

# Chemical Waste Guide

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## Guides

1. Obtaining Chemical Waste Disposal Tags
2. Chemical Waste Disposal Tags
3. Lab clean Out Operations
4. Waste Containers
5. Contaminated Debris
6. Ethidium Bromide Waste
7. Battery Recycling

### 1. Obtaining Chemical Waste Disposal Tags

Chemical Waste Disposal Tags (tags) can be obtained by contacting EHS at 845-2132. Tags will be sent via campus mail. Tags may be picked up at 1 Research Park, room 220. This is a preferred method if a large number of tags are required.

### 2. Chemical Waste Disposal Tags

This guide will assist in the completion of a Chemical Waste Disposal Tag. Federal and State regulations require lab or shop personnel provide specific information for the processing of hazardous waste. This information must be accurate and legible to ensure the safety of all personnel at all steps in the disposal process, often referred to as “cradle to grave”. Each container offered for disposal must have a tag attached.

**Accumulation Start Date** should be completed when waste is added to the container.

**PI/Manager** should be the individual responsible for the lab or shop where the waste was created. **Department** should reflect the PI/Manager’s employer. In the event the PI/Manger has dual employment, the waste should be assigned to the appropriate Department.

**Building Name and No.** as well as **Room No.** reflect where the waste is located for pick up.

The **Phone** number should be a permanent campus number by which a person with knowledge of the waste can be contacted.

**Chemical(s)** should be written by common name only. Chemical formulas and abbreviations are unacceptable. This is to comply with regulatory standards and will allow the chemical to be identified quickly in an emergency.

**Physical Property** and **Quantity** must be appropriately matched: Liquids measured by volume, solids measured by weight. Either metric or empirical measurements may be used for liquids. Solids may be measured in either standard or metric.

**Container Type** is important due to the characteristics of the waste they hold. Regulations require that waste be stored and shipped in compatible containers. Waste is often stored in whatever container is convenient; this can become difficult once it is offered for disposal. **Other** can be used to denote unusual containers such as a box, drum (metal or plastic), or bag.

**Reacts With** and **Hazards** are optional.

Use the **Remarks** section for specific information or requests. This is where a “contact before pick up” or a request for a replacement drum can be written.

(Attach Tag to Container With String) 299437

CHEMICAL WASTE DISPOSAL TAG

PI / MANAGER: \_\_\_\_\_  
DEPT/PART: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
CHEMICAL(S): \_\_\_\_\_

299437

CHEMICAL WASTE DISPOSAL TAG

ACCUMULATION START DATE: \_\_\_\_\_  
PI / MANAGER: \_\_\_\_\_  
DEPT/PART: \_\_\_\_\_  
BLDG. NAME & NO. \_\_\_\_\_  
ROOM NO. \_\_\_\_\_ PHONE: \_\_\_\_\_  
CHEMICAL(S): \_\_\_\_\_

PHYSICAL PROPERTY:  Liquid  Solid  Gas  
 Other \_\_\_\_\_

QUANTITY:  Pint  Quart  Gallon  5-Gallon  
 Other \_\_\_\_\_

CONTAINER TYPE:  Glass  Metal  
 Other \_\_\_\_\_

REACTS WITH:  None  Air  Water  
 Other \_\_\_\_\_

HAZARDS:  Flammable  Explosive  Carcinogen  
 Toxic  Corrosive  Other \_\_\_\_\_

REMARKS: \_\_\_\_\_

Mail lower portion of tag to Safety & Health Office when container is ready for pickup. (MS 4472, Campus: 845-2132) SHO Form 15-13

### 3. Lab clean out procedure

Lab personnel dispose of a large number of chemicals when a lab is decommissioned for closure or when moving. The lab decommissioning procedure is located at <https://ehsd.tamu.edu/Pages/Lab-RegDecom.aspx>. These clean outs often require a significant amount of time completing Chemical Waste Disposal Tags. Contact Dave Rice at 845-1220 before beginning the disposal of a large number of chemicals. Because regulations require every container be tagged before entering the Chemical Waste Storage Facility, EHS has established protocols that may reduce the effort in tagging.

One method that works for all lab clean outs involves the combined use of Avery tag #6117 and the Chemical Waste Disposal Tag. Using Microsoft Word or a similar program copy, and complete the lines on the lower portion of the card between **Accumulation Start Date** and **Phone**. Print and attach a label to both the bottom and top portion of the tag. Do not cover the tracking numbers on either portion of the tag.

### 4. Waste containers

Waste containers are selected by lab and shop personnel for the majority of waste on campus. A waste container must be safe to transport and contain the waste until final disposal. Original containers, properly marked and handled, are the safest selection. Containers should be glass or polyethylene with an original lid. Metal cans may only be used for non-corrosive solvents. Containers must be rinsed and allowed to dry completely. This is to prevent a possible reaction with waste added later.

The original labels must be defaced and the word “waste” written on them. A Chemical Waste Disposal Tag should be attached when the first waste is added. The basic information should be completed on the tag. All waste containers should be stored in a designated area under the control of the generator. This is done to both comply with federal and state regulations and to prevent misidentification of chemicals.

The container should be open only when adding waste. Each waste or constituent of a waste mixture is written on the tag as it is added. A full chemical name is required as abbreviations and formulas can be misinterpreted. A waste chemical requires only one entry per tag, even if added multiple times.

Add waste to containers carefully. All reactive processes of an experiment should be completed prior to bottling the waste. The pH should be considered before mixing waste. Waste that is reacting, even slightly, can result in a violent over pressurization of a container. Inorganic acid waste and organic waste must never be mixed. Several incidents of over pressurizing of waste containers have resulted in lab personnel injuries at campuses nationwide.

A waste container is full when the liquid reaches the neck of the bottle. This head space allows for thermal expansion during

## 5. Contaminated debris

The vast majority of waste debris created through normal lab use is classified as solid waste and is to be disposed of in normal trash (municipal waste). This material includes such items as pipette tips, gloves, paper towels, and blue pads and is considered contaminated by “incidental contact”. This includes empty original containers. Remember to deface the labels of these containers prior to disposal.

Material such as blue pads, paper towels, and absorbents used in a chemical spill are classified as a hazardous waste. Collect this type of material in a sealable, leak-proof container and tag with a Chemical Waste Disposal Tag. A Zip-lock bag will often suffice.

There are two chemical groups that will always be disposed of as hazardous waste. The first is a limited list of chemicals identified as acute toxins. This list can be found at: <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol27/xml/CFR-2012-title40-vol27-sec261-33.xml> . These acute toxins are referred to as “p-listed” waste and are not commonly seen in research labs.

The second group is dioxin waste materials. Dioxins are environmentally persistent toxins.

Both dioxins and p-listed waste require that all containers and all contaminated material be disposed of as hazardous waste. These are chemicals not commonly seen on campus.

## 6. Ethidium bromide waste

Ethidium Bromide (EtBr) is a very common chemical waste from several disciplines. Labs request disposal of EtBr waste in three forms: liquid, gel, and debris. Each form of waste will take a different route or method of disposal, so it is important to keep them separated.

Liquid EtBr waste is best collected in glass jars; emptied and rinsed four liter solvent jars seem to be the most common choice. The method is the same as with other chemical waste, remember and to deface the label and use a Chemical Waste Disposal Tag.

Labs that produce a high volume of EtBr waste may wish to use 20 liter carboys. If you are interested in using this time saving method, please contact Dave Rice at 845-1220 to discuss the process.

EtBr gel waste is best collected in the “bag in box” method. First, select a box sturdy enough to support a quantity of gels. Place a sturdy bag inside the box. Keep the bag closed except when adding gels. The bag should be considered full before it reaches a weight that the box can support. When full, seal the bag, secure the box closed with tape, and tag with a chemical waste tag.

Do not use a biohazard bag unless a pathogen was used. The Hazardous Waste Group cannot process any waste presented in a biohazard bag. Contact the Research Compliance and Biosafety Office for disposal of this material.

EtBr debris should be processed in the same manner as described in section 1 of this guide. Remember items contaminated by incidental contact are considered municipal waste while heavily exposed material, such as spill cleanup items, are hazardous waste.

## 7. Battery recycling

Alkaline batteries are not recycled on campus. EHS encourages the use of recyclable batteries, wherever possible, as an environmentally friendly alternative.

Spent rechargeable, lead acid, mercury, and lithium ion batteries from TAMU or departmental equipment may be processed through the Chemical Waste Program. Prepare the batteries by insulating the terminals with tape, bag or box for transportation, and attach a Chemical Waste Disposal Tag. The batteries will be processed for recycling by EHS.

Single use lithium ion batteries are recycled by a separate program. Attach a Chemical Waste Disposal Tag for processing.

\*The Hazardous Waste Program is for official use only. Public recycling drop boxes are located in several buildings on campus (Evans Library, MSC, etc.).