking place.

Acutely Hazardous Waste is managed nearly the same as all other hazardous wastes with a few exceptions.

- A. The “empty” container is also regulated as acutely hazardous waste, unless triple rinsed, in which case the rinsate will be regulated as acutely hazardous waste. Therefore, rinsing is not recommended, simply manage the container as acutely hazardous waste.
- B. Only 1 quart of liquids, or 2.2 lbs. of solids, of acutely hazardous waste can be accumulated in a SAA, otherwise the area will be fully regulated as a CAA. Therefore, the largest container to be used should be 1 quart or smaller in size. These containers are available by request from EHS. A waste pickup request should be submitted prior to the container being completely full. Once the container is full, it **MUST** be removed from the lab and sent to a CAA within 72 hours. Contact EHS for guidance if needed.
- C. Any glassware, pipettes, spatulas, weigh boats, tubing, process equipment, or similar items in contact with the CCP **BEFORE** the CCP is used or mixed to form another compound or product is regulated as acutely hazardous waste when the items will no longer be used for that purpose.

5.2.10 Cylinders of Compressed or Liquefied Gasses

Cylinders used at WVU should be rented from gas suppliers if at all possible. Cylinders are never truly empty in normal use, which causes unique disposal concerns. Renting cylinders from vendors mitigates these concerns since the cylinder will be reused for its intended purpose. This also assures that all cylinders will be in good condition, meet current test standards, and can be returned to the vendor when it is no longer needed. If cylinders must be purchased, it is the purchaser’s and user’s responsibility to keep the cylinder maintained and compliant with current testing requirements and to contact EHS for proper disposal when no longer needed. Keep all caps, labels, and fittings that are included with the cylinder for use when returning the cylinder to the vendor or for EHS to utilize for disposal. Note: Failure to have caps and labels will result in increased costs and extended waste accumulation time in your area before the waste is removed for shipment to the designated disposal facility by EHS.

Disposal of Full or Partly Full Lecture Bottles:

- A. These should be redistributed to other users if possible. Contact EHS for assistance.
- B. If you have cylinders that you are no longer using and redistribution is not an option, please return the cylinders to the manufacturer, if available.

- C. If these options are not available, complete a [Chemical and Hazardous Waste Disposal Form](#). Avoid ordering cylinders from a company unless you can return the cylinder to the company at minimal or no charge.

5.2.11 Aerosol Cans

Aerosol cans are considered a characteristic hazardous waste in WV, and most of EPA Region 3, and must be managed before disposal. The cans are considered hazardous waste when they will no longer be used, cannot be used, or when they are empty. The process to dispose of aerosol cans is as follows:

- A. If the aerosol can contains expanding foam, adhesive glue, or pesticides, label the can as Hazardous Waste and submit a pickup request form.
Another option is to place aerosols into a pail or other container. Close the outer container. Then label the outer container as Hazardous Waste. Submit a Hazardous Waste form when container is full.
- B. If the aerosol can **DOES NOT** contain expanding foam, adhesive glue, or pesticides, utilize the puncturing device at your location.
- C. Aerosols can be placed into the puncturer, closed, punctured, and drained. Be sure to close the Puncturing unit when done. Instructions are on each device.
- D. Once the can is punctured and drained, the can itself is now non-hazardous waste and can be placed into the recycling bin.

5.2.12 Rags and Wipes

Rags and wipes are used for many purposes and how they are used determines how they must be managed for disposal. Once a rag or wipe will no longer be used, you must dispose of it properly. Rags or wipes that were used with any of the [F Listed](#) solvents will be a Hazardous Waste. If a rag, wipe, or absorbent pad is used to soak up a liquid, then they should be managed the same way you would the original liquid. Additionally, if a rag or wipe is contaminated with a chemical that would be a Hazardous Waste due to characteristics, it should be managed as Hazardous Waste. (See 5.2.2.D)

For instance, if a rag is used to wipe up oil, when the rag can no longer be used, it should be managed as Used Oil: contaminated rags. If the wipe was used with acetone to clean a beaker, the wipe would be managed as a Hazardous Waste: wipes contaminated with acetone.

Rags used with approved processes that have rag laundering service should follow the instructions provided when your service was setup.

5.2.13 Avoiding Unknown Wastes

To prevent the accumulation of unknown chemicals, researchers, principal investigators, and laboratory personnel must:

- A. Ensure that all chemicals, mixtures, and even water are properly labeled at all times.
- B. Ensure that proper procedures are followed when closing or moving a laboratory.
- C. Dispose of old or unneeded chemicals in a timely fashion.

Unknown chemical waste cannot be removed from campus. There are many regulations depending on what the waste contains, one of which is whether or not it is a hazardous waste. Any unknown chemical waste must be identified prior to disposal. Departments may be held responsible for the cost of identifying their unknown chemical waste.

If unknown waste(s) are encountered, they must be labeled as “Container on Hold Pending Waste Determination” and submit a [Chemical and Hazardous Waste Disposal Form](#).

5.2.14 Waste Minimization

WVU is required, as a whole, by EPA to reduce the volume and toxicity of generated chemical waste. It is the responsibility of the hazardous waste generator to minimize quantities. This can be accomplished by:

- A. Making substitutions. Less hazardous, or even non-hazardous, materials can often be used in place of hazardous ones.
- B. Purchasing smaller quantities. Establish usage parameters for each chemical. Purchase chemicals in a container size or quantity that permits maximum consumption.
- C. Implement the [chemical inventory system](#) as required by OSHA (29 CFR 1910.1200(e)(1)(i)). A properly maintained inventory will prevent duplicate purchases and identify excessive chemicals for removal. Every inventory should:
 - a. Be centralized for the entire lab or shop.
 - b. Be checked prior to new chemical purchase.
 - c. Identify where chemicals are stored inside the room (e.g. cabinet under hood).
 - d. Identify the need to dispose of excess chemicals that are not being utilized.
 - e. Be updated annually, at minimum.

5.2.15 Empty Container Management

- A. Empty containers are sometimes the best suitable container for accumulating waste. If this is the case, the entire label must be defaced or properly covered to prevent confusion. It must be labeled as specified under “Identification and Labeling” BEFORE collecting waste.
- B. If your empty container held a product that is listed in 40 CFR 261.33 under the “P List”, then the container itself must be managed as hazardous waste. Seal the container, label it as hazardous waste, and submit a chemical waste request form to EHS. See “Acutely Hazardous Wastes” section above.
- C. If your container does not meet either A or B above, then assure your container is completely empty, deface the label, and mark the word “Empty” on the container. Leave the lid off and container open. If any vapors are present, allow the container to vent inside a fume hood. If residues remain in glassware, rinse with water (if

compatible) at least 10% of the container size and discard to sink drain. For best results, rinse the container 3 times before allowing to dry prior to recycling.

Consider placing any **clean** and **dry glass** containers that are **brown, green, or clear** into the **single-stream recycling containers**.

If containers are **Rubber coated, Pyrex, or remain contaminated**, they cannot be recycled in our current system and should be placed into the **trash dumpster**.

5.2.16 Proper Disposal Process

Disposal of hazardous waste actually occurs only at permitted Treatment, Storage, and Disposal Facilities (TSDF). EHS has contracted vendors with registered transporters and specific TSDF for WVU generated hazardous waste. EHS ensures proper determination, documentation, packaging, labeling, and waste coding takes place for all shipments. In order for this process to be completed, generators of hazardous waste must follow the below procedure to have waste removed from their area.

- A. To dispose of hazardous waste or unwanted chemicals, complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
- B. Upon receiving the request form, EHS will pick up the chemical waste. Generally, pickups are conducted within 1 week.
- C. Unknown and/or unlabeled chemicals may not be accepted for disposal, without additional information.
- D. Chemicals and containers must be compatible and labeled with the common name of each chemical (See Identification and Labeling).
- E. Chemical containers should be no more than 95% full to allow for expansion and must have a screw cap closure or equivalent.
- F. Container must always be securely closed to prevent any leaks during handling.
- G. If above conditions are not met or additional hazards exist, some waste may not be picked up until corrected. An orange "Rejected" sticker may be placed on your container indicating the issue needing addressed.



If the container issue is fixed, the container will automatically be picked up the following week (no additional disposal request form is necessary).

- H. All offsite shipments to appropriate TSDF shall be managed by EHS.

5.2.17 Recordkeeping

All records of manifests, LDRs, contracts, notifications, chemical waste disposal request forms, inspection logs, and other pertinent documentation pertaining to Hazardous Waste under the WVU Waste Management Program are maintained by EHS. Personnel training

records are maintained by individual colleges. Generator status is maintained by EHS based on amounts of Hazardous Waste being generated at each site.

5.2.18 Training

All personnel with potential to be generators of Hazardous Waste are **required** to complete training in hazardous waste management and contingency plan implementation. Training must be completed before working unsupervised generating waste or within 6 months of employment or job assignment. This training must be kept current and a refresher must be taken within every 365 days. Contact WVU EHS Training Services at 304-293-3792 or EHSTrainingServices@mail.wvu.edu for training availability.

5.2.18.1 Environmental Health & Safety (EHS)

Employees in the Hazardous Materials Unit will maintain the following:

- OSHA 40 Hour HAZWOPER and refreshers
- Hazardous Materials – Technician Level and refreshers
- Current respiratory fit test for respirators and self-contained breathing apparatus.
- EPA RCRA Waste Management Training and refreshers
- OSHA Hazard Communication at WVU
- OSHA Laboratory Safety at WVU

EHS staff will provide training to employees.

5.2.18.2 Academic Departments

Faculty, Staff and Students working independently with chemicals in laboratories will maintain the following:

- OSHA Hazard Communication at WVU
- OSHA Laboratory Safety at WVU
- RCRA Hazardous Waste Training at WVU

Students being taught in laboratories under direct supervision of trained personnel shall have laboratory specific training from the instructor.

5.2.18.3 Facilities and Services Departments

Employees working in shops, maintenance areas, or that have job duties utilizing chemicals must maintain the following training at a minimum:

- OSHA Hazard Communication at WVU
- RCRA Hazardous Waste Training at WVU for Facilities Personnel

5.3 Universal Waste

5.3.1 Determining Universal Waste Classification

As part of the EPA's commitment to encourage recycling, the Agency has issued the Universal Waste Rule. This rule has been designed to reduce the amount of material that is being disposed of as hazardous waste. Universal wastes include:

- A. Rechargeable batteries
- B. Some agricultural pesticides
- C. Thermostats, Thermometers, and sealed mercury-containing devices
- D. Fluorescent Lamps and other mercury-containing lamps

5.3.2 Accumulation of Universal Waste

Disposal of universal waste by the handler is prohibited. Universal Waste is a subset of Hazardous Waste; therefore, if the following requirements are not met, the waste will be classified as hazardous waste and subject to those more extensive regulations.

Requirements are as follows to be Universal Waste:

- A. All items must be intact (not broken, leaking, or crushed).
- B. All items must be labeled (see Identification and Labeling).
- C. All items must be dated upon the start of accumulation.
- D. All items must be accumulated in a manner to prevent breakage (as if it was New)
- E. All items must be shipped to recycling facility less than 1 year from start of accumulation
- F. Universal Waste Pesticides must have original contents label intact.

Universal Waste:

Hazardous Waste:



5.3.3 Identification and Labeling (40 CFR 273.14)

A. Label Wording:

The regulations are very specific. The following label requirements must match those specified in the regulations. Also, do not write “Hazardous Waste” or use a hazardous waste label on these types of waste unless they are broken or leaking.

B. Batteries:

The batteries contained within the universal waste rule include lead-acid, nickel-cadmium, lithium-ion, and other rechargeable batteries. The below requirements must be followed. Each battery must be clearly marked as “**Used Battery**” and must be **dated**. No other wording or synonyms can be used. In addition, all **terminals must be Taped or Covered securely** to prevent short circuits.

Note: Small batteries, with terminals taped or covered, can be placed together into a poly bucket or pail. The container must have a lid that is sealable and Leak Proof. If this is done, only the outside of the pail is required to be labeled as “Used Batteries” and dated when the first battery is placed inside, not every individual battery.

Damaged batteries do not qualify as Universal Waste, and must be managed as Hazardous Waste. Leaking or damaged batteries must be placed into a structurally sound container (usually a poly pail or poly drum), closed, and labeled as “Hazardous Waste Containing: Leaking or Damaged Batteries”. Be sure to cover terminals if multiple batteries are being placed into the same container.

Note: EHS specifically manages intact lead-acid batteries under 40 CFR part 266

C. Pesticides:

The pesticides included under the universal waste rule include recalled or unused stocks of pesticides as part of a waste pesticide collection program. Each pesticide must be clearly marked as “**Universal Waste - Pesticide**” and **dated**. No other wording or synonyms can be used. In addition, the original contents label must be present and intact. The container of pesticides must be closed, or placed inside another closed container.

D. Thermostats, Thermometers, and Sealed Mercury containing equipment:

The Mercury-containing equipment included under the universal waste rule includes Thermometers, Thermostats, Manometers, and other equipment containing elemental mercury. All items must be placed into a sturdy, sealed container. **Each Container** of equipment must be clearly marked as “**Used Mercury-Containing Equipment**” and **dated** when the first item is placed inside. No other wording or synonyms can be used. All Containers must be kept closed to prevent releases.

Leaking or damaged mercury containing equipment does not qualify as Universal Waste, and must be managed as Hazardous Waste. Leaking or damaged mercury containing equipment must be cleaned up immediately, placed into a leak-proof container, closed,

and labeled as “Hazardous Waste Containing: Mercury”. This would include elemental mercury in jars, broken thermometers, etc. If assistance is needed with a spill or release of mercury, please contact EHS immediately.

E. Fluorescent and other Mercury Containing Lamps:

The Lamps included under the universal waste rule include Fluorescent tubes, U-Shaped tubes, Compact fluorescent lamps (CFLs), High Intensity Discharge (HID), and other lamps containing Mercury (Hg). All items must be placed into a sturdy, sealed container. **Each Container** of lamp(s) must be clearly marked as “**Used Lamps**” and **dated** when first lamp is placed inside. No other wording or synonyms can be used. **Do not mark as “Bad Bulbs or Used Bulbs” as this is a violation of 40 CFR 273.14 (e)**. Containers, usually lamp boxes, must be closed and any openings shall be covered with tape to prevent releases. Broken lamps do not qualify as Universal Waste, and must be managed as Hazardous Waste. Broken Lamps must be cleaned up immediately, placed into a structurally sound container, closed, and labeled as “Hazardous Waste Containing: Broken Lamp(s)”.

5.3.4 Proper Recycling Procedures for Universal Waste

Note: Facilities and Service Employees – Lamp and Battery collection is at the Downtown Facilities Services Building, HSC Basement/Loading Dock, and Evansdale Facilities Management building near receiving. All other personnel see below.

- A. To properly recycle Universal Waste, complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
- B. Upon receiving the request form, EHS will schedule a pickup of the waste.
- C. Containers must be compatible and labeled with the required information above (See Identification and Labeling). Incorrectly labeled containers may not be accepted for recycling, without additional information.
- D. Container must always be securely closed to prevent any releases during handling.
- E. If above conditions are not met or additional hazards exist, some waste may not be picked up until corrected.
- F. All offsite shipments to appropriate recycling facilities shall be managed by EHS.

5.3.5 Training (40 CFR 273.16)

Anyone involved with handling or managing items that are universal waste is **required** to be informed of the requirements and hazards of Universal Waste, as well as emergency procedures (See Spills and Releases). Training must be completed before working unsupervised generating waste. Contact WVU EHS Training Services at 304-293-3792 or EHSTrainingServices@mail.wvu.edu for training availability.

5.4 Used Oil

5.4.1 Determining Used Oil Classification

In order to decide whether you have a used oil, you must determine whether anything else is in your oil. Used oil is any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical impurities and no longer usable for its intended purpose. If your oil is contaminated with other chemicals or other waste, it may not meet the requirements of used oil and instead may be another type of waste. When managed properly, used oil is recyclable and easily managed by WVU EHS. If contaminated, the resultant waste can cause many non-compliance issues for you and your department.

Used oil includes the following:

- A. Motor Oil
- B. Synthetic Oil
- C. Compressor Oil
- D. Hydraulic Fluid Oil
- E. Gear Oil
- F. Heating Oil
- G. Cutting or Machining Oil
- H. Diesel
- I. Kerosene
- J. Transmission Fluid
- K. Pump Oil
- L. Mineral Oil
- M. Power Steering Fluid

5.4.2 Accumulation of Used Oil

Used oil must be placed into a sealed container and labeled as described below. Containers must be in good condition and free of excessive rust, dents, or structural deformities. If possible, secondary containment should be utilized to catch any spillage or drips around the collection container. Any spills of used oil, including into secondary containment, must be cleaned up immediately.

Rags or absorbents containing Used Oil must also be placed into sealed containers and labeled as described below. If your area has rag laundering service, follow the procedures setup when you service was started. Only the provided rags are acceptable for this service. Any other rags or absorbents must be collected separately.

5.4.3 Do Not Add / Mix with Used Oil

The following **Can Not** be added to Used Oil:

- A. Gasoline
- B. Chlorinated Solvents

- C. Parts Washer Solvents
- D. Carburetor / Brake Cleaner
- E. Aerosol Products
- F. Solids or Heavy Grease
- G. Antifreeze / Glycols
- H. Windshield Washer Fluids
- I. Water
- J. Any Hazardous Wastes

5.4.4 Identification and Labeling

Used oil must be labeled as **“Used Oil.”** **Do Not Label as “Waste” or “Hazardous Waste” as this is a violation of 40 CFR 279.22 (c)(1).** If hazardous materials have been added to the used oil, the waste could be classified as hazardous waste and subject to those more extensive regulations.

5.4.5 Proper Disposal Process for Used Oil

- A. To dispose of Used Oil complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
Note: Facilities and Service Employees – Used Oil collection is at Roads and Grounds in the Used Oil tank as well as some sites have drums specifically setup for Used Oil.
- B. Upon receiving the request form, EHS will schedule a pickup of the used oil.
- C. Incorrectly labeled containers may not be accepted for disposal, without additional information.
- D. Container must always be securely closed to prevent any leaks during handling.
- E. During pickup, containers may not be removed if above conditions are not met or additional hazards exist.
- F. All offsite shipments shall be managed by EHS, unless prior, written authorization has been obtained. Employees initiating shipments must mail all original documentation to EHS, PO Box 6551, Morgantown, WV 26506-6551.
- G. Used Oil shall never be given to anyone outside WVU for fuels blending, use, reuse, heating, or any other purpose.

5.5 Polychlorinated Biphenyls (PCB) Waste

5.5.1 Determining PCB Classification

In order to decide whether you have PCB waste, you must determine whether any PCBs are in your waste. PCB waste is regulated under the Toxic Substance Control Act (TSCA), 40 CFR 761. WVU EHS provides disposal assistance for PCB wastes, mainly PCBs in Fluorescent Light Ballasts from lighting fixtures and PCB Capacitors from equipment. PCBs can be found in many products manufactured prior to 1979. PCB Oil in transformers is another major source if they have not been retrofilled. Labeling through the years has changed and may not provide sufficient information to determine if PCBs are present in manufactured articles. There are some field test kits available, but only a certified laboratory can conclusively determine if PCBs are not present. Any waste containing a concentration of PCBs higher than 50 parts per million (PPM) is TSCA regulated.

5.5.2 Accumulation of PCB Waste

PCB waste must be placed into a sealed container and labeled as described below

5.5.3 Identification and Labeling

PCB waste must be labeled as “PCB Containing: (ballasts / capacitors / etc.) ”. Also, there must be an “Out of Service Date: (date) ” marked on the container for the date the item was removed from service. If concentration of PCBs is known, mark the container with that information as well.

5.5.4 Proper Disposal Process for PCB wastes

- A. To dispose of PCB waste complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
Note: Facilities and Service Employees – Light Ballasts containing PCBs are collected at Facilities Management in the small fenced-in shed beside the gas pump as well as some sites have containers specifically setup for PCB Ballast waste. If PCB oils and other devices are encountered, a waste disposal form is required to have the waste removed.
- B. Upon receiving the request form, EHS will schedule a pickup of the PCB waste and move it to a central accumulation area.
- C. Incorrectly labeled containers may not be accepted for disposal, without additional information.
- D. Container must always be securely closed to prevent any leaks during handling.
- E. During pickup, containers may not be removed if above conditions are not met or additional hazards exist.
- F. All offsite shipments to appropriate Disposal Facilities shall be managed by EHS.

5.6 Special Waste

5.6.1 Determining Special Wastes Classification

As defined, Special Wastes are not regulated under the Hazardous Waste regulations; however, the wastes are not suitable for disposal via wastewater or with other solid waste trash. A few special wastes that are commonly found at WVU include Parts Washer Solvent, Diesel Fuel, Latex Paints, Ethylene and Propylene Glycols, Formalin, Ethidium Bromide Gels and Solutions, Sharps with or without Syringes that were used for chemical transfers only (non-biologicals), and many different fine powders or dusts.

5.6.2 Accumulation of Special Waste

Special waste must be placed into a sealed container and labeled as described below.

5.6.3 Identification and Labeling

Special waste must be labeled as "Special Waste _____ <Contents> _____".

5.6.4 Proper Disposal Process for Special Wastes

- A. To dispose of Special Waste, complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
- B. Upon receiving the request form, EHS will schedule a pickup of the waste.
- C. Chemicals and containers must be compatible and labeled with the required information above (See Identification and Labeling). Incorrectly labeled containers may not be accepted for disposal, without additional information.
- D. Container must always be securely closed to prevent any leaks during handling.
- E. If above conditions are not met or additional hazards exist, some waste may be left in the area until corrected.
- F. All offsite shipments to appropriate disposal facilities shall be managed by EHS.

5.7 Excluded Scrap Metal and Fine Metal Waste

5.7.1 Determining Excluded Scrap Metal and Fine Metal Waste

Scrap Metal is one waste that can be excluded from the hazardous waste regulations, and the requirements thereof, if a few steps are taken. Excluded scrap metal must be sorted by metal type and destined for recycling. Excluded scrap metal includes metal turnings, cuttings, punchings, borings, pieces, chunks, sheets, and parts.

Scrap metal **does not include** grinding dusts, fines from abrasive blasting, shop floor sweepings, or in general any small particles in which a vacuum could be used for collection. These fines should be managed as **Fine Metal Waste**.

5.7.2 Accumulation of Excluded Scrap Metal and Fine Metal Waste

Excluded scrap metal must be sorted and placed into the appropriate containers and labeled as described below.

Fine metal waste does not require sorting, but it must be placed into a closed container and labeled as described below.

5.7.3 Identification and Labeling

Excluded scrap metal must be labeled as to identify the metal (i.e. steel, aluminum, brass, lead.) "Excluded Scrap Metal: _____ ('metal type') _____".

Fine metal waste must be labeled as "Waste: Metal Fines" and include "Waste Determination Pending" on the container.

5.7.4 Proper Disposal Process for Excluded Scrap Metal and Fine Metal Waste

- A. To dispose of Excluded Scrap Metal or Fine Metal Waste, complete the [Chemical and Hazardous Waste Disposal Form](#). Instructions are provided.
- B. Upon receiving the request form, EHS will schedule a pickup.
- C. Containers must be labeled with the required information above.
- D. Fine Metal Waste containers must always be securely closed to prevent any release.
- E. If above conditions are not met or additional hazards exist, some waste may be left in the area until corrected.
- F. All offsite shipments to appropriate facilities shall be managed by EHS.

5.8 Waste from Spills and Releases

Spills of hazardous materials must be cleaned up immediately. In most cases, the waste from a spill must be managed as if it were waste of the original material. Consult Safety Data Sheet (SDS) for guidance if spill is from a manufactured product. Toxicity should always be considered. At minimum, contain the spill from spreading further and control access to the area, if safe to do so. Smaller spills can usually be absorbed with materials in a spill kit. Larger spills may require pumping into containers or additional resources. If you cannot clean up the spill safely and effectively, contact EHS immediately for assistance at 304-293-3792.

Spill kits are available from EHS for individual areas if a chemical inventory is provided. These kits contain absorbents, labels, and various other tools to assist with cleanup of spills. A spill kit is not required to cleanup spills, but usually make the process simpler.

All contaminated materials and absorbents must be placed into a **leak proof container**, kept **closed**, and **labeled** as appropriate for the waste type. Spill kits are available from EHS for individual areas.

Examples:

If a few liters of oil is spilled, attempt to stop the source of the spill. Then, stop the oil from entering any drains, cracks, or crevices. Contact EHS. If available, use the contents of a spill kit to absorb the oil. Place the soaked absorbents into a leak proof container (like the original spill kit). Label the container as "Used Spill Kit. Contains Waste: Used Oil and Debris". Submit a [Chemical and Hazardous Waste Disposal Form](#)

If hydrochloric acid is spilled, attempt to stop the source of the spill. Then, stop the acid from entering any drains, cracks, or crevices. Contact EHS. If no spill kit is available, absorb the acid with other materials that may be available. Place the soaked absorbents into a leak proof container. Label the container as "Hazardous Waste containing Hydrochloric Acid and Absorbents". Submit a [Chemical and Hazardous Waste Disposal Form](#)

Note: If a container of **Hazardous WASTE** is spilled, released, or is involved in a fire or explosion, EHS MUST BE IMMEDIATELY NOTIFIED. This event may activate the WVU Hazardous Waste Contingency Plan and require IMMEDIATE actions / notifications.