

DEHS General Lab Safety & Hazardous Waste Training Handouts includes:

- **Responsible Conduct of Research** – provides an overview of various training EHS and other requirements for lab personnel
- **Lab Safety Working Safely with Hazardous Chemicals** – snap shot of DEHS training objective
- **Safe Operating Procedure for Chemical Fume Hood** – provides information to lab personnel on how to properly and safely use and work in a chemical fume hood
- **Hazard Communication The change to GHS** - OSHA has recently finalized (effective June 2016) the Federal requirements for employer responsibility for communicating chemical hazard information in the work place through the Globally Harmonized System (GHS). This includes updated standard pictogram labels and material safety data sheets (SDS)
- **Lab Specific Training** – handout covers what PI needs to provide to new lab personnel specific to the lab
- **Hazardous Waste Accumulation Area Requirements** – this handout covers the “golden rules” of how lab personnel must manage their chemical hazardous waste containers in their lab
- **Hazardous Waste Determination Criteria** – provides lab personnel a general overview on how they can determine if their waste is a regulated hazardous waste according to Federal EPA regulations. As a kind reminder, even if the chemical waste is not EPA regulated, it may still be harmful to our ecological and aquatic environment. Chemical waste sink disposal is severely restricted at U of L. Personnel should contact DEHS hazardous waste at 852-2956 prior to discarding chemical waste down the drain or into the regular trash.
- **Got Chemical Waste?** Handout provides a more visual overview of chemical waste management requirements here at U of L
- **Biological Waste/Medical Waste Disposal: Instructions & Stericycle Required Labeling** - handout provides detailed information to lab personnel on how to collect medical waste and ready full containers for pick up by U of L custodial services.
- **U of L DEHS Pocket Waste Guide** – a handy guide to how to handle virtually all type of recyclables and waste at U of L. Includes a list of contact phone numbers for DEHS, Physical Plant, and ULPD.

Responsible Conduct of Research – Environmental Health And Safety Issues

The Department of Environmental Health and Safety (DEHS) provides programs and services to help you meet the regulatory requirements for the responsible conduct of research involving environmental health and safety issues. The chart below provides basic information on how to meet those requirements, along with additional resources and contact information.

If you ...	You need to ...
Have a laboratory or oversee research work	<ul style="list-style-type: none"> • Ensure that all personnel (including yourself) have completed applicable safety training • Be prepared for emergencies, have a copy of the Building Emergency Action Plan (BEAP) for your building and any special procedures for your laboratory • Ensure that you and your staff follow DEHS procedures developed to comply with federal, state or local regulations and laws. These procedures are located on the DEHS Lab Safety web page – http://louisville.edu/dehs/ohs/labchemsafe/labchemsafe.html
Work with Chemicals	<ul style="list-style-type: none"> • Have a written Chemical Hygiene Plan (CHP) that addresses the safe use, proper storage, engineering controls, personal protective equipment and emergency response procedures for chemicals in your laboratory. Maintain a chemical inventory for your laboratory. CHP information is located on the DEHS web page • Ensure that laboratory personnel are familiar with and follow the CHP requirements and use Material Safety Data Sheets (MSDS) appropriately • Make sure that all laboratory staff have attended the laboratory safety training provided by DEHS, contact 852-2830 for further information
Work with Radioactive Materials	<ul style="list-style-type: none"> • Apply to become and be approved as an authorized user of radiation. This procedure and the appropriate form are found in the lab safety section of the DEHS web site • Ensure that all laboratory personnel have taken the radiation safety class offered by DEHS. Contact 852-5231 for further information • Review and know the requirements in the <i>Radioactive Material Users Guide</i> and the <i>Human Use Manual</i>
Work with Biological Agents (plant, animal or human pathogens and toxins), Human Source Materials, Recombinant DNA (rDNA; including Gene Therapy, use of transgenic animals and/or viral vectors), Select Agents	<ul style="list-style-type: none"> • Register all biological agents/rDNA research and/or all research involving human source materials (blood, body fluids, tissues or cell lines) or non-human primate specimens or cell lines with UofL's Institutional Biosafety Committee (IBC) by submitting an IBC application/registration for approval before initiation of research https://louisville.edu/dehs/committees/IBC/ibc.html • Contact UofL's Biological Safety Officer PRIOR to the acquisition or transfer of any of the USDA or CDC Select Agent https://louisville.edu/dehs/biosafety/agents.html • Report accidents or exposures involving biological agents, rDNA and/or BBP to DEHS at 852-6670 • Contact the Biological Safety Officer at 852-2959 for additional information
Work with Human Source or other Potentially Infectious Material	<ul style="list-style-type: none"> • Fulfill OSHA's Bloodborne Pathogens compliance requirements prior to initiation of research, to include the following: <ul style="list-style-type: none"> ▪ Development of written Exposure Control Plan (template on DEHS web page) ▪ Make the hepatitis B vaccination available to laboratory staff with exposure potential – no cost to employee ▪ Ensure that everyone with potential exposure has annual training ▪ If someone is exposed, make sure that there is post exposure evaluation and follow-up ▪ Further information is located on the DEHS web page or contact 852-2962
Use Biological Safety Cabinets	<ul style="list-style-type: none"> • University policy dictates that your biological safety cabinet (BSC) must be certified upon installation, annually thereafter and following relocation • If the BSC is to be relocated or taken out of service, you must contact DEHS at 852-2959 • BSC's must be decontaminated prior to relocation and/or maintenance is performed

Generate Chemical Waste	<ul style="list-style-type: none"> • Ensure that all laboratory personnel have attended the hazardous waste class offered by DEHS, for more information contact 852-2956 • All chemical waste in the laboratory must be stored in appropriate containers, labeled as "hazardous waste" and lids must be closed except when adding waste • Waste pickups should be arranged by pick-up request through the DEHS web site, for more information contact 852-2956
Generate Biohazardous Waste	<ul style="list-style-type: none"> • Ensure that all laboratory personnel have completed online Basic Biosafety Training and attended the hazardous waste class offered by DEHS. This class also includes biohazardous waste management, for more information contact 852-2956 • Biohazardous waste should only be placed in special containers provided by the custodial staff and must be packaged in accordance to Department of Transportation (D.O.T.) regulations, for more information contact 852-2962.
Generate Radioactive Waste	<ul style="list-style-type: none"> • Ensure that all radioactive material users have attended the radiation safety class offered by DEHS. Contact 852-5231 for further information • Radioactive waste must be segregated by isotope and the waste tag must be attached. Tags may be obtained by calling 852-5231 • Radioactive waste pickups should be arranged by pick-up request through the DEHS web site, for more information contact 852-5231
Resign or retire from U of L, or move, or renovate a laboratory	<ul style="list-style-type: none"> • The responsibility of closing out a laboratory falls upon the Principal Investigator • The U of L Lab Close-Out policy and procedure is on the DEHS web site. Initiate lab close out activities at least 30 days prior to separation or relocation • Submit a Laboratory Close-Out Notification Form to DEHS which can be obtained on the DEHS web site
Receive, ship, provide for shipment, or transport hazardous materials	<ul style="list-style-type: none"> • Determine before shipping whether the biological material or chemical substance (e.g. dry ice) is considered a hazardous material by the D.O.T. • Be aware that shipping or receiving hazardous materials internationally may have additional requirements • Obtain appropriate training required for the function you perform in shipping and/or receiving hazardous materials, contact 852-2948 for further information • Secure appropriate government permits for domestic or international shipping as required • All shipments or receipt of radioactive materials must be handled by the DEHS Radiation Safety Office
Wish to administer hazardous materials to research animal subjects	<ul style="list-style-type: none"> • Submit a <i>Proposal</i> or Modification to the IACUC (as for any use of animals or test substances); the IACUC will forward to the appropriate safety personnel (LSC, BSO, or RSO) • Write safety committee registration (IBC, RSC), Standard Operating Procedure (SOP), and/or Special Animal Safety Protocol (SASP) as instructed by DEHS • Note that although IACUC review continues, final approval is contingent upon the IACUC's receipt of safety approval letter (DEHS, IBC, or RSC) and any required SASP • Contact the RRF prior to using approved agents, post the SASP on the animal holding room door, and ensure the SASP is followed

**Fire and imminent to life and health emergencies, call 911
Chemical Spill & non-emergencies call 852-6111**

Laboratory Safety 852-2830	Chemical Waste 852-2956	Infectious Waste 852-2948	Radioactive Waste 852-5231
Biological Safety 852-2959	Bloodborne Pathogens 852-2962	Decommissioning 852-2830	Animal Care 852-5268



Lab Safety

Working Safely with Hazardous Chemicals

Department of Environmental Health and Safety (DEHS)

852-6670

dehsih@louisville.edu

<http://louisville.edu/dehs/ohs/labchemsafe>

Objectives:

- Recognize the importance of your health and safety.
- Learn to recognize hazards and how to protect yourself.
- Create a safe and healthy working environment.

OSHA Lab Standard – 29 CFR 1910.1450 Occupational Exposure to Hazardous Chemicals in Laboratories requires:

- Written chemical hygiene plan and Standard Operating Procedures (SOPs)
- Safety Data Sheets (SDS)
- Chemical exposure levels kept below permissible exposure limits (PELs)
- Engineering controls and personal protective equipment
- Training (General and Lab Specific)

Penalties -

- Up to \$70,000 per violation
- Departments are responsible for paying penalties.

Steps to Ensure You Are Safe and Healthy:

1. Obtain hazard information.
2. Minimize your exposure to the hazard.
3. Prepare for emergencies.
4. Never underestimate risk.

Safe Operating Procedure for Chemical Fume Hoods

- **Confirm that the hood is operational.** If fitted with a local on/off switch, make sure the switch is in the "on" position; check the airflow gauge if so equipped. In the absence of a gauge, observe the plastic "flow check ribbon" taped to the lower corner of the sash. Airflow can be visually assessed by noting that the ribbon is pulled gently into the hood. The most recent hood test data and optimum sash height are indicated on the yellow label affixed to the hood face. Never work with a malfunctioning hood; report problem hoods to Physical Plant Work Control. Advise DEHS of chemical hoods that malfunction repeatedly.
- **Maintain operations at least 6" inside the hood face.** Vinyl tape can be attached to the work surface to serve as a visual reminder.
- **Lower sash to optimum height.** Optimum height is the sash height at which airflow is maximized without creating turbulence, generally 100 feet per minute. A yellow label placed on the hood face indicates the most recently recommended sash height. (This does not apply to variable volume chemical hoods- Baxter Research Buildings). With unattended or potentially explosive processes, conduct the operation behind a lowered sash or safety shield.
- **Keep head out of hood** except when installing and dismantling equipment.
- **Keep hood storage to an absolute minimum.** Keep only items needed for the ongoing operation inside the hood. Keep the back bottom slot clear at all times as it serves as an exhaust port for chemicals generated near the work surface. Raise large objects at least two inches off the hood surface to minimize air flow disruption.
- **Minimize foot traffic around the chemical hood.** A person walking past a chemical hood can create competing currents at the hood face, causing vapors to flow out. Other sources of competing air currents such as open windows and fans must also be avoided while using a chemical hood.
- **Use extreme caution with ignition** sources inside a chemical hood. Ignition sources such as electrical connections, Variac controllers and open flame can be used inside a chemical hood as long as there are no operations involving flammable or explosive vapors. If possible, ignition sources should remain outside the hood at all times.
- **Replace hood components prior to use.** Every component of a chemical hood, whether airfoil, baffle, or sash, plays a vital role in preventing the escape of hazardous materials from the hood. Any hood components removed to conduct maintenance or repair activities, or to set up experimental apparatus must be replaced prior to using the hood for contaminant control.

HAZARD COMMUNICATION

The Change to GHS



OSHA has updated the HAZCOM Standard Labels and MSDS information requirements. Here are some changes that you need to know.

WHAT IS GHS?

1. Stands for **G**lobally **H**armonized **S**ystem
2. A system standardizing and harmonizing the classification of chemicals and communication of the hazards **internationally** for :
 - Workers & employers
 - Consumers
 - Transport workers
 - Emergency responders



Criteria for classifying hazards
 Chemical
 Physical
 Environmental



Pictograms

Labels

Safety Data Sheets (SDS)

New Definitions

Hazard class: the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity, etc.

Hazard category: the division of criteria within each hazard class. These categories compare hazard severity within a hazard class. For example oral acute toxicity and flammable liquids include four hazard categories.

Product Identifier: the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical.

Signal Word: Two words used to readily distinguish between hazard levels and emphasize extent of hazard.

DANGER → Highest hazard

WARNING → Lower Hazard

Pictogram: a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Nine pictograms are standard for application to a hazard category.

Precautionary statement: a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

Hazard statement: a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

The Pictograms

GHS Pictograms and Hazard Classes (Other than for Transport)

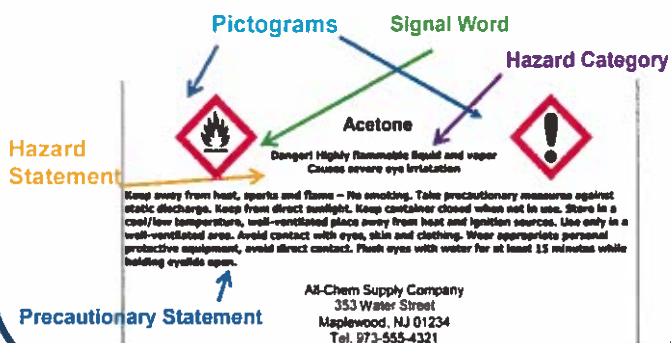
•Oxidizers	•Flammables •Self Reactives •Pyrophorics •Self-Heating •Emits Flammable Gas •Organic Peroxides	•Explosives •Self Reactives •Organic Peroxides
•Acute toxicity (severe)	•Corrosives	•Gases Under Pressure
•Carcinogen •Respiratory Sensitizer •Reproductive Toxicity •Target Organ Toxicity •Mutagenicity •Aspiration Toxicity	•Environmental Toxicity	•Irritant •Dermal Sensitizer •Acute toxicity (harmful) •Narcotic Effects •Respiratory Tract Irritation

SDS & Label information

SDS now has 16 sections



New label elements



Lab Specific Training

On the first day of work, prior to commencement of work activities, all new employees are required to receive Lab Specific Safety training. This training is to be conducted by the P.I. or designee. A new employee is an employee who is a new hire or a transfer into a department from within the university. The P.I. or designee is responsible for ensuring that the contents of the lab-specific Chemical Hygiene Plan, including SOP's for highly hazardous chemicals, are reviewed with all laboratory personnel. As part of normal interactions with laboratory employees, the supervisor should train them in the safe and proper practices for the procedures they use and any lab-specific safety measures they may take to protect themselves from exposure to hazardous chemicals, including the location and use of emergency equipment. The following information should also be discussed during training for the hazards specific to your lab:

- Material Safety Data Sheets (MSDS)
- Reporting procedures for medical, fire or safety emergencies
- Accident reporting procedures
- Basic building alarms, employee response to alarms, and evacuation procedures
- Highly hazardous chemicals used and their corresponding Standard Operating Procedures (SOP's)
- Methods to control exposure to highly hazardous chemicals
- Operations requiring prior P.I. approval
- Special precautions for animal use
- Spill and accident procedures
- Non-chemical hazards

HAZARDOUS WASTE ACCUMULATION AREA REQUIREMENTS

The requirements for the storage of hazardous waste is strictly regulated by the Federal Resource Conservation and Recovery Act (RCRA). These regulations are enforced by the Kentucky Department for Environmental Protection and US EPA. ALL hazardous wastes generated in this laboratory, clinic, research facility, or department accumulated for disposal **MUST** be managed as follows:

- ❑ **Hazardous waste generated in your area MUST stay in your area during the waste accumulation period.** The waste must stay in control of the operator; this means you cannot pass through a doorway to get to your waste collection container.
- ❑ **NOTE:** Placing chemical or hazardous waste outside in the hallway is not permitted. **Disposal of hazardous waste via sink disposal or regular trash is prohibited.**
- ❑ Chemical and hazardous waste containers **MUST** be in good condition.
- ❑ Chemical and hazardous waste containers **MUST** be compatible with the waste and approved to hold chemicals (i.e. no food or beverage containers).
- ❑ When combining, chemical and hazardous waste mixtures **MUST** be compatible.
- ❑ **Waste containers MUST be marked with the words "Hazardous Waste" or "Chemical Waste" followed by the chemical name(s)**
- ❑ **NOTE:** All waste markings must be in English; chemical name(s) should be written out, no chemical formulas. If acronyms are used, all lab personnel must be able to identify.
- ❑ **Chemical and Hazardous waste containers MUST ALWAYS be closed, except when adding waste into the container.**
- ❑ **Accumulation of characteristic (i.e. ignitable, corrosive, moderately toxic) hazardous waste in any laboratory or work area SHALL NOT EXCEED 50 gals (189 L) or 400 lbs (180 kg) at any time.**
- ❑ Accumulation of **acutely hazardous waste (EPA "P-Listed")** or reactive (i.e. air, water, potentially explosive) in any laboratory or work area **SHALL NOT EXCEED one (1) qt (1 L) or 2 lbs (1 kg) at any time.***

* Detailed information on University policies and procedures for identifying, handling, and disposing of hazardous wastes are contained in U of L's Waste Disposal Guide on the web at DEHS <http://louisville.edu/dehs/waste-program> . Each container of chemical waste must be labeled with a DEHS uniquely numbered waste container number. Submit your chemical & hazardous waste pick up request via on-line form at <http://louisville.edu/dehs/waste-program> .

Contact the DEHS Hazardous Waste Coordinator @ 502-852-2956 or 502-852-6670 if you have any questions or concerns about chemical and hazardous waste management.

***Emergency Reporting: Imminent danger to life and health call 911!
Chemical spills should be reported to Public Safety at 502-852- 6111.***

HAZARDOUS WASTE DETERMINATION CRITERIA

This document is intended to provide a generator with a general overview of how to determine if the waste they generate is hazardous based on current EPA regulations. **This listed criteria should not be considered as inclusive.** (40 CFR 261). For further assistance, please contact the DEHS Hazardous Waste Coordinator at 502.852.2956.

D-List Characteristics - The EPA has defined four characteristics for hazardous waste: ignitability (D001), corrosivity (D002), reactivity (D003), toxicity (D004-D043). Numerous chemicals and pharmaceutical products meet the definition of one or more of these criteria and, therefore, should be classified as hazardous waste. These characteristics are defined as followed:

Ignitability: Solid waste that is ignitable include aqueous solutions containing 24% or more alcohol and having a flash point of less than 140°F; non-aqueous solutions having a flash point of less than 140°F; ignitable compressed gases; and oxidizers. Hundreds of chemical formulations contain more than 24% alcohol, due to its excellent solvent properties. Non-halogenated organic solvents, such as ethanol, xylene, toluene, acetone, and acetonitrile, fits the definition, as do aerosol products with flammable propellants and oxidizers such as silver nitrate, potassium dichromate, and hydrogen peroxide solutions $\geq 8\%$.

Corrosivity: Solid waste that is aqueous and has a pH less than 2 or with a pH greater than 12.5. Chemicals which commonly exhibit this characteristic include strong acids (i.e. sulfuric acid, hydrochloric acid, acetic acid, etc) and strong bases (i.e. potassium hydroxide, ammonium hydroxide, imidazole, etc).

Reactivity: Reactivity applies to highly explosive and water-reactive chemical compounds. It also includes cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors, or fumes. Examples of reactive wastes include most metals in dust form, calcium carbide, and sodium sulfide, chemicals stored under inert gas (i.e. butyl lithium compounds, etc.)

Toxicity characteristic: Toxicity is the broadest characteristic and difficult to define. The EPA has determined that a solid waste exhibits the characteristic of toxicity if, using a specified laboratory test method (TCLP) the extract from a sample of the waste contains any of the contaminants listed in Table I of 40 CFR 261 at or above the concentration level specified. For brevity, if you have a waste containing any of the following substances you must manage it as a hazardous waste (EPA RCRA code D-list below):

Arsenic	o-Cresol	Lead	Toxaphene
Barium	2,4-D	Lindane	Trichloroethylene
Cadmium	1,4-Dichlorobenzene	Mercury	2,4,5-Trichlorophenol
Carbon tetrachloride	1,2-Dichloroethane	Methoxychlor	2,4,6-Trichlorophenol
Chlordane	1,1-Dichloroethylene	Methyl ethyl ketone	2,4,5-TP (Silvex)
Chlorobenzene	2,4,-Dinitrotoluene	Nitrobenzene	Vinyl Chloride
Chloroform	Endrin	Pentachlorophenol	Cresol
Chromium	Heptachlor (& its epoxide)	Pyridine	Hexachloroethane
m-Cresol	Hexachlorobenzene	Selenium	Tetrachloroethylene
p-Cresol	Hexachlorobutadiene	Silver	

EPA RCRA F-Listed Waste Solvents as follows: Used solvents in maintenance, cleaning, and research activities are also regulated. You must collect the waste if it contains any of the following chemicals: Dichloromethane, 1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 2-Ethoxyethanol, 2-Nitropropane, Acetone, Benzene, Carbon disulfide, Chlorobenzene, Cresols, Cresylic acid, Cyclohexanone, Dichlorobenzene, Ethyl ether, Ethyl acetate, Ethyl benzene, Isobutanol, Methanol, Methyl ethyl ketone, Methyl isobutyl ketone, Methylene chloride, N-Butyl alcohol, Nitrobenzene, Pyridine, Tetrachloroethylene, Toluene, Trichloroethylene, Trichlorofluoromethane, and Xylene.

EPA P-List and U-List Chemicals: These lists include over 450 specific commercial chemical products that are toxic to human health and the environment, such as pesticides, organic solvents, and carcinogens, in an unused form (40 CFR 261.33). Includes: phenol, acrylamide, acetonitrile, sodium azide, acrolein, formic acid, formaldehyde, cyanides, etc.



If it doubt, don't throw it out!

Consider this: If product label contains one or more of these GHS-OSHA pictograms, it is most likely that the waste generated will be collected and managed as an EPA regulated hazardous waste or as a chemical waste.



GOT CHEMICAL WASTE?

CHEMICAL WASTE MANAGEMENT AT U OF L

NO EVAPORATION OF CHEMICAL WASTE



IGNITABLE

CHARACTERISTIC WASTE

- Flash point $\leq 140^\circ\text{F}$ (60°C)
- Oxidizer
- Flammable solid

Examples: solutions of acetone, ethyl ether, hexane, xylene; nitrates, perchlorates, and aerosol cans



CORROSIVE

CHARACTERISTIC WASTE

- Liquid waste $\text{pH} \leq 5^*$
- Liquid waste $\text{pH} \geq 11^*$

Examples: Acidic and basic solutions
*Acceptable sewer authority sink disposal pH range is 5 - 11



TOXIC

CHARACTERISTIC WASTE

- Pesticides & herbicides
- Toxic heavy metals
- Carcinogens & Mutagens
- Chlorinated organics

Examples: Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) phenol, chloroform, acrylamide

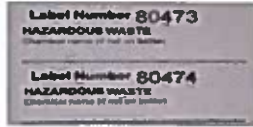


REACTIVE

CHARACTERISTIC WASTE

- Reactive wastes are unstable under "normal" conditions.
- They can cause explosions, toxic fumes, gases, or vapors when heated, compressed, or mixed with water. Includes sodium, lithium, and potassium metals.

DEHS Chemical Waste Pick-Up Request – Attach numbered label



Place a uniquely numbered "Container Label" on **EACH** container (do not place it over the chemical name label when possible).



ABCD'S of Lab Chemical Waste Management

Waste container must:

A Be **kept AT** or near the point of generation (same room generated in)

B **BE** clearly marked as "Chemical Waste" or "Hazardous Waste" followed by the chemical name(s) in the waste

C Be **CLOSED** except when adding waste

D **DO NOT** accumulate more than 50 gals or 400 lbs



Submit DEHS Pick Up request on-line



Electronic form available on the DEHS website - <https://louisville.edu/dehs/ohs/waste-pickup>

Make sure form is completely filled out:

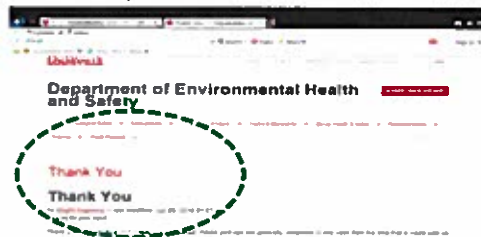
- Phone number: Enter 10 digit number (e.g. 502-852-6670)
- QTY/Unit field: Enter SIZE of container not how full it is (e.g. 4 L bottle is only 1/2 full, still enter "4 L")

• **UNUSED** = Indicates chemical has not been used in a process (i.e. expired, unwanted, contaminated)

• **SPENT** = Indicates the chemical has been used in a process (i.e. acetone was used to wash glassware, HPLC waste, etc)

Form Submission....

You can submit up to 10 items per form. After scrolling down to click submit button, within seconds you will receive an automated "Thank You Reply"



IMPORTANT: If you do not receive the automated "Thank You Reply" email then your form did not go through! You will be required to review form and correctly complete fields required. Once you have made corrections, then you should be able to resubmit form.

To have chemical waste picked up from your lab is **FREE*** and **EASY!**

• Attach a DEHS uniquely numbered label to each waste container

• Complete and submit on-line DEHS Chemical & Hazardous Waste Pick Up form

• DEHS picks up waste in 2 - 5 business days

* Certain exclusions may apply to peroxide-forming chemicals and unknowns.

If you need uniquely numbered chemical waste container labels visit the DEHS Radiation Safety office in HSC/Library Commons Rm 102 or contact the DEHS Hazardous Waste Coordinator at 852-2956.

To obtain further information about the DEHS Hazardous Waste program visit the DEHS web-site at www.louisville.edu/dehs.

BIOLOGICAL WASTE/ MEDICAL WASTE DISPOSAL: INSTRUCTIONS & STERICYCLE REQUIRED LABELING

U of L lab and clinic personnel must follow steps below to ensure that the university's contracted disposal vendor, Stericycle, meets compliance requirements when transporting full medical waste containers on behalf of the University. Stericycle container labels and markings should not be obliterated or defaced.

Step 1: Line box or tote with large red bag liner. Discard only solid biological/medical contaminated waste into container. No chemicals. No free liquids. If discarding small containers with liquids, ensure you have lids closed and place pads, paper towels, etc around to absorb and liquids in case of accidental breakage. Full sharps containers must be closed and placed inside red bag also.



Step 2: After filling container, gather top of bag together and twist; then tie bag closed with an overhand knot.

Max weight for small box is 40 lbs (18 Kg).

Max weight larger box and plastic totes is 50 lbs (23 Kg).



* White bar code indicates waste will be vendor autoclaved
Yellow bar code must be used for pathological waste (recognizable animal and human parts), trace chemo, and inactivated Category A waste

Step 3: Attach white or yellow bar code in customer label box. On the totes, attach the bar code above either of the sides with the "biohazard symbol".

Also, the generator must mark on the same side and near the bar code label lab specific:

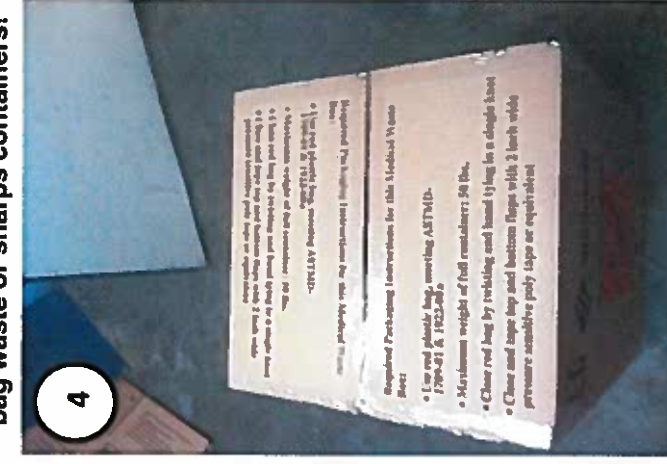
- Building Name/Room Number
- Contact Name
- Contact Phone



Step 4: Using the same 2" wide clear packaging tape as used in securing the bottom seams of the box, tape the top closed.

Place the bar code labeled, marked and taped box/securely closed tote in designated lab medical waste pick up area for Services.

Custodial Service personnel should never pick up loose red bag waste or sharps containers!



U of L personnel can request fiberboard boxes, plastic totes, and red bag liners by calling University Custodial Services Belknap Campus: 852-8200 or HSC Campus: 852-7174

These items are provided free of charge. However, labs and clinics must purchase their own sharps containers. Belknap personnel should call Custodial Services at 852-8200 to schedule pick up of full waste containers.

U of L personnel can obtain white and yellow bar code labels and a free roll of 2" wide clear packaging tape by visiting the DEHS Radiation Safety Office (M - F 8:00 AM -4:00 PM) located in Library commons Rm 102 (across from HSC Mail drop boxes) or email request to cathy.price@louisville.edu or phone 852-2956.

**U of L Department of
Environmental Health & Safety
(DEHS)
POCKET WASTE GUIDE**

January 2016



**Medical, Fire, or other Life-threatening
Emergency CALL 911**

U of L DEHS

Web-site: www.louisville.edu/dehs

Main Office: 1800 Arthur Street, 40208

Main Office: 502-852-6670

Radiation Safety: Library Commons, Rm 102

Radiation Safety Office (RSO) 502-852-5231

Hazardous Waste (HWC) 502-852-2956

Lab Safety 502-852-2830

Biological Safety 502-852-2959

Industrial Hygiene (IH) 502-852-2949

**U of L Support Services
Phone numbers**

ULPD – 502-852-6111 (report spills, after hrs.)

DEHS - 852-6670 (report chemical spills, normal hrs.)

Custodial Services – Belknap 502-852-8200

Custodial Services – HSC 502-852-7174

Physical Plant - Belknap/Shelby 502-852-6241

Physical Plant - HSC 502-852-5695

Central Receiving - 502-852-5890

Surplus Property - 502-852-6131

University Alert System – During an emergency or when campus conditions affect class/work schedules sign up for RAVE Alert and/or Card Safety App - a free Android, Blackberry, and iPhone mobile app for students, faculty, staff and parents of emergency procedures and campus maps. Access info at U of L homepage, "Emergency" .

Asbestos-containing material – Call DEHS Industrial Hygiene (IH)

Batteries – To recycle, drop off in boxes to EPSC loading dock or submit via-online DEHS chemical & hazardous waste pick up form.

Cell phone recycling – Drop off at Belknap - IT Express Store (MITC) or turn in with used batteries

Chemical Recycling – View on-line at DEHS web-site for CHEMEX program info or contact DEHS-HWC

Chemical Waste - To access and submit pick up request form on-line go to DEHS web-site, "Waste Disposal" or call DEHS-HWC for help.

Dry Ice – Do not discard dry ice in sink or trash can, allow to evaporate in open box inside room away from working personnel.

E-Scrap Recycling – Such as computers, TVs, and other electronics, call Surplus Property.

Equipment – Freezers, refrigerators, centrifuges, and other lab equipment - if it had chemicals, biological, or radioactive material in it, must be decontaminated, call DEHS-Lab Safety for further info. If did hold hazardous material (i.e office equipment & furnishings), call Surplus Property for removal. Do not set in hallway! (Fire code violation)

Fume Hoods - For inspection or report problems , call DEHS-IH

Glass Trash (from Labs) – Use sturdy cardboard box. When full, tape box securely closed, mark as "CAUTION:Glass-Trash for pickup". Each box cannot exceed 20 lbs. Set box by normal trash can. Glass Trash boxes from labs and clinics **DO NOT** go into recycling dumpster. Place these boxes in normal trash dumpster.

Hazardous Material Shipping – You must be trained and certified to ship hazardous materials (i.e. dry ice, infectious substances, flammable, batteries, radioactive,etc), for assistance call DEHS-HWC.

Infectious Waste, biological and medical waste – Must use University vendor provided containers. Call Custodial Services for boxes and liners. Labs must line box, barrel, or tote with red bag. Bag should be tied closed. Boxes must be taped closed with 2" wide clear packaging tape. The generator must properly place a vendor bar code label and mark the following info on the outside of the box: Bldg, Room number, contact name and phone number. Assistance DEHS-HWC.

Lab Close-Out–If PI leaving, or relocating lab, contact DEHS-Lab Safety

Lab Safety and Hazardous Waste Training – If you work with chemicals, must attend this class. Refresher every 3 years. For training dates, view at DEHS web-site, under "Training"

Laser Safety – For help and training, contact RSO at 852-5231

Light tubes (UV/Mercury/CFL)– Belknap/Shelby Campus Physical Plant personnel call ahead to deliver to EPSC. Others call DEHS HWC.

Pipettes/Pipette Tips – Tips must be placed in puncture resistant sharps container, not in normal trash. If pipettes are considered bio-hazardous, place in red-lined bio-hazardous waste box. If not, the pipettes should be placed into Glass Trash box.

Recyclables – U of L has single-stream recycling. Personnel can place aluminum, glass, plastic, paper, and cardboard in designated marked containers. More info? Call Physical Plant -Grounds at 852-8181.

Radioactive material – Must register to use, call RSO at 852-5231.

Sharps (needles, razors, lancets, etc) – Labs and clinics must purchase their own sharps containers. Full sharps containers must be securely closed and placed inside red bag lined bio-hazardous waste container.

Toner/ Ink Jet Cartridges – To recycle, call Central Receiving