

HAZARDOUS WASTE MANAGEMENT MANUAL

MAR 2022



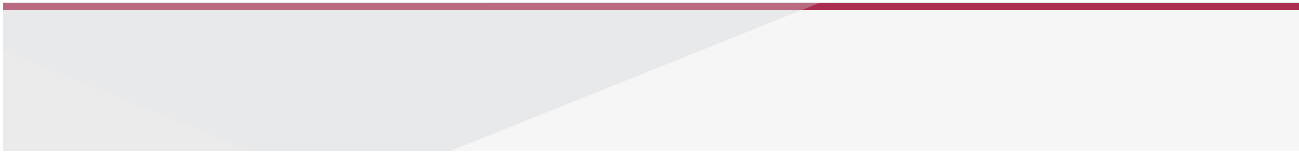


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1.0 Introduction

The University of Southern California (USC) Hazardous Waste Management Manual is designed as a ready reference guide for the handling of hazardous waste generated at USC campuses and leased spaces and to provide guidance to meet regulatory requirements.

USC's Office of Environmental Health and Safety (EH&S) Hazardous Materials Program ensures that all hazardous waste(s) generated are identified, stored, and disposed of safely and in accordance with local, state, and federal regulations.

Questions regarding (a) operations that generate hazardous waste, (b) managing a hazardous waste stream, or (c) hazardous waste, in general, may be directed to hazmat@usc.edu or (323) 442-2200.

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2.0 Regulations and Policies



State

CCR Title 8 General Industry Safety Orders

Chemical Hygiene Plan

[§5191. Occupational Exposure to Hazardous Chemicals in Laboratories](#)

CCR Title 22 Social Security

[Division 4.5. Environmental Health Standards for the Management of Hazardous Waste,](#)

Chapters 10 through 32

CCR Title 27

CalEPA

- [Unified Hazardous Waste and Hazardous Materials Management](#)
- [Certified Unified Program Agency \(CUPA\)](#)



USC

[Chemical Hygiene Plan](#)

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3.0 Definitions

Biohazard Bag

A disposable red film bag that is impervious to moisture and has strength sufficient to preclude ripping, tearing, or bursting under normal conditions of usage and handling of the waste-filled bag. The red bag will have the biohazard symbol on it which indicates it will meet OSHA BBP Standard. The red film bags used for transport are marked and certified by the manufacturer for passing tests for impact and tear resistance as specified in the American Society for Testing Materials (ASTM) D1709 and D1922.

Biohazardous Waste

Waste that is any of the following:

1. Regulated medical waste, clinical waste, or biomedical waste that is a waste or reusable material derived from the medical treatment of a human or from an animal that is suspected of being infected with a pathogen infectious to humans, or from biomedical research, which includes the production and testing of biological products.
2. Laboratory waste, including but not limited to, human or animal specimen cultures that are infected with pathogens that are also infectious to humans from medical and pathological laboratories, cultures and stocks of infectious agents from research laboratories, wastes from the production of bacteria, viruses, or spores, discarded live and attenuated vaccines used in human healthcare or research, discarded animal vaccines (including Brucellosis and Contagious Ecthyma), culture dishes and contaminated devices used to transfer, inoculate, and mix cultures.
3. Waste which at the point of transport from the generator's site, at the point of disposal, or thereafter, contains recognizable fluid blood, fluid blood products, containers or equipment containing fluid blood or blood from animals, known to be infected with diseases which are highly communicable to humans.
4. Waste containing discarded materials contaminated with excretion, exudate, or secretions from humans who are required to be isolated by the infection control staff, attending physician, attending veterinarian, or the local health officer to protect others from communicable diseases or isolated animals known to be infected with diseases communicable to humans.

Container

A container is any portable device in which material can be stored, handled, treated, transported, recycled, or disposed of. (see California Code of Regulations, Title 22, [§ 66260.10. Definitions](#)).

Containers range in size from small lab bottles to rail cars, however, 55-gallon steel or plastic drums and their inner liners are commonly used for hazardous waste and hazardous materials management - see requirements for container capacities that are 119 gallons or less in [Section 5 Empty Container Management](#). Containers with a capacity greater than 119 gallons ("bulk containers") fall under CCR, Title 22, [§ 66261.7 \(p\)](#) requirements.

Empty Container

An "empty" container is rigorously defined in [22 CCR § 66261.7. Contaminated Containers](#). Per the California Department of Toxic Substance Control (DTSC) [Managing Empty Containers Fact Sheet](#), this regulation sets three standards that qualify a container as "empty" based on the type of material held by the container:

1. **Containers That Held Pourable Materials** - All pourable materials must be removed by any practicable means, including draining, pouring, pumping or aspirating, before the container is considered empty. If a container is drained, it is empty when there is no longer a continuous stream of material coming from the opening when the container is held in any orientation.
2. **Containers Holding Non-Pourable Materials** - No hazardous material shall remain in the container that can feasibly be removed by physical methods, including scraping and chipping, but not rinsing. This standard applies to all viscous/highly viscous materials, solids that have "caked up" inside the container, and non-pourable sludges to name a few.
3. **Containers Holding Acute or Extremely Hazardous Waste** - These containers are considered empty only if they were triple-rinsed using a solvent capable of removing the material, or cleaning by another method which is proven to achieve equivalent removal to triple-rinsing. **NOTE:** At USC, these containers are managed as HAZARDOUS WASTE to eliminate additional permit requirements that may arise from local/state regulations.

Corrosivity

A waste is corrosive if it dissolves metals and other materials, or burns the skin or eyes on contact. This is also includes:

- A liquid or aqueous solution (solute mixed with an equivalent weight of water) having a pH ≤ 2 or ≥ 12.5 ; and
- A liquid or aqueous solution (solute mixed with an equivalent weight of water) that corrodes steel (SAE 20) at a rate greater than 0.250 (6.35 millimeters) per year.

Examples of corrosive wastes are acids (e.g. hydrochloric, sulfuric, nitric, and phosphoric), hydroxides (sodium, ammonium), corrosive cleaning solutions, rust removers, and bleach compounds.

Ignitability

A waste is ignitable if it is easily combustible or flammable, or, if ignited, burns so vigorously that it creates a hazard. This classification includes:

- A liquid (other than an aqueous solution containing less than 24 percent alcohol by volume) with a flashpoint equal to or less than 140 degrees F;
- A non-liquid, capable under standard temperature and pressure of causing fire by means of friction, absorption of moisture, or spontaneous chemical changes and which, when ignited, burns so vigorously and persistently that it creates a hazard;
- An ignitable compressed gas as defined in Department of Transportation (DOT) regulations; and
- An oxidizer as defined in DOT regulations.

Examples of ignitable wastes are: solvents (e.g. acetone, ether, alcohols, toluene, hexane, xylene, and ethyl acetate), Vaposteril solutions, paints and thinners, certain degreasers, epoxy resins, adhesives, rubber cement, and some inks.

Low-level Radioactive Waste

Waste means radioactive material that:

- A. Is not high-level radioactive waste, spent nuclear fuel, or byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954 (42 USC 2014(e)(2))); and
- B. The Nuclear Regulatory Commission, consistent with existing law and in accordance with paragraph (A), classifies as low-level radioactive waste.

Low Level Radioactive Waste (LLRW) is defined in California HSC section 115255 as follows:

Low-level radioactive waste" means regulated radioactive material that meets all of the following requirements:

- The waste is not high-level radioactive waste, spent nuclear fuel, or byproduct material (as defined in Section 11e (2) of the Atomic Energy Act of 1954 (42 U.S.C. Sec. 2014(e)(2))).
- The waste is not uranium mining or mill tailings.
- The waste is not any waste for which the federal government is responsible pursuant to subdivision (b) of Section 3 of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (42 U.S.C. Sec. 2021c(b)).
- The waste is not an alpha emitting transuranic nuclide with a half-life greater than five years and with a concentration greater than 100 nanocuries per gram, or Plutonium-241 with a concentration greater than 3,500 nanocuries per gram, or Curium-242 with a concentration greater than 20,000 nanocuries per gram.

Low-level radioactive waste includes sources, devices, or materials made radioactive by contamination or irradiation, and radionuclides no longer needed for research purposes. NOTE: "Low-level" DOES NOT imply that the activity of the waste is at safe or background levels.

Medical Waste

Waste that is any of the following:

1. Biohazardous, pathology, pharmaceutical, or trace chemotherapy waste not regulated by the federal Resource Conservation and Recovery Act (RCRA) of 1976, as amended. Sharps and trace chemotherapy wastes generated in a health care setting in the clinical diagnosis, treatment, immunization, or care of humans or animals, in research pertaining thereto.
2. Waste generated in autopsy or necropsy.
3. Waste generated in research pertaining to the production or testing of biologicals, or in research using human or animal pathogens.
4. Waste generated from the consolidation of properly contained home-generated sharps waste.
5. Waste generated in the cleanup of trauma scenes.

Medical waste does not include any of the following:

1. Waste generated in food processing or biotechnology that does not contain an infectious agent, or an agent capable of causing an infection that is highly communicable to humans.
2. Waste generated in biotechnology that does not contain human blood or blood products or animal blood or blood products suspected of being contaminated with infectious agents known to be communicable to humans.
3. Urine, feces, saliva, sputum, nasal secretions, sweat, tears, or vomitus unless it contains fluid blood.
4. Waste which is not biohazardous, such as paper towels, paper products, articles containing non-fluid blood, and other medical solid waste products commonly found in the facilities of medical waste generators.
5. Hazardous waste, radioactive waste, or household waste, including, but not limited to, home-generated sharps waste.
6. Waste generated from normal and legal veterinarian, agricultural, and animal livestock management practices on a farm or ranch, unless otherwise specified in law.

Mixed Waste

Waste that is a mixture of medical and non-medical waste except for the following:

1. Medical waste and hazardous waste is hazardous waste subject to regulation specified in the statutes and regulations applicable to hazardous waste.
2. Medical waste and radioactive waste is radioactive waste and is subject to regulation as specified in the statutes and regulations applicable to radioactive waste.

3. Medical waste, hazardous, and radioactive waste is radioactive mixed waste and is subject to regulation as specified in the statutes and regulations applicable to hazardous and radioactive waste.

Pathology Waste

1. Human body parts, with the exception of teeth, removed at surgery or autopsy, which are suspected by the health care professional of being contaminated with infectious agents known to be contagious to humans or having been fixed in formaldehyde or other fixative.
2. Animal parts, tissues, fluids, or carcasses suspected by the attending veterinarian of being contaminated with infectious agents known to be contagious to humans.

Pharmaceutical Waste

Waste that is a pharmaceutical, comprised of prescription or over-the-counter human or veterinary drugs, including but not limited to a drug as defined in the Federal Food, Drug, and Cosmetic Act as amended.

It does not include any pharmaceutical that is regulated by the federal RCRA of 1976, as amended, or under The Radiation Control Law.

Pharmaceutical waste does not include a pharmaceutical that is being sent out of the state to a reverse distributor or that is being sent by a reverse distributor for offsite treatment and disposal in accordance with applicable law - see details at the [Controlled Substances and Precursor Chemical Disposal](#) web page.

Reactivity

A waste is reactive if it is:

- Unstable such that it catches fire, explodes, or releases fumes; and
- Undergoes rapid or violent chemical reactions when exposed to or mixed with water, air, or other materials.

This includes waste that: normally are unstable and readily undergo violent change without detonating; generate toxic gases, vapors or fumes when mixed with water and does so in a quantity sufficient to present a danger to life or the environment; are cyanide- or sulfide-bearing and when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes; and are capable of detonation, explosive reaction or explosive decomposition.

Examples of reactive wastes are cyanide compounds, organic peroxides, and water reactives (sodium metal, calcium hydride, and phosphorus pentoxide), picric acid (dry), ammonium and sodium sulfide.

Sharps Waste

Waste that is a device having acute rigid corners or edges, or projection capable of cutting or piercing, including, but not limited to:

1. Hypodermic needles, hypodermic needles with syringes, blades and needles with attached tubing.
2. Broken glass items, glass pipettes and glass vials which are contaminated with biohazardous waste.

Toxicity

A waste is considered toxic if it exceeds specified concentrations of certain metals and organic compounds (as referenced in federal regulations) or exceeds stated criteria in several biological tests.

- The waste must be analyzed to determine if it contains any toxic metals or organic substances listed on Table 1 of 22 CCR 66261.24(a)(i) in excess of regulatory levels using a testing method called Toxicity Characteristic Leaching Procedure (TCLP). This is the federal or RCRA toxicity characteristic, meaning that any waste which exceeds the regulatory level is a RCRA regulated hazardous waste.
- The waste must be analyzed to determine whether it exceeds any of the regulatory levels established for inorganic or organic chemicals in Table II or Table III of 22 CCR 66261.24(a)(2). The test methods used are based on regulatory levels established for Soluble Threshold Limit Concentration (STLC) or Total Threshold Limit Concentration (TTLC).
- It must be determined whether the waste contains any carcinogenic substances (examples listed below) in a single or combined concentration of 0.001 percent by weight by testing or other information available.

Acrylonitrile	4-Nitrobiphenyl (4-NBP)
4-Aminodiphenyl Ethyleneimine (EL)	N-Nitrosodimethylamine (DMN)
Benzidine and its salts	B-Propiolactone (BPL)
Methyl chloromethyl ether	Vinyl chloride (VCM)
bis (Chloromethyl) ether	4-Dimethy aminoazobenzene (DAB)
A-Naphtylamine (1-NA)	3,3-Dichlorobenzidine & DCB salts
B-Naphtylamine (2-NA)	1,2-Dibromo-3-chloropropane (DBPC)
2-Acetylamino fluorene	

- Objective biological tests (or data from such tests) must be used to determine whether the test material is more toxic than any of the criteria listed below:
 - An acute oral LD50 less than 5,000 mg. per kg.
 - An acute dermal LD50 less than 4,300 mg. per kg.
 - An acute inhalation LC50 less than 10,000 ppm as a gas or vapor.
 - An acute aquatic 96-hour LC50 less than 500 mg. per liter or it can cause illness or death if inhaled, swallowed or absorbed through the skin.

If any of these tests result in or indicate (published test data) greater toxicity than the threshold listed, the material is a hazardous waste. Examples of wastes meeting the toxic criteria are photochemicals (fixer and developer) and ethylene glycol antifreeze solution.

Trace Chemotherapeutic Waste

Waste that is contaminated through contact with, or having previously contained chemotherapeutic agents, including, but not limited to gloves, disposable gowns, towels, and intravenous solution bags and attached tubing that are empty. A chemotherapeutic agent means an agent that kills or prevents the reproduction of malignant cells.

Universal Waste

Universal Waste is a collective term for discarded electronic devices, gadgets, light bulbs, and appliances. The following items are considered universal waste (as defined by CCR, Title 22, Division 4.5, Chapter 23):

Aerosol Cans	Electronic Devices
Batteries	Lamps
Cathode Ray Tubes (CRT)	Mercury-Containing Equipment

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4.0 Roles and Responsibilities

Principal Investigators and Managers

Principal Investigators and managers are responsible for implementing this program and ensuring compliance within their research groups and departments. This includes:

- Identifying hazardous materials in the work area.
- Providing EH&S with a current inventory of all hazardous materials.
- Ensuring that:
 - All hazardous material containers and waste containers are labeled.
 - All hazardous waste labels are compliant.
 - Employees have access to current SDSs (hard copies or electronic files) for all hazardous materials present in their work area, during all shifts.
- Providing training to employees on the hazards that they may be exposed to, including physical hazards, health hazards, safe handling procedures, and emergency procedures for hazardous materials.
- Informing affected personnel before introducing a hazardous material into a workplace.
- Adhering to the provisions of this manual.
- Consulting with EH&S Hazmat on effective management of waste streams.

Employees

All employees are responsible for:

- Adhering to:
 - Information found on the SDS and container label when working with hazardous materials.
 - Provisions of this manual.
- Participating and completing all assigned safety and hazard related trainings before working with hazardous materials.
- Reading and adhering to the information on hazardous material labels, SDSs, and departmental procedures.
- Consulting with the supervisor on any questions related to the information on hazardous material labels, SDSs, departmental procedures and other identified safety concerns.
- Wearing personal protective equipment and clothing, as appropriate.

Office of Environmental Health & Safety (EH&S)

EH&S is responsible for:

- Maintaining the Hazardous Waste Management Manual.
- Maintaining a university-wide chemical inventory.
- Maintaining a master file of SDSs.
- Assisting:
 - Supervisors in identifying hazardous materials and potentially hazardous operations in the workplace.
 - Departments with employee training resources and documentation.
 - Research groups laboratory moves and closures, while meeting environmental compliance standards.
- Recommending appropriate engineering controls, administrative controls, and PPE.
- Overseeing the storage, collection, and disposal of chemical, biomedical, radioactive, and universal wastes.
- Performing emergency spill response activities.

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5.0 Hazardous Waste Management and Disposal

Hazardous Waste 101

Hazardous wastes generated at USC fall into four major categories: chemical, biohazardous, radioactive, and universal wastes (see [Section 3 Definitions](#) for details). Strict regulations govern waste management and its disposal. Failure to comply may result in unsafe conditions as well as fines levied by local, state, and federal regulatory agencies.

The bulk of USC's hazardous wastes are generated within its world-class research labs and medical clinics. Facility renovations and onsite construction projects also contribute significant volumes of waste to USC's totals. However, hazardous wastes in the form of metal-bearing electrical equipment, mercury-containing lightbulbs, and flammable aerosol containers can be found throughout USC's entire network of facilities.

USC is legally responsible for the safe transport and proper disposal of every waste item packaged and shipped offsite for disposal. USC never loses legal responsibility for its waste, even when the waste is transferred to a certified vendor to be disposed of.

Waste Label Requirements

All hazardous chemical waste containers must have a completed Hazardous Waste Label with the following critical information per California EPA requirements.:

- Accumulation Start Date
- Contents - NOTE: An incomplete list of constituents on an existing waste container label may lead to unsafe handling and packaging of that container and improper disposal methods.
 - Use IUPAC or common industry names for chemicals. DO NOT print molecular or structural formulas.
- Physical State
- Hazard Category
- Generator Contact Information

HAZARDOUS WASTE UNIVERSITY OF SOUTHERN CALIFORNIA AT UPC, CALL 213-740-7215 FOR PICKUP AT HSC, CALL 323-442-2225 FOR PICKUP			
ACCUMULATION START DATE	_____		
WASTE YARD START DATE	_____		
CONTENTS (COMMON NAME)	_____ _____ _____		
PHYSICAL STATE	<input type="checkbox"/> LIQUID	<input type="checkbox"/> SOLID	<input type="checkbox"/> GAS
HAZARD CATEGORY	<input type="checkbox"/> IGNITABLE <input type="checkbox"/> CORROSIVE <input type="checkbox"/> TOXIC <input type="checkbox"/> REACTIVE		
GENERATOR	_____		
LOCATION	_____		
HANDLE WITH CARE! CONTAINS HAZARDOUS OR TOXIC WASTES			

Refer to the [Hazardous Waste Labeling Guide Sheet](#) for details on filling out a waste label. **NOTE:** When containers are reused to accumulate the same waste stream for emptying into a larger "collection" container, "Recurring Use" may be applied to the *Accumulation Start* and *90-day Period* dates on the waste label without having to

change other labeling information. If the container is emptied one or more times each day, the word "Daily" may be written in the *Date* area of the label.

Waste Preparation and Staging

1. Select a suitable container for the waste category (see [Management of Waste Streams](#) chart).
2. Place an adhesive waste label or tie tag on the container as soon as the first amount of waste is transferred. Record required pertinent information on the label.
3. Place container in secondary containment.

Refer to the [Hazardous Waste Prep and Staging Guide Sheet](#) for details.

Satellite Accumulation Areas

Initial storage of hazardous wastes is allowed within designated satellite accumulation areas (SAA) at or near the point of generation as long as the following regulatory requirements are met:

1. The SAA is under the control of trained personnel.
2. The SAA is located at or near the point of waste generation.
 - a. A generator may have multiple SAAs within the same laboratory space.
3. All waste containers are stored within secondary containment in case of spills or releases.
4. Incompatible wastes are separated utilizing individual secondary containers.
5. All waste containers are labeled.
6. All waste containers are compatible with the material(s) placed in them.
7. All waste containers are rated for or capable of containing the material(s) within them if tipped over.
 - a. All containers must have the ability to be closed/sealed (e.g., no open-top containers or containers sealed with parafilm or other improvised lids).
8. Each SAA does not exceed a volume of 55-gallons.
9. Waste containers are not stored in excess of the following storage time limits:
 - a. Universal Waste: 1 Year
 - b. Chemical Waste: 270 days
 - c. Radioactive Waste: 90 days mixed waste
 - d. Biological Waste: 7 Days

NOTE: The state of California does not require SAAs to be inspected, but Hazmat recommends qualified laboratory personnel complete a non-binding weekly inspection.

Disposal Procedures

Simple steps for hazardous waste disposal are outlined in the [Hazardous Waste Disposal Guide Sheet](#) for Chemical, Biohazardous, and Universal waste streams. Steps for radioactive waste disposal are outlined in the [Radioactive Waste Disposal Guide Sheet](#).

When making a hazardous waste pickup request, consult Table 5.1 below to select the waste request method that corresponds to the specific waste stream. Note that:

- [EHSA](#) is a restricted access platform that all approved research and clinical laboratory personnel can use to submit hazardous waste pickup requests for hazardous waste items they generate, including universal, biological, chemical, and radioactive wastes. Refer to the [EHSA Waste Pickup + Supplies Request SOP](#) for instruction.
- Qualtrics is a platform available to all USC students, faculty, and staff (not just those in laboratories). It is intended to submit universal waste item requests, including those for electronics, batteries, lightbulbs, and aerosols. Use the Universal Waste Pickup Request Form at <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/> to submit a request.

Priority is given to chemical, biological/biomedical (particularly, onsite storage of non-refrigerated biological wastes), and radioactive waste requests due to their hazardous nature and strict governing regulations. Hazmat collects biological wastes via scheduled pickup routines that do not require a request submission. However, USC onsite generators may submit a request for biological waste pickup via [EHSA](#).

Universal waste requests are handled by Hazmat and FPM. However, some may be transferred to an approved universal waste vendor to complete. In this event, a representative of Hazmat will contact the requester with further details and instructions.

Waste requests are handled and completed within three to five business days of submission. NOTE: Routine hazardous waste pickups are conducted during the week throughout UPC and HSC. Go to [HSC Waste Pickup Schedule](#) and [UPC Waste Pickup Schedule](#) for days/locations served.

For information regarding pickup requests, contact EH&S Hazmat hazmat@usc.edu or 213-740-7215.

Management of Waste Streams

Table 5.1 Waste request method for specific waste streams.

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Acids	<ul style="list-style-type: none"> Glass containers - one gallon or less Poly containers, five gallons or less 	<ul style="list-style-type: none"> DO NOT use glass containers for HF waste (HF etches glass) DO NOT mix organic and inorganic acids (e.g., acetic acid (CH₃COOH) and sulfuric acid (H₂SO₄)) 	--	EHSA/RSS
Activated Carbon	<ul style="list-style-type: none"> Poly bags Poly screw-top pails 	--	--	EHSA/RSS
Aerosols	<ul style="list-style-type: none"> Original container 	--	--	EHSA/RSS
Airbags	<ul style="list-style-type: none"> N/A 	--	--	Contact HazMat
Animal Bedding	<ul style="list-style-type: none"> Waste containers are provided for bedding 			EHSA/RSS
Animal Carcasses	<ul style="list-style-type: none"> Ziplok bag Brown paper bag Pathological container 	<ul style="list-style-type: none"> See Animal Carcass Management below. 	<ul style="list-style-type: none"> Freezer; keep in freezer unit[†] pick-up 	EHSA/RSS
Animal Specimens	<ul style="list-style-type: none"> Original container 	<ul style="list-style-type: none"> See Animal Carcass Management below. 		EHSA/RSS
Antifreeze	<ul style="list-style-type: none"> Poly or metal drums, 55 gallons or less 	--	--	Contact HazMat*
Asbestos	<ul style="list-style-type: none"> Poly bags, double sealed Sealed, roll-off containers 	--	--	Contact HazMat*

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Ballasts, PCB	• N/A	• PCB - polychlorinated biphenyl		Contact HazMat*
Ballasts, non-PCB	• N/A			Contact HazMat*
Batteries, Alkaline	• Battery recycling container		• Store in cool, dry location	Online form** or EHSA/RSS
Batteries, Lead-Acid	• Battery recycling container	• Cover terminals with tape	• Store in cool, dry location	Online form** or EHSA/RSS
Batteries, Lithium	• Battery recycling container	• Cover terminals with tape	• Store in cool, dry location	Online form** or EHSA/RSS
Batteries, NiCad & NiMH	• Battery recycling container	--	• Store in cool, dry location	Online form** or EHSA/RSS
Biohazardous Waste, Liquid	• Glass container • Poly container			EHSA/RSS
Biohazardous Waste, Solid	• Bio red bags • Biohazard containers			EHSA/RSS
Butane Refills	• N/A		• Store in cool, dry location	EHSA/RSS
Cameras	• N/A			Online form** or EHSA/RSS
Cassette Tapes, CDs, DVDs	• N/A			FPM†

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Caustics	<ul style="list-style-type: none"> Glass containers - one gallon or less Poly containers, five gallons or less 	--	--	EHSA/RSS
Chemical Containers - Empty, Residue	<ul style="list-style-type: none"> N/A 	--	--	EHSA/RSS
Chemotherapy Waste, Bulk	<ul style="list-style-type: none"> Chemotherapy waste container 	--	--	EHSA/RSS
Cleaning Chemicals	<ul style="list-style-type: none"> Original container 	--	--	EHSA/RSS
Composites	<ul style="list-style-type: none"> Poly bags 	--	--	Contact HazMat*
Computers, Laptops & Accessories	<ul style="list-style-type: none"> N/A 	--	--	Online form** or EHSA/RSS
Cooking Oil	<ul style="list-style-type: none"> Poly or metal drum, 55 gallons or less 	--	--	Contact HazMat*
Coolant	<ul style="list-style-type: none"> Poly or metal drum, 55 gallons or less 	--	--	Contact HazMat*
Dental Amalgams	<ul style="list-style-type: none"> Original container 	--	--	EHSA/RSS
Dental Instrument Sanitization Solutions	<ul style="list-style-type: none"> Poly containers, five gallons or less 	--	--	EHSA/RSS
Diesel Fuel	<ul style="list-style-type: none"> Poly or metal drum, 55 gallons or less 	--	<ul style="list-style-type: none"> Store in cool, dry location 	Contact HazMat*

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
DEA Regulated Waste	• Original container	• DEA - Drug Enforcement Agency		If contents remain, submit CS waste request for disposal [‡]
Electrical Wires	• N/A	--	--	Online form ^{**} or EHSA/RSS
Ethidium Bromide Gels	• Poly bags • Poly screw-top pails	--	--	EHSA/RSS
Film, Cinematic	• Original container	--	• Store in cool, dry location	Contact HazMat*
Fire Extinguishers	• N/A	--	--	Contact HazMat*
Formalin Solution	• Poly or metal drum, 55 gallons or less	--	--	EHSA/RSS
Freezers	• N/A	• Decontaminate first • Release to FPM	--	FPM [†]
Gas Cylinders	• Original Container	--	• Store in cool, dry location	EHSA/RSS
Gasoline	• Poly or metal drum, 55 gallons or less	--	• Store in cool, dry location	Contact HazMat*
Glassware, Chemically Contaminated	• Green sharps container	--	--	EHSA/RSS
Glassware, Clean	• Cardboard box with poly liner		--	Aramark (UPC) FPM [†] (HSC)

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ CS Form G – Controlled Substance Waste Disposal Request

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Hard Drives	• N/A	--	--	Online form** or EHSA/RSS
Inhalers	• Blue pharmaceutical container	--	--	EHSA/RSS
Laboratory Instruments	• N/A	--	--	EHSA/RSS
Laundry Detergents & Additives	• Original container	--	--	Contact HazMat*
Lead Aprons & Shielding	• N/A	--	--	EHSA/RSS
Lightbulbs	• N/A	--	--	Online form** or EHSA/RSS
Mercury-Containing Instruments & Devices	• N/A	--	--	EHSA/RSS
Metal-Containing Waste, RCRA 8 (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Silver, Selenium)	<ul style="list-style-type: none"> • Original container • Other container • Reaction vessel 	<ul style="list-style-type: none"> • If waste streams are commingled, use recipient container. • In certain cases, reaction vessels may be used as waste containers 	--	EHSA/RSS
Metal Waste, Scrap	• Poly or metal drum, 55 gallons or less	--	--	EHSA/RSS
Metal Waste, Shavings	• Poly or metal drum, 55 gallons or less	--	--	EHSA/RSS

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† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Organic Peroxides	• Original container	--	• Store in cool, dry location	EHSA/RSS
Oxidizers	• Original container • Other container • Reaction vessel	• If waste streams are commingled, use recipient container. • In certain cases, reaction vessels may be used as waste containers	• Store in cool, dry location	EHSA/RSS
Paint Waste, Latex & Water-Based	• Original container	--	--	EHSA/RSS or Contact HazMat*
Paint Waste, Metal-Bearing	• Original container	--	--	EHSA/RSS or Contact HazMat*
Paint Waste, Oil-Based	• Original container	--	• Store in cool, dry location	EHSA/RSS or Contact HazMat*
Paraffin Wax & Xylene	• Poly or metal drum, 55 gallons or less	--	--	EHSA/RSS
Pharmaceutical Waste (Non-DEA Regulated)	• Blue pharmaceutical container	--	--	EHSA/RSS
Phenol & Chloroform Pipette Tips	• Poly bags • Poly screw-top pails, five gallons or less	--	--	EHSA/RSS
Photography Developer	• Poly drum, 55 gallons or less	--	--	EHSA/RSS
Photography Fixer	• Poly drum, 55 gallons or less	--	--	EHSA/RSS

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Printer Inkjet Cartridges	• N/A	--	--	Online form** or EHSA/RSS
Printer Toner Cartridges	• N/A	--	--	Online form** or EHSA/RSS
Printers	• N/A	--	--	Online form** or EHSA/RSS
Radiological, Aqueous & Organic Liquids	• Poly containers, five gallons or less	• DO NOT MIX AQUEOUS radioactive liquid waste with ORGANIC radioactive liquid waste.	--	EHSA/RSS
Radiological, Lead Pigs	• N/A	--	--	EHSA/RSS
Radiological, Pathological Specimens	• Brown paper bag	• See Animal Carcass Management below.	--	EHSA/RSS
Radiological, Sharps	• Sharps container	• Affix a Radioactive sticker to container.	--	EHSA/RSS
Radiological, Solids	• Consult the Radioactive Waste Disposal Guide Sheet for container type	--	--	EHSA/RSS
Radiological, Vials Containing Unabsorbed Liquids	• Consult the Radioactive Waste Disposal Guide Sheet for container type	• DO NOT include other solid waste with the vials.	--	EHSA/RSS

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** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Refrigerators	• N/A	<ul style="list-style-type: none"> • Decontaminate first • Release to FPM 	--	FPM†
Servers	• N/A	--	--	Online form** or EHSA/RSS
Sharps, Biological	• Red sharps container	--	--	EHSA/RSS
Silica Gel	<ul style="list-style-type: none"> • Poly bags • Poly screw-top pails 	<ul style="list-style-type: none"> • Exposure to silica gel may cause skin, eye, and/or respiratory tract irritation. 	<ul style="list-style-type: none"> • Store in closed containers 	EHSA/RSS
Smoke & Gas Detectors	• N/A	--	--	Contact HazMat*
Solvents, Halogenated	<ul style="list-style-type: none"> • 5-gallon safety can • Poly or metal drum, 55 gallons or less 	<ul style="list-style-type: none"> • See Spent Solvent Management below. 	<ul style="list-style-type: none"> • Store in cool, dry location 	EHSA/RSS
Solvents, Non-Halogenated	<ul style="list-style-type: none"> • 5-gallon safety can • Poly or metal drum, 55 gallons or less 	<ul style="list-style-type: none"> • See Spent Solvent Management below. 	<ul style="list-style-type: none"> • Store in cool, dry location 	EHSA/RSS
Spontaneously Combustibles	• Original container		<ul style="list-style-type: none"> • Store in inert atmosphere 	EHSA/RSS
Televisions & Monitors	• N/A	--	--	Online form** or EHSA/RSS
Tires	• N/A	--	--	Contact HazMat*
Used Oil	• Poly or metal drum, 55 gallons or less	--	--	Contact HazMat*

* Request pickup via hazmat@usc.edu or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Waste Category	Waste Container [§]	Notes/Advisories	Storage Information	Pickup Request
Used Oil Filters	• Poly or metal drum, 55 gallons or less	--	--	Contact HazMat*
Vacuum Pumps	• N/A	--	--	EHSA/RSS
Water Treatment Chemicals	• Original container	--	--	Contact HazMat*
Water Reactives	• Original container	--	• Store in cool, dry location	EHSA/RSS

* Request pickup via [hazmat@usc.edu](mailto: hazmat@usc.edu) or 213-740-7215

** Universal Waste Pickup Request Form <https://ehs.usc.edu/hazmat/pickup/hazardous-waste-pickup-request-form/>

† FPM Customer Resource Center 213-740-6833

‡ [CS Form G – Controlled Substance Waste Disposal Request](#)

§ Review the [Hazardous Waste Disposal Guide Sheet](#) for container types

Animal Carcass Management

Carcasses of animals treated with the following hazardous materials are managed and disposed of per instructions below (see the Waste Hierarchy diagram in the [Appendix: Hazardous Waste Management FAQs](#)).

- **NO biohazardous materials, chemicals, or radioactive materials**
 1. Put carcass in a brown paper bag.
 2. Keep brown paper bag in the animal facility freezer or a lab freezer until pickup.
- **Biohazardous materials**
 1. Put carcass in a red biohazard bag.
 2. Place red biohazard bag into a pathological waste bucket (animal facility freezer) or in a hard-sided leak-proof secondary container in a lab freezer until pickup.
 3. The container must be labeled with a biohazard sticker.
- **Chemicals**, including chemotherapy agents
 1. Put carcass in a brown paper bag.
 2. Place brown paper bag inside a Ziploc bag labeled with a hazardous waste label.
 3. Put the Ziploc bag into a hard-sided leak-proof bucket in the animal facility freezer or a lab freezer until pickup. For example, mice contaminated with carbachol, cisplatin, or paraformaldehyde are managed as hazardous waste.
 4. Keep animal specimens in original containers.

- **Radioactive materials**

1. Put carcass in a brown paper bag labeled with a "Radioactive" sticker.
2. Place brown paper bag inside a Ziploc bag.
3. Keep brown paper bag in the animal facility freezer or a lab freezer until pickup.
4. Keep animal specimens in original containers.

- **Biohazardous materials and chemicals**

- See **Chemicals** above.

- **Biohazardous materials, chemicals, and radioactive materials**

- See **Radioactive materials** above.

Contact HazMat (hazmat@usc.edu) and Biosafety (biosafety@usc.edu) for assistance in hazardous waste characterization and carcass disposal guidance.

Spent Solvent Management

Halogenated and non-halogenated solvents from rotovaps and from lightly loaded chromatography columns are good candidates for fuel blending and can be collected in 5-gallon safety cans.

Non-halogenated Solvents for safety can collection:

- Acetone
- Cyclohexane
- Cyclohexanone
- Iso-, secondary, and normal butyl alcohols
- Secondary and normal butyl acetate
- 1,4-Dioxane
- 2-Ethoxyethanol
- Ethyl acetate
- Ethyl alcohol
- Ethyl benzene
- Heptane
- Hexanes
- Methyl alcohol
- Methyl ethyl ketone (MEK)
- 4-Methyl-2-pentanone (methyl isobutyl ketone)
- Napthas and stoddard solvent
- Petroleum ether
- Normal and iso-propyl alcohols
- Isopropyl and normal propyl acetate
- Tetrahydrofuran
- Toluene
- Xylenes

Non-halogenated Solvents for safety can collection:

- Chlorobenzene
- Chloroform < 10% by volume
- Dichloromethane (methylene chloride)
- Tetrachloroethylene
- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- 1,1,2-Trichloro-1,2,2-trifluoroethane
- Trichloroethylene
- Trichlorofluoromethane

The following solvents/chemicals, if commingled with spent solvents, are unacceptable for fuel blending due to their toxicity and/or physical hazards:

- Pyridine, amines, and dimethyl sulfide
- Solvents with a high concentration of solutes
- Organic acids and bases
- Oxidizers/highly reactive chemicals
- Odorous chemicals

Segregate these chemicals and collect into one-gallon or smaller containers for disposal as lab packs.

NOTE: Certain metals (e.g., aluminum, magnesium, sodium, potassium lithium, calcium, barium, titanium, and beryllium) react explosively with halogenated solvents. DO NOT commingle waste metals with spent halogenated solvents.

Hazardous Waste Minimization and Recycling

Reduce, reuse, and recycle are sustainable strategies USC employs to lessen its environmental impact and financial liability. These strategies can provide additional revenue in certain circumstances.

Recyclable hazardous waste (see [Recycling Hazardous Waste Fact Sheet](#)):

- Flammable and halogenated solvents are fuel-blended with waste oils to power cargo ships.
- Oily rags are processed as solids-to-energy for the activation of cement kilns.
- Silver from spent photographic reagents is recovered for reuse.
- Used batteries are recycled for their metals.
- Surplus chemical products from research labs are salvaged for re-distribution and use within USC.

Best practices for laboratory waste minimization:

- Substitute highly hazardous chemicals for less or non-hazardous ones.
- Reduce volume or toxicity of chemicals used in experiments.
- Obtain compressed gas cylinders only from vendors who take back or exchange cylinders.
- Manage and control chemical inventory to better track chemical purchase and use.
- Promote good labeling practices to reduce proliferation of unknowns and subsequent costs to identify the unknowns before disposal - see [CHP Section 5: Labelling and Signage in the Lab: What You Need to Do](#).
- Neutralize or deactivate a hazardous component as the final step in a chemical process.

Empty Container Management

Empty containers that held hazardous materials or hazardous wastes are subject to [22 CCR § 66261.7. Contaminated Containers](#) requirements. See definition of "Container" and "Empty Container" in [Section 3 Definitions](#). Per [CHP](#) Section 9, empty containers may be repurposed as waste containers if residual contents are compatible with waste to be added.

Procedure

1. Confirm container is empty.
 - a. All pourable liquids no longer pour when the container is inverted and all non-pourable materials are scraped or otherwise removed; drip/dry. **NOTE: Do not evaporate residual liquids from containers in a fume hood as a form of removal.**
 - b. If the container stored a solid or non-pourable hazardous material (powders, sludges, grease, thick resins, etc.) then it must be completely scraped out with no remaining buildup inside the container.
2. Review the [List of Hazardous and Extremely Hazardous Wastes](#) from the University of California, San Diego to determine if the container's former contents qualify as extremely hazardous waste. Containers that held a listed extremely hazardous material, or an acutely hazardous waste must be managed as hazardous waste.
 - a. If the material **IS** listed as extremely hazardous waste, the container must be collected by EH&S and disposed of as hazardous waste.
 - b. Do not rinse the container.
 - c. Attach an adhesive Hazardous Waste label or tie tag and request a waste pick up via [EHSA](#).
3. The following containers are exempt from regulation under certain conditions:
 - a. Compressed gas cylinders - when the pressure in the cylinder approaches atmospheric pressure.
 - b. Aerosol containers - when the container is emptied to the maximum extent practical under normal use provided that:
 - i. The empty can is not regulated by federal law under the Resource Conservation and Recovery Act (RCRA); and
 - ii. The aerosol container did not previously hold an acute or extremely hazardous material. NOTE: Aerosol containers with hazardous material remaining in the container, including those due to a clogged nozzle, damaged valve, or loss of propellant, are not exempt from regulation and must be managed as hazardous wastes or managed as universal wastes per California Health and Safety Code [section 25201.16](#).
4. Disposal or recycling options for empty containers that did NOT contain acutely or extremely hazardous materials are summarized in Table 5.2 on the next page.

2 Disposal/recycling options for empty containers not formerly containing acutely or extremely hazardous materials.

Disposal Options	Container (≤ 5 Gal.)	Container (> 5 Gal.) ^A	Aerosol Can	Absorptive Container ^B	Compressed Gas Cylinder ^C
Return to SUPPLIER for refilling	✓	✓	✗	✓	✓
DRUM RECONDITIONER	✓	✓	✗	✗	✗
SCRAP METAL/ PLASTIC or other authorized recycling facility ^D	✓	✓	✓	✓	✓ ^E
SOLID WASTE facility - remove top of container	✓	✗ ^F	✓	✓	✓ ^E
HAZARDOUS WASTE disposal facility (TSDF)	✓ ^G	✓ ^G	✓ ^H	✓ ^I	✓ ^J

A The following additional requirements must be met for "empty" containers greater than 5 gallons in capacity:

1. The container shall be marked with the date it was emptied.
2. The container shall be managed within one year of being emptied.
3. The generator shall provide name, street address, mailing address, and telephone number of the facility where the "empty" container was shipped to. This information shall be maintained on-site for three years by the generator.

B Wood, paper bags, etc. that have not absorbed any hazardous material.

C At atmospheric pressure

D Consider recycling options first. Use a solid waste facility (landfill) only as a last resort. Transportation and packaging of the empty containers must be in accordance with State of California, Department of Transportation (DOT), and DTSC regulations.

E Remove valves.

F Intact containers not accepted at local landfills.

G Required if container is not "empty".

H Required if any residual material or propellant remains inside: See [DTSC Management of Aerosol Cans Fact Sheet](#)

I Required if hazardous material absorbed or left on container.

J Required if pressure or liquid remains inside



6.0 Laboratory Move or Closure

Principal Investigator (PI), Laboratory Manager, and Research Staff are required to follow instructions outlined at the [Move or Close a Lab](#) web page prior to vacating any assigned laboratory or space where chemicals, biologicals, or radioactive materials have been used or stored.

Common events that lead to laboratory decommissioning are:

- Terminating affiliation with the University of Southern California
- Relocating to another USC-owned or operated laboratory space
- Retirement of a Principal Investigator
- Renovations or demolition of existing laboratory space

The PI, Lab Manager, and PI Designee are responsible for overseeing the decommissioning procedure and certifying that a vacated lab space has been properly decommissioned. Researchers vacating shared spaces shall ensure this procedure is implemented for their section in the shared space.

In the event the PI, Lab Manager, and Designee cannot oversee the lab decommission, the Department Chair or Department Chair Appointee becomes responsible for the oversight.

Packaging and handling of chemicals and biological and radiologic materials must only be performed during EH&S business hours 8:30 am – 4:30 pm. This ensures that emergency spill response technicians are onsite and able to respond promptly to any spill or release that may occur during the laboratory close-out procedures.

Contact EH&S Hazmat hazmat@usc.edu to schedule a close-out inspection once close-out procedures are completed. It is highly recommended to contact EH&S HazMat at least:

- One to two weeks ahead of the planned departure date to complete the formal inspection.
- Four weeks in advance if the lab has controlled substances.

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7.0 Spill Response and Clean-Up

See Hazardous Materials [Spill Response and Clean-Up](#) web page.

Major Spills

Major spills are spills that are beyond the typical laboratory spill kit's capacity and require additional resources such as emergency first responders, specialized PPE (e.g., SCBA), and larger-scale clean-up equipment and materials to remediate. For all major chemical, biological, or radioactive spills:

1. Notify all personnel that a spill has occurred.
2. Evacuate personnel from the area and deny entry.
3. Notify USC DPS at (213) 740-4321 UPC, (323) 442-1000 HSC. DPS personnel will quickly secure the affected area and request appropriate resources, including EH&S professionals.
4. Notify the Lab Manager and EH&S (323) 442-2200. Chemical - labsafety@usc.edu, Biohazardous - biosafety@usc.edu, and Radioactive - radsafety@usc.edu.

Minor Spills

Minor Chemical Spill

A minor chemical spill is generally considered less than one liter and contaminates small areas or equipment, but DOES NOT result in external or internal contamination of personnel or serious delay in work procedures.

- Small volume
- Accessible location
- No inhalation hazard (i.e., no toxic vapor or toxic dust)
- Not highly health hazardous by skin contact
- Does NOT require respiratory protection

A spill kit can be assembled by purchasing individual components (see the [Chemical Spill Kit Guide Sheet](#) for details) or a commercial spill kit can be purchased from a laboratory supply company.

Minor Chemical Spill Clean-up

1. Notify all personnel that a spill has occurred.
2. Clean the spill ONLY if you have suitable training, PPE, spill cleanup supplies, and feel comfortable.
3. Retrieve spill kit and all its contents.
4. Ensure that clean-up materials are compatible with spilled materials.
5. Wear PPE appropriate for the chemical.
6. Follow spill cleanup instructions provided by EH&S, Safety Data Sheets (SDS), or provided by the manufacturer of a professional spill kit.
7. Follow instructions in [Section 5](#) to properly dispose of the clean-up materials.

Contact Hazmat hazmat@usc.edu or Lab Safety labsafety@usc.edu for additional information.

Compressed Gas Leak

Compressed gases present health hazards, such as simple asphyxiants (e.g., argon, helium, and nitrogen) and highly toxic/flammable (e.g., arsine, propane, and acetylene) and physical hazards (gases under extreme pressure).

Non-Toxic, Non-Flammable Gas Leak

1. Alert all persons nearby.
2. Secure the area to restrict access.
3. Notify the Lab Manager.
4. Locate the leak by listening for a hissing sound or by applying soapy water to gas cylinder connections, if needed.
5. If the cylinder or cylinder valve is leaking, immediately contact the supplier. Do NOT attempt to repair the cylinder or the valve. Label the cylinder as "Defective."
6. If the regulator is leaking, immediately discontinue use and send the regulator back to the manufacturer for repair or replace with a new regulator. Do NOT attempt to disassemble or repair regulators.
7. If the pipework valves or equipment are leaking, repair, replace, or tighten fittings, as appropriate. Do not make any changes without approval from supervisors.
8. Perform leak testing before returning cylinder to service.

Toxic/Flammable Gas Leak

1. Alert all persons nearby.
2. Evacuate the area immediately and close all doors.
3. Notify DPS.
4. Notify the PI/Laboratory Manager.

Minor Biohazardous Material Spill

Follow stepwise instructions in the [Biohazardous Spill Clean-Up Guide Sheet](#).

Contact Biosafety at biosafety@usc.edu for additional information.

Minor Radioactive Spill

Follow stepwise instructions in the [Radiation Emergency Procedures](#).

Contact Radiation Safety at radsafety@usc.edu for additional information.

NOTE: Notify DPS of any spill, even if the spill was cleaned.



Appendix

USC Facilities and Regulated Sites

EH&S Hazmat oversees waste generation and disposal services at all USC-owned and leased facilities excluding Keck Medicine of USC. USC facilities are spread throughout the Greater Los Angeles Area, the state of California, and the United States and present logistical challenges in hazardous waste handling and disposal.

Multiple USC-owned hazardous waste generating facilities are managed as a singular hazardous waste generating site (e.g., University Park Campus) to maximize overall efficiency and minimize regulatory fees and penalties. Transportation of hazardous materials and wastes over public roads is restricted unless en route to a recycler or disposal facility.

The main USC sites serviced by USC Hazmat personnel are listed below.

- *University Park Campus*
- *USC Village*
- *Health Science Alhambra Campus*
- *Catalina Island Campus*
- *Los Angeles Memorial Coliseum*
- *Health Science Campus*
- *Pasadena Research Facility*

If your location is not listed, contact EH&S Hazmat directly at hazmat@usc.edu or 213-740-7215.

USC-Approved Hazardous Waste Vendors

Universal	Biological	Chemical	Radioactive
<ul style="list-style-type: none">• <i>Human IT</i>• <i>Tech Waste Recycling</i>	<ul style="list-style-type: none">• <i>Veolia</i>	<ul style="list-style-type: none">• <i>Triumvirate Environmental, Inc. (TEI)</i>• <i>Clean Harbors</i>	<ul style="list-style-type: none">• <i>Thomas Gray & Associates, Inc. (TGA)</i>

Hazardous Waste Management FAQs

What waste containers are used for long stem pipets?

- Bio-contaminated glass pipets - red bio sharps container
- Bio-contaminated plastic pipets - bio red bag/polycontainer
- Chemical-contaminated glass pipets - non-infectious green sharps container
- Non-contaminated glass pipets - clean broken glass box
- Non-contaminated plastic pipets - poly bag for solid waste

Can disposable gloves go into regular trash?

- Uncontaminated disposable gloves may be placed in regular trash.
- Bio-contaminated gloves are placed in bio red bag/polycontainer.
- Chemical-contaminated gloves are placed in a poly bag.

See the [Hazardous Waste Disposal Guide Sheet](#) for details.

What containers does EH&S provide? What containers does the lab have to acquire?

EH&S provides:

- Poly safety cans for flammable/combustible and halogenated solvent recycling
- Bio red bags and poly containers
- Red sharps containers
- Pharmaceutical and Chemotherapy containers
- Pathological waste containers
- Fiber drums
- Poly bags

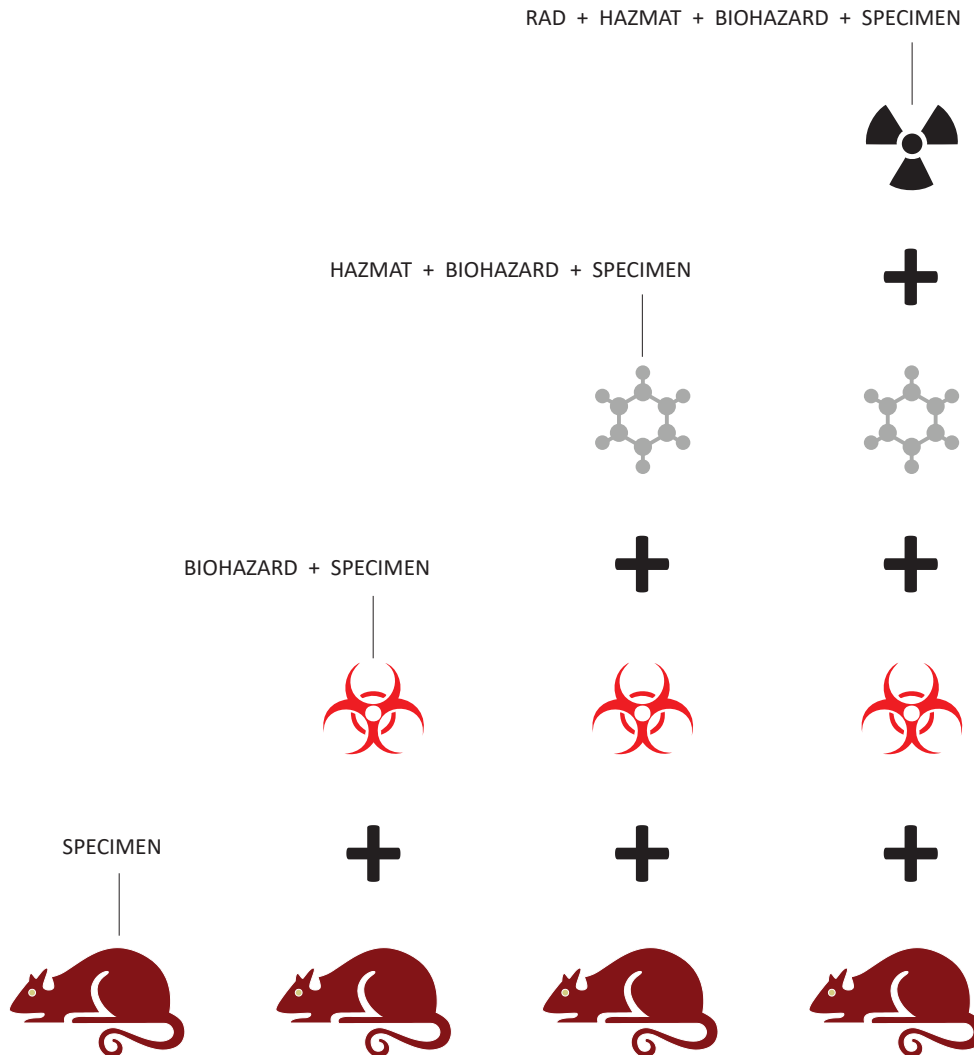
To request supplies, follow instructions in the [EHSA SOP Waste Pickup + Supplies](#) document.

Labs acquire:

- Clean broken glass boxes or sturdy cardboard boxes
- Secondary containers/containment for pure chemicals, reagents, or waste storage (see [Hazardous Waste Prep and Staging Guide Sheet](#))
- All other containers not supplied by EH&S.

How does the waste hierarchy work?

Waste is ranked (and subsequently treated) according to its overall hazardous nature (see waste hierarchy illustration below) and the strict regulations (e.g., NRC, RCRA) that govern it. Contact hazmat@usc.edu for more information.



Is there information on simple waste collection and segregation?

Consult the [Chemical Waste Disposal Guide Sheet](#) for liquid and solid waste stream collection/segregation and suggested waste containers to use.

