



# **ATAP SAFETY DAY CLEAN-UP GUIDE**

**MARCH 23, 2016**



## Introduction

The purpose of this Guide is to provide some basic information about how to participate in the ATAP Safety Day clean-up, while protecting your own safety and maintaining compliance with requirements.

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## **General Clean-up Safety**

**Your safety comes first:**

- **Follow supervisors' instructions.**
- **Don't attempt anything you are not trained to do.**
- **When in doubt, ask questions and get help.**
- **If it can't be done safely today, identify action items.**

**Protect yourself from hazards while cleaning:**

### **Lifting**

Don't attempt to lift items that are too heavy for you to move safely. Get help.  
Don't walk under cranes in use. Watch out for forklifts in motion.

### **Eye Protection**

Wear safety glasses in shops and labs.

### **Foot Protection**

When heavy objects are being moved, wear safety shoes or stand clear.

### **Hand Protection**

Don't put your hands where you can't see them.  
Wear gloves for handling sharp or hazardous materials.

### **Dust/Mold**

If too dusty, identify need for custodial clean-up and submit Work Request.

### **Hazardous Materials**

Don't handle materials you are not trained to handle. Get help.



## Clean-up Checklist



Location: \_\_\_\_\_ Person in Charge of Clean-up \_\_\_\_\_

### General Safety

- Emergency information placards at entry doors are up to date.
- Safety glasses (or laser eyewear) are available at shop/lab entrances.
- Aisles, stairwells, and entry/exit areas are clear to allow egress in an emergency.
- Access to emergency eyewash/showers, electrical panels, and fire extinguishers is clear.
- "Drop, hold and cover" spaces are clear.
- Lab/shop benches and desks are neat, with adequate clear working space.
- Food areas are clean.

### Removal of Unneeded Materials and Equipment

- Recyclable materials (metals, paper, etc.) moved to recycling bins.
- Excess equipment moved to staging areas.
- Trash placed in bins.

### Electrical Equipment Inspected/Labeled

- Unneeded equipment has been taken out of service.
- Equipment with obvious safety hazards has been identified and taken out of service.
- Action taken to initiate repair of needed Failed or Conditionally Approved equipment.

### Seismic Inspection Completed

- Items that need anchoring (anything taller than 4 feet) have been identified.
- Heavy overhead items have been moved or restrained.

### Sharps

- Sharps needed for future use are stored with blades covered.
- Unneeded sharps have been disposed in sharps containers.

### Chemicals

- Primary (original from manufacturer) chemical containers have CMS Barcodes.
- Liquid chemicals are in containment trays.
- Secondary containers (squeeze bottles) are labeled with contents and hazard.
- Unwanted chemicals have been discussed with SAA Manager.

### Gas Cylinders and Cryogenics

- Cylinders/dewars are appropriately restrained.
- Cylinders and dewars are labeled with contents and hazard.
- Unwanted cylinders/dewars have been reported to the Division Safety Coordinator.

Management Sign-Off \_\_\_\_\_ Date \_\_\_\_\_



## **Who to call for further information**

### **ATAP Management**

ATAP Division Director -- Wim Leemans -- 486-7788  
Deputy for Operations -- Asmita Patel -- 486-7021  
Deputy for Science and Technology -- Soren Prestemon -- 510-219-7789

### **Program Heads**

ALS Accelerator Physics -- David Robin -- 486-6028  
BELLA Center -- Wim Leemans -- 486-7788  
Center for Bean Physics -- John Byrd -- 486-6329  
Fusion Science and Ion Beam Technology -- Thomas Schenkel -- 486-6674  
Superconducting Magnets -- Steve Gourlay -- 486-7156

### **Safety Coordinators**

ATAP -- Pat Thomas -- 486-6098  
ALS Accelerator Physics -- Tom Scarvie -- 486-7697  
BELLA Center -- Csaba Toth -- 486-5338  
Center for Bean Physics -- Greg Penn -- 486-4222  
Fusion Science and Ion Beam Technology -- Bernhard Ludewigt -- 486-7733  
Superconducting Magnets -- GianLuca Sabbi -- 495-2250

### **EHS Support**

EHS Liaison -- Herb Toor -- 486-5918  
Health and Safety Representative -- Julie Zhu -- 486-6871 or 510-309-4886  
Hazardous Waste Generator Assistant -- Deborah Price -- 486-5182 or 510-859-6227

### **Building Managers**

ALS (Bldg. 6 & 15) -- Jeff Troutman -- 486-7358  
Bldg. 46 -- Mike Kritscher -- 486-8647  
Bldg. 47 -- Ian Pong -- 486-7866  
Bldg. 50A -- Tom Gallant -- 486-7022  
Bldg. 53 -- Andre Anders -- 486-6745  
58 Complex -- Tom Lipton -- 486-7634  
71 Complex -- Pat Thomas -- 486-6098  
77 Complex -- Ted Keffeler -- 486-5907  
Bldg. 88 -- Mike Johnson -- 486-4389

### **Property/Archives and Records**

ATAP Property Representative/Records Liaison Officer -- Martha Condon -- 486-7135

### **Facilities**

Work Request Center -- 486-6274 or [https://workrequest.lbl.gov/jsp/workreq\\_mainpage.jsp](https://workrequest.lbl.gov/jsp/workreq_mainpage.jsp)



**For matrixed personnel:**

**ALS Safety**

Scott Taylor -- 486-4545 or 510-0220-5009

Tennessee Gock -- 486-5013

Doug Taube -- 486-4806

**Engineering Division Safety**

Marshall Granados -- 486-7915 or 510-470-0450

**MSD Safety** (for Bldg. 53)

Mike Wisherop -- 486-7407



## **Aerosol Cans**

Waste aerosol cans containing products most commonly used in ATAP shops, such as paints, degreasers, lubricants, penetrants, glass cleaners, etc. are managed as Universal Waste. Note that aerosol cans with particularly hazardous substances, such as pesticides, herbicides, or catalysts must be managed as hazardous waste.

There is a collection container for aerosol cans in 58A-0006. If collection containers are needed in other areas, contact Deborah Price at 486-5182 or 510-859-6227.

## **Asbestos**

If you encounter materials that may contain asbestos, contact EHS Subject Matter Expert Rob Connelly at 486-4028 and ATAP Generator Assistant Deborah Price at 486-5182 or 510-859-6227 for assistance. Handling asbestos requires special training, PPE, procedures, and work authorization.

### **· Examples of Materials Manufactured with Asbestos**

1. Cement/asbestos panels and pipes (transite)
2. High-temperature gaskets
3. Pipe insulation (block, corrugated aircell, etc.)
4. Mastic for vinyl flooring
5. Vinyl floor tiles and sheet vinyl flooring
6. Wallboard (Sheetrock)
7. Electric wiring insulation
8. Taping or joint compounds
9. Spray-applied fireproofing and insulation
10. Roofing felt/shingles/flashing
11. Automotive brake linings and pads
12. Ceiling tiles
13. Fire-resistant gloves, clothing
14. HVAC duct insulation and tape
15. Linoleum and other resilient flooring
16. Paint
17. Fire doors
18. Window putty
19. Plaster/stucco
20. Elevator/crane brake shoes



## Asbestos (continued)

### 1. Friable ACM Containing 1% or Greater Asbestos (RACM)

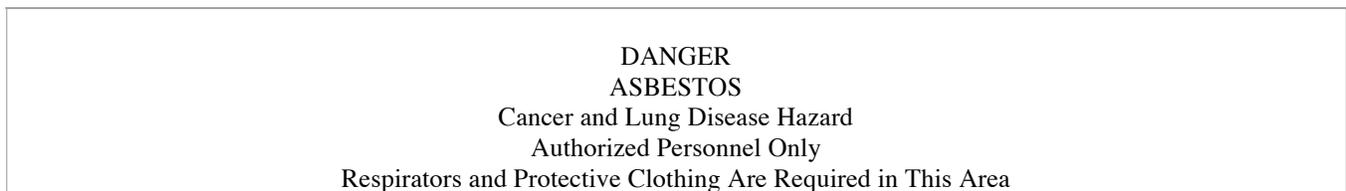
1. All RACM waste must be handled as **hazardous waste**. RACM will be thoroughly wetted before packaging, then packaged to prevent dispersion and to facilitate handling.
2. The Waste Management Group at ext. 5867 or 5877 is responsible for determining the storage and labeling requirements, selecting the disposal site, and manifesting and maintaining disposal records. It will also assist in determining how best to package the waste for disposal and arranging site pickup.

### 3. Packaging

1. **Labels:** All containers of RACM must bear the asbestos warning label and the "Hazardous Waste" label.
2. **Bags:** Asbestos waste must be sealed inside two layers of 6-mil-thick plastic bags after thorough wetting. The excess air in the bag must be removed by a HEPA vacuum. The outer bag must be labeled as shown in the example below.
4. **Drums:** Wetted asbestos waste can be contained in properly labeled Department of Transportation (DOT) spec. 17H 55-gallon steel drums equipped with polyethylene drum liner bags.

2. **Nonfriable ACM** (transite, floor tile, etc.), Contact the Waste Management Group for assistance with labeling, storage, and disposal requirements. Labels may not be necessary if nonfriability can be demonstrated.

**Asbestos label example:** Appropriate wording for labeling friable materials containing 1.0% asbestos by weight, or greater. This label is also appropriate for containers (including waste containers) that contain 1.0% or greater friable asbestos by weight. Waste containers holding RACM and asbestos-contaminated materials (such as protective equipment and clothing) must also include a label with the generator name and location, and a hazardous-waste label.



See also **Hazardous Waste**.

## Batteries

Waste Management provides green (or sometimes white) collection buckets for used nickel-cadmium; nonspillable, **nonleaking** lead acid; and alkaline batteries. All 9-V batteries and batteries with terminals on the same side must have the leads taped prior to placing in a battery bucket to prevent the possibility of fire or sparking. Place your intact batteries in the collection bucket. The buckets are emptied once per quarter or as needed. For battery pick-up, contact Billy Johnson at 486-7674. The bucket locations at ATAP are:

ALS Bldg. 6 -- Bay 6, Bay13, 2101 mailroom, 2238 mailroom  
Bldg. 46 – 1123 copy room, 125, 159, 172A, 172B, across from 275F  
Bldg. 53 – 103  
Bldg. 58 – 001  
Bldg. 71-- 159C, 211, 230, 266  
Bldg. 71A -- 101cubicle by front door  
Bldg. 71B -- 287A



Automotive batteries (lead acid) can be sent to salvage as long as the caps are intact and the body is not damaged or cracked.

Hazardous batteries include batteries  $\leq 100$  and  $>1\text{kW}$ , or  $>100\text{V}$ . If you find hazardous batteries, contact a Qualified Electrical Worker. See **Electrical and electronic equipment**.

For leaking lead-acid batteries, see **hazardous waste**.

For further information on battery safety, see also **Electrical Safety Manual Section 14**.



## **Beryllium**

Beryllium is primarily part of an alloy found in pieces of equipment such as chamber windows, targets, springs, foils, pins, connectors, and tools. **If you find items you suspect may contain Beryllium and you are not already trained and authorized to work with the materials, do not handle.** Contact EHS Subject Matter Expert Eileen Lloyd at 495-6949 for assistance. Beryllium materials are disposed as **hazardous waste**. Beryllium waste requires special labeling and handling.

## **Capacitors**

Capacitors may contain stored electrical energy. To prevent electric shock, all uninstalled capacitors capable of storing 5J or greater they should be stored in a short circuited condition (conductor between terminals). **If you see any capacitors that are not shorted, do not handle** -- contact a Qualified Electrical Worker:

### ATAP Provisional Qualified Electrical Workers

Andre Anders  
Tony Gonsalves  
Qing Ji  
Christopher Pieronek

### Matrixed Engineering Division Provisional Qualified Electrical Workers include:

Robert Albright  
Kerri Campbell  
Jim Galvin  
Bill Ghiorso  
Chip Kozy  
Art Magana  
Greg Mannino  
Joe Riley  
Marcos Turqueti (QEW2)  
Will Waldron (QEW2)  
Nathan Ybarrolaza

Large capacitors may contain oil, and old ones may contain PCBs. See also **PCBs**.  
For further information on capacitor safety, see also **Electrical Safety Manual Section 15**.

## Compostable Materials



**COMPOST**

Food, food-soiled paper products, and items marked as compostable

**FOOD**

**BIOPLASTICS MARKED AS COMPOSTABLE**

**SOILED PAPER PRODUCTS**

**PAPER-BASED FOOD CONTAINERS**

**SUSTAINABLE BERKELEY LAB**

Questions? Contact [sbl@lbl.gov](mailto:sbl@lbl.gov)  
More information at [sbl.lbl.gov/WasteDiversion](http://sbl.lbl.gov/WasteDiversion)

14-10-0077

### What should go into the COMPOST bin?

- Food, food scraps
- Coffee grounds and filters, tea leaves, and tea bags
- Food-soiled paper: napkins, paper towels, paper plates, coffee cups, milk cartons
- Plastic that says “compostable” or has a number 0 (The cafeteria’s to-go cups, clamshells, and utensils are compostable.)

### What should NOT go into the COMPOST bin?

- Chip bags
- Food wrappers
- Aluminum foil
- Plastic (even if it has food residue)
- Glass (even if it has food residue)
- Metal (even if it has food residue)



## **Cryogenics**

LBNL staff and affiliates **must not:**

- Dump liquid cryogenics into any drain; nor
- Accumulate liquid cryogenics in significant quantities in areas not appropriate for that purpose.

**NOTE:** Even relatively small quantities can damage equipment or facilities and can crack floor tiles, damage water pipes, and damage electrical insulation on wiring. Also, consider the hazard presented by the boil-off gas when any significant quantities of a cryogenic liquid are released.

Contact EHS Cryogen Subject Matter Expert Scott Robinson at 486-7955 or 925-324-0222 and ATAP Hazardous Waste Generator Assistant Deborah Price at 486-5182 or 510-859-6227 for assistance in determining the best way to dispose of cryogenic liquids.

## **Drugs**

The disposal of over-the-counter drugs and pharmaceuticals at Berkeley Lab is strictly controlled. For legal drugs brought to the Lab for personal use, the owner of the drugs should take responsibility for either using the products as intended or taking them home. If the owner cannot be determined, contact the EHS Division Liaison EHS Liaison Herb Toor at 486-5918 or Health and Safety Representative -- Julie Zhu at 486-6871 or 510-309-4886. Waste Management maintains a contract with a registered disposal company.

In the unlikely event that you encounter unauthorized controlled substances or illegal drugs, call Protective Services at 486-6999 immediately.



## **Electrical and Electronic Equipment (including Computers)**

Electronic devices include telephones, cash registers, computers, computer peripherals, stereo equipment, videocassette players/recorders, tape players/recorders, compact disc players, recorders, calculators, microwave ovens – generally, anything with a printed circuit board.

### **For nonfunctioning electronic devices:**

In general, if a nonfunctioning item has a printed circuit board, it is e-waste

- Apply a universal-waste label to the nonfunctioning item. Label the item as “Universal Waste — Electronic Device(s)” or “Universal Waste — CRTs” when applicable.
- If the item has a Berkeley Lab/DOE property-number sticker, fill out a [Facilities Work Request](#); the Facilities Division will remove the item from your property record.
- If the nonfunctioning item **does not** have a DOE property number, contact the Waste Management Group (ext. 4644 or ext. 6337).

### **For functional and reusable electronic devices:**

If you have unwanted computers or peripherals, first contact ATAP Computer Support— Joe Chew at 486-5734 or 612-9116 to determine whether there is a need for this equipment within ATAP.

If the electronic device is fully functional and reusable but is not needed, it should be sent to Salvage. See **Salvage Pick-up**. If the device can be used in another ATAP work area, check to see whether it has an LBNL AHJ electrical equipment inventory sticker. These stickers look similar to property bar codes, but are larger. If items with AHJ sticker on it is relocated or re-assigned to a new owner, the inventory will need to be updated. Contact Ohmar Sowle at 486-4520 to report the new owner/location information.

**Never leave electronics or universal waste outside without adequate containment or cover.** These items often contain lead or other hazardous materials that could contaminate water run-off.

### **See also:**

**Glass** for monitors and cathode ray tubes.

**Property** for items with property inventory stickers.



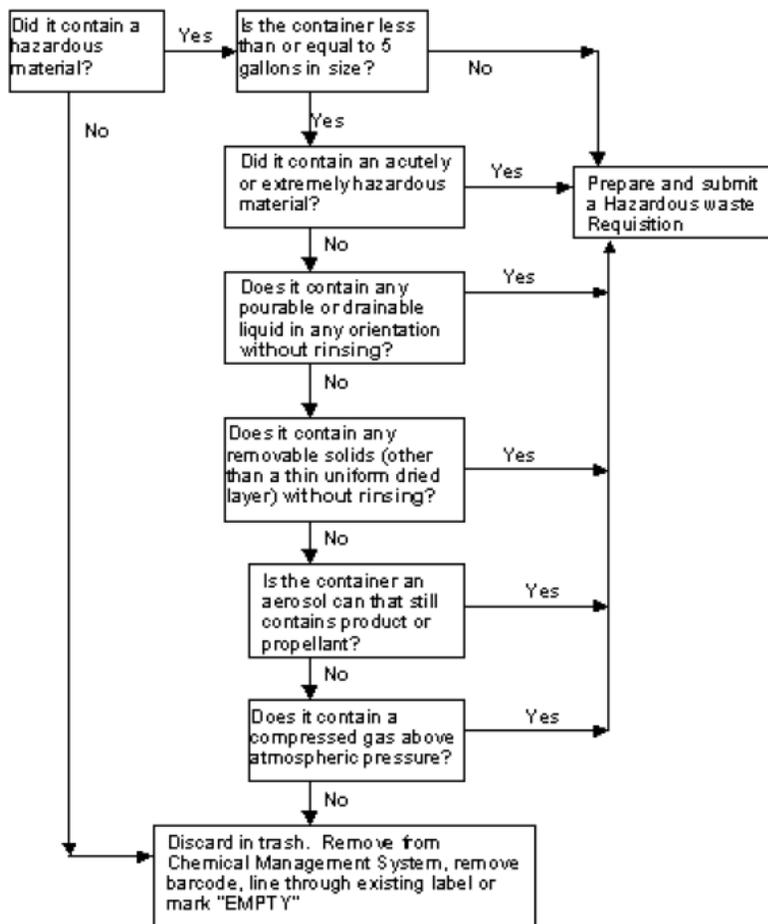
## Empty Containers

Certain empty containers that previously held hazardous materials are exempt from hazardous-waste regulations and can be discarded as solid sanitary waste (trash) under the following conditions:

- The container must be <5 gallons in size.
- The container did not contain an [extremely or acutely hazardous](#) material.
- **Without rinsing**, the container contains no drainable or pourable liquid when held in any orientation.
- **Without rinsing**, the container contains no removable solids other than a thin, uniform layer of dried material or powder.

If your container meets the criteria listed above, the container may be thrown in the trash, and the following steps must be completed:

1. The container must be deleted from the Chemical Management System, and the bar code must be removed from the container.
2. The original label must be crossed out or marked with the word “EMPTY” to notify custodial staff, recyclers, or sanitary-waste engineers that it no longer contains hazardous materials, and can be discarded as solid sanitary waste.





## **Epoxies**

Epoxies come in two parts. In most instances, Part A is the resin, and Part B is the hardener. Once blended together, any excess, unused material is nonhazardous and can be disposed of in the sanitary trash.

If there are unwanted, unused portions of the Part A and Part B materials remaining in the original containers, these require management as hazardous wastes. If the Part A and Part B are in separate containers, bag them separately and manage each as hazardous wastes in your SAA. If they are in a single unit, be sure to secure the stopper in place to prevent comingling of the resin and hardener. Place the unit in a bag and manage it as hazardous waste.

See also **Hazardous Waste**.



## Gas Cylinders    **Empty Gas Cylinder Return Procedures**

To coordinate return of non-routine gas cylinders, LBNL maintains a Smartsheet listing of cylinders people want to return. If you have cylinders you want to add to the list, contact Pat Thomas at 486-6098 and provide the following information: requestor name, cylinder location, supplier, whether the cylinder is empty/full/don't know, gas contents, and cylinder size. When there are enough requests for pick-up from the same vendor, EHS will help to arrange a consolidated pick-up.

The following summarizes the different requirements (as of 2013) for returning empty and unwanted compressed gas cylinders. Compressed gas cylinders should always be handled as if they were “full” and must be transported in compliance with applicable Department of Transportation (DOT) hazardous materials requirements. This includes proper labels and cylinder caps. Always clearly identify “empty” cylinders with an affixed “EMPTY”, “MT” or “RETURN” tag.

<b>Vendor</b>	<b>Contact</b>	<b>Procedure</b>
Aeris	See contact information for Matheson Gas	See procedure for Matheson Gas
Air Liquide	Shelley Taniguchi <a href="mailto:Shelley-taniguchi@airliquide.com">Shelley-taniguchi@airliquide.com</a> (800) 323-2212	Air Liquide does not make regular deliveries or pick-ups from LBNL. Call Customer Service to make special arrangements. Identify the number of cylinders, types of gases, and cylinder ID number engraved on the cylinder collar.
Air Products	See contact information for Airgas	See procedure for Airgas
Airco	See contact information for Airgas	See procedure for Airgas
Airgas	Customer Service (800) 336-4004 Neil O'Donnell Progressive Industries <a href="mailto:nodennell@progressivepii.com">nodennell@progressivepii.com</a> (773) 763-9565	Airgas makes deliveries and pick-ups from LBNL, but these can be infrequent. Call Customer Service if cylinders are accumulating and need to be picked-up. In addition, gas cylinder returns can be requested through the Airgas EBuy website.
LBNL- Owned	LBNL Procurement Laura Sanders <a href="mailto:lsanders@lbl.gov">lsanders@lbl.gov</a> (510) 486-4592	Cylinders are identified with a “LBNL” stencil on the cylinder body. They normally have Airgas labels affixed. Procurement will make arrangements for pick-up and scrapping.
Linde	Theresa Birk <a href="mailto:Theresa.birk@linde.com">Theresa.birk@linde.com</a> (908) 329-9779	Complete and submit a Linde return form. Linde does not pick-up empties directly. They will send Yellow Freight to pick-up. Yellow Freight only knows to go to the B69 shipping dock, so call LBNL Transportation (X4388) and arrange to have the cylinders moved there first.



### **Gas Cylinders (continued)**

Matheson	Louise Arata  <a href="mailto:larata@mathesongas.com">larata@mathesongas.com</a> (510) 793-2559 X109	Matheson does not make regular deliveries or pick-ups to LBNL. Identify the number of cylinders, types of gases, and cylinder ID number engraved on the cylinder collar. There is a \$60 minimum charge for cylinder pick-up with additional charges depending on the number of cylinders.
Praxair	Monique Ortiz Customer Service <a href="mailto:Monique_m_ortiz@praxair.com">Monique_m_ortiz@praxair.com</a> (925) 431-2263 Steve Scagliotti <a href="mailto:Steve_scagliotti@praxair.com">Steve_scagliotti@praxair.com</a> (925) 431-2297	Praxair makes regular deliveries and pick-ups of gas cylinders at LBNL. Place any “empty” cylinders in the designated empty cylinder rack and they should be picked up automatically within a few days. If cylinders are not getting picked-up as needed, let Customer Service know.
Scott Specialty Gas	See contact information for Air Liquide	See procedure for Air Liquide
Scott-Marrin	Lori Thomas- Sales <a href="mailto:lori@scottmarrin.com">lori@scottmarrin.com</a> (951) 653-6780	Scott-Marrin does not pick-up empties from LBNL. They need to be shipped directly back through LBNL Transportation (X4388). Transportation will pick-up the cylinders with account number and MSDS. Also see the Scott-Marrin cylinder return guidelines.
Spectra Gas	See contact information for Linde	See procedure for Linde

### **Lecture Bottle (LB) Size Cylinders**

Gas cylinder suppliers no longer take back lecture bottle (LB) sized gas cylinders. These are now considered as “single use” containers and the contents must be disposed as hazardous waste through the LBNL Waste Management Group.

### **Cylinders with Unknown Contents**

Contact the LBNL Waste Management Group for assistance. Arrangements will need to be made with the disposal vendor to sample and analyze the gas before disposal requirements can be determined.

### **Cylinders with Out of Business Vendors**

Contact the LBNL Waste Management Group for assistance. The cylinder will need to be properly disposed.

### **Cylinders with Missing Caps or Labels**

Contact the vendor directly and notify them that you need a cap or label for one of their cylinders when picking up. There may be a charge for replacement depending on the vendor, but many vendors have these items on their trucks and are willing to help if the vendor is no longer available.

**For additional information, contact EHS Subject Matter Expert [Kurt Ettinger](#), 510-495-2016.**



## Glass

Any unbroken glass such as lab beakers, drinking glasses, window glass, incandescent light bulbs, etc. may be placed in a rigid container and labeled "Glass". Both broken and unbroken glass, packaged appropriately, may be placed in the sanitary trash. For beryllium windows, see **Beryllium**.

### **Broken Glass**

Any broken glassware should be packaged in a rigid container and marked with the words "Broken Glassware". Both broken and unbroken glass, packaged appropriately, may be placed in the sanitary trash **only** if they are **not contaminated with hazardous materials** (such as medical/biohazardous waste or acute or extremely hazardous waste). If you are not sure, stop and call the ATAP Generator Assistant, Deborah Price, at 486-5182 or 510-859-6227.

Should you accidentally drop a cathode-ray tube and break the glass, safely sweep up the broken glass, contain it in a sturdy container, and label it as "Universal Waste — Broken CRT Glass." This waste stream is managed by the Waste Management Group. Call the ATAP Generator Assistant, Deborah Price, at 486-5182 or 510-859-6227.

For beryllium windows, see **Beryllium**.

### **Cathode Ray Tubes and Computer Monitors**

Examples of CRTs are computer monitors, oscilloscopes, and televisions.

If the CRT or monitor is fully functional and reusable, contact Joe Chew at 486-5734 or 505-71-3998 to see if there is a need for it within ATAP. If there is no need for the equipment, it should be sent to Salvage. See **Salvage Pick-up**.

If the CRT or monitor is intact but not functional, apply a universal-waste label to the nonfunctioning item. Label the item as "Universal Waste — CRTs".

### **Fluorescent Light Tubes**

Lamps such as fluorescent, neon, mercury vapor, high-pressure, sodium, metal halide, and high-intensity discharge are managed as universal waste. Contact the Facilities Work Request Center at 486-6274 to manage any lamp. The Facilities lighting crew will pick them up.

### **Light Bulbs**

Incandescent bulbs should be packaged per instructions under Glass or Broken Glass.



## **Hazardous Waste**

A waste is a by-product of your work or research that has no further use. If you work with chemicals, you are probably a hazardous-waste generator. A hazardous waste is any waste regulated by the Environmental Protection Agency (EPA) or the state of California.

Some examples of hazardous waste are:

- Flammable liquids, such as nonhalogenated solvents
- Corrosive liquids, such as strong acids and bases
- Solid oxidizers
- Wastes that contain heavy metals and halogenated organics
- Greases and oils

The first step in determining if you have a hazardous waste is to understand the materials that went into the process, how the materials were used, and how they flowed into and out of the process. Reactions could change the nature and hazard of the chemicals.

One important information source that can help you determine if your waste is hazardous is the [Material Safety Data Sheet \(MSDS\)](#) for the chemical. Before disposing of chemicals, you should review the MSDS and understand the hazards of the material. More information on working with hazardous materials can be found in the [Chemical Hygiene and Safety Plan](#).

Each ATAP work area has a person trained in the management of a Satellite Accumulation Area (SAA) for hazardous waste. If you need to dispose of any hazardous materials such as chemicals, oils, or hazardous metals, or if you are not sure about the hazards of the item you want to dispose, the first step is to contact the manager of the SAA in your work area:

ALS (Bldg. 6 & 15) -- Doug Taube -- 486-4806  
46-0170 -- Jim Swanson -- 510-501-2152  
53-0004 -- Andre Anders -- 486-6745  
58A-0106 -- Matt Reynolds -- 486-7634 or 925-719-7302  
71-0105A -- Kerri Campbell -- 486-7771 or 510-965-5975  
71B-0190 -- Ken Sihler -- 486-6476  
77A-0103 -- Hugh Higley -- 486-5815 or 510-725-8137  
88-0071 -- Arun Persaud -- 495-2529

It is important to **talk to the SAA manager before dropping off waste at the SAA**. The SAA Manager will need information about the contents and hazards of the waste, and will help you ensure it is properly packaged and labeled before placing it in the SAA. If there is no SAA in your work area or there are additional questions about how to manage the waste, contact ATAP Generator Assistant Deborah Price at 486-5182 or 510-859-6227. Detailed information about hazardous waste management is contained in the Generator Guidelines, PUB-3092, at: [http://www2.lbl.gov/ehs/waste/wm\\_pub\\_3092.shtml](http://www2.lbl.gov/ehs/waste/wm_pub_3092.shtml)



## Lasers

If you have a laser that is no longer needed, contact Laser Safety Officer Greta Toncheva at 495-2544 or 510-605-8476. She may be able to identify a qualified person who could use the laser. Before a laser is disposed or transferred to a new location or owner, the laser inventory must be updated.

For disposal of lasers, see **Electrical and electronic equipment**.

If the laser has an LBNL property bar code on it, see also **Property**.

## Lead

Lead-containing materials in ATAP areas may include lead solder, radiation shielding as lead sheets or bricks, old paint, and sometimes old hand tools such as lead mallets.

Lead waste that is not radioactive is managed as **hazardous waste**. Consult ATAP Generator Assistant Deborah Price 486-5182 or 510-859-6227 to determine proper waste-disposal practices. All lead waste should be double-bagged and labeled for the appropriate Satellite Accumulation Area (SAA) or 90-day Waste Accumulation Area (WAA) if more than 55 gallons of waste will be generated.

If the lead has been used as radiation shielding, it may have induced radioactivity and will need to be tested by EHS Radiation Protection. See **radioactive materials**.

See also **Hazardous Waste**

For electronics equipment with printed circuit boards, see **Electrical and electronics equipment**

For cathode ray tubes and computer monitors, see **Glass**

For lead-acid batteries, see **Batteries**

## Mercury

Unbroken thermometers, mercury-containing switches, thermostats, and other mercury-containing equipment should be placed in a container with packaging material to prevent breakage and labeled with a universal-waste label. A hazardous waste requisition is not required. Notify the ATAP Generator Assistant Deborah Price at 486-5182 or 510-859-6227 for pickup. Store in a safe location until pickup.

## Metals

Metals hoppers may be obtained through the Facilities Work Request Center, 486-6274. For more information, contact Todd Anderson at 486-4938.

For Precious Metals, contact ATAP Property Representative Martha Condon 486-7135.



## **Nanomaterials**

Engineered nanomaterials (ENMs) (also known as engineered nanoparticles) are defined as:

- i. Materials having structures with at least one dimension between 1 and 100 nanometers (nm)
- ii. Intentionally created, as opposed to those that are naturally or incidentally formed.

**Working with engineered nanomaterials requires special training and authorization. If you encounter nanomaterials and are not trained and authorized to work with them, stop. Try to determine the owner of the materials.**

ENMs do not include:

- i. Larger materials that may have nanoscale features, for example etched silicon wafers
- ii. Biomolecules (proteins, nucleic acids, and carbohydrates)
- iii. Materials with occupational exposure limits (OELs) that address nanosize particles for that substance

Unbound engineered nanoscale particles (UNPs) are defined as nanoscale particles that are not contained within a matrix under normal temperature and pressure conditions that would reasonably be expected to prevent the particles from being separately mobile and a potential source of exposure. An engineered primary nanoscale particle dispersed and fixed within a polymer matrix, incapable as a practical matter of becoming airborne, would be “bound,” while such a particle loosely attached to a surface (e.g., nanowire forest grown on wafer) or suspended in liquid (e.g., nanoparticles in colloidal suspension) or a dry powder would be “unbound.”

Consider any material that has come into contact with UNPs (and that has not been decontaminated) as belonging to an ENM-bearing waste stream. This includes gloves, other PPE, wipes, blotters, and other disposable laboratory materials used during research activities.

**Do not put material from ENM-bearing waste streams into the regular trash or down the drain.**

ENM-bearing waste should be collected in an appropriate sealing container such as a plastic bag. The container must remain sealed unless adding waste to it. It should be managed as **hazardous waste**, including completing the Hazardous Waste label when accumulation begins, and placing it in an SAA. The identity of the waste must be given on the label. For example, “Wipes contaminated with trace levels of carbon nanotubes” provides an appropriate level of description. Be sure to consider the properties of all components, for example, solvents in which the ENMs may be dissolved or suspended. When the bag is full, close it, and place it into a second plastic bag or other sealing container in an SAA.

See also **Hazardous waste**.



## Oil

Oil that is not intended for further use/reuse is considered **Hazardous Waste** in California. For disposal of small quantities ( $\leq 55$  gallons) of non-PCB oil, contact your local SAA manager.

If you are planning to drain large quantities ( $>55$  gallons) of oil from equipment, and/or if you suspect the oil may contain PCBs, contact ATAP Generator Assistant Deborah Price at 486-5182 or 510-859-6227 **before** draining the oil from the equipment. Suspect PCB oil will require sampling and testing by an off-site laboratory. Large quantities of oil and PCB oil have special labeling and storage requirements, and must be picked up from the site of generation more quickly than regular hazardous waste. It is important to make arrangements in advance.

Some oily rags can be commercially laundered to remove and recover the oil, so that the rags can be re-used. There are collection bins for these rags in ATAP area shops. See the Shop Manager for instructions.

See also **Hazardous Waste** and **PCBs**.

## Paper

A **record** is broadly defined as documentary material, in any media, that is created or received in the normal course of laboratory business, is worth preserving, either temporarily or permanently, because it provides **evidence of the organization's policies, procedures, activities, and decisions and has technical, administrative, historical, and/or legal value**. Laboratory records cannot be destroyed unless they are covered by a [records retention schedule](#) that indicates the authorized point at which they can be legally destroyed. If you are not sure about whether your documents are considered "records" that must be kept or archived, please contact ATAP Records Liaison Officer Martha Condon.

Some paper may contain information that may affect the legal or security status of the Laboratory and require additional controls. These categories include:

- Protected Information, including Personally Identifiable Information (PII) and Personal Health Information (PHI)
- Official Use Only (OUO), Controlled Unclassified Information (CUI), and Sensitive But Unclassified (SBU) Information
- Proprietary Information (e.g., information under a Cooperative Research and Development Agreement [CRADA] or a Nondisclosure Agreement [NDA])
- Export-controlled information
- Information with foreign national restrictions (e.g., No Foreign National Access [NOFORN])
- Prudent to Protect information.

**If you encounter confidential information as described above that you have not been trained to handle, stop and contact ATAP Deputy for Operations Asmita Patel at 486-7021 for further**

**instructions.** Lock boxes for accumulating paper requiring shredding and shredding services may be obtained through the Work Request Center.



**PAPER RECYCLING**

Any clean paper

- USED NOTEBOOKS
- OFFICE PAPER (staples ok)
- NEWSPAPER
- PAPER BAGS
- SHREDDED PAPER (in a clear plastic bag)
- JUNK MAIL

SUSTAINABLE BERKELEY LAB

Questions? Contact [sbl@lbl.gov](mailto:sbl@lbl.gov)  
More information at [sbl.lbl.gov/WasteDiversion](http://sbl.lbl.gov/WasteDiversion)

No 3-ring Binders

Non-record papers that do not contain personal identifying information may be recycled in the paper recycling bins in your work area. There will also be large paper recycling bins staged near most ATAP work areas on Safety Day, to prevent overflow of the regular bins.

**What should go into the PAPER RECYCLING bin?**

- Office paper, copy paper (staples ok)
- Newspaper
- Notebooks (binding ok)
- Journals, books
- Junk mail
- Paper bags
- Cardstock

Wedge flat cardboard boxes next to a waste station (or leave in designated areas, such as under the table at the Bldg. 71 mail stop) and the custodian will take it to the dumpster.

**What should NOT go into the PAPER RECYCLING bin?**

- Paper towels, paper plates, coffee cups, milk cartons
- Rigid plastic bottles, cups, and containers
- Glass bottles and jars
- Metal cans
- Plastic bags, saran wrap
- Styrofoam
- Drink boxes and containers (also called aseptic containers)
- Unshredded confidential information.



## PCBs

Before federal regulations limited PCB production and use, PCBs were commonly used in a variety of commercial products, including:

- Adhesives
- Transformers
- Large high- and low-voltage capacitors
- Liquid-cooled electric motors
- Hydraulic systems
- Heat-transfer systems
- Fluorescent light ballasts
- Electromagnets
- Liquid-filled cable
- Gasketing and dampening felt
- Switches and electronic equipment
- Voltage regulators
- Vacuum pumps
- Microwave ovens
- Microscopy mounting media
- Immersion and optical oils

These uses of PCBs are no longer authorized under federal and state regulations; however, PCB use is allowed under specific conditions, in limited scenarios. Waste generators must remember that old equipment might still contain PCBs, even if it has been flushed out several times. **If a piece of oil-containing equipment is to be disconnected and not reused, please contact Waste Management (Deborah Price 486-5182 or 510-859-6227 early in the planning stages. If the waste is known to have PCBs  $\geq 50$  parts per million (ppm) or contains waste from a PCB spill, the maximum accumulation time in the generator SAA/WAA is 30 days (for quantities  $< 55$  gallons).**

All high-risk oils will be tested at the Hazardous Waste Handling Facility for PCBs prior to shipment off site for treatment and disposal. When preparing a requisition for waste oil, please note whether the oil contains known or suspected PCBs.

## Property

If equipment labeled with an LBNL Property Inventory sticker, the location and disposition of the item must be tracked. Before moving it to a different room, assigning it to a new owner, sending it to surplus, or disposing of the item, contact ATAP Property Representative Martha Condon at 486-7135 for assistance.



## Radioactive materials

If you encounter materials marked as radioactive or that you suspect could be radioactive that are not described in your RWA, do not handle them. Contact Radiation Protection for assistance:

Health Physicists:

Bldg.46, 88 and 50 complex -- Jeff Bramble -- 510-704-3101  
ALS, Bldg. 53, 71 Complex -- Melissa Mannion -- 510-292-9207  
58 complex and 77 complex -- Ibrahim Ozcan -- 510-898-8736

Unexpected discovery of radioactive materials will also require the Division to promptly report through the Occurrence Reporting and Processing System (ORPS). It is important that you contact Division Safety Coordinator Pat Thomas at 486-6098 immediately after securing the area.

## Recyclable Materials

**OTHER RECYCLING**

Plastic, glass, and metal (free of liquids and food waste)

PLASTIC BOTTLES      GLASS BOTTLES & JARS      METAL CANS

COFFEE LIDS      PLASTIC CONTAINERS NOT MARKED AS COMPOSTABLE      ALUMINUM FOIL

**SUSTAINABLE BERKELEY LAB**

Questions? Contact [sbl@lbl.gov](mailto:sbl@lbl.gov)  
More information at [sbl.lbl.gov/WasteDiversion](http://sbl.lbl.gov/WasteDiversion)

No Styrofoam  
No Plastic Bags

1440-0209

### **What should go into the OTHER RECYCLING bin?**

- Rigid plastic bottles (caps ok), cups, and containers marked with numbers 1-7 (empty)
- Coffee cup lids
- Glass bottles and jars (empty)
- Metal cans (empty)
- Aluminum foil (clean, crumpled)

### **What should NOT go into the OTHER RECYCLING bin?**

- Paper towels, paper plates, coffee cups, milk cartons (Compost)
- Plastic that says “compostable” or has a number 0 (Compost).
- Plastic bags, saran wrap (Landfill)
- Air pillows, bubble wrap (Reuse or Landfill)
- Styrofoam (Landfill)
- Chip bags (Landfill)
- Food wrappers (Compost if paper; Landfill other)
- Food, food scraps, coffee grounds and filters, tea leaves, and tea bags (Compost bin).



## **Salvage pick-up**

The Facilities Transportation Group offers courtesy pickup of items no longer needed in your lab or office. To qualify for a courtesy/free pickup, items must be:

- Freestanding (no disassembly or disconnection required)
- Small enough to move from the space and/or building (no Facilities crafts support required)
- Under 250 pounds
- Scheduled for pickup at least 3 days in advance
- Located at an occupied Berkeley Lab facility
- Lab property (i.e., materials used in office, research, or support functions)
- Cleared of EHS-managed hazards (EHS can help characterize if you have questions)

Excluded items:

- Chemicals, radiation sources, or other hazardous waste (EHS has separate disposal/ management programs for such materials. See other sections of this manual).
- Food waste, paper, and/or garbage (These can be disposed of using regular building disposal bins. Extra standard disposal bins will be staged near most ATAP work areas for Safety Day.
- Construction debris -- contact the Construction Manager (if known) or Facilities Work Request Center if you find construction items that were left behind.

If your item(s) meet the above criteria, a courtesy/free pickup can be requested:

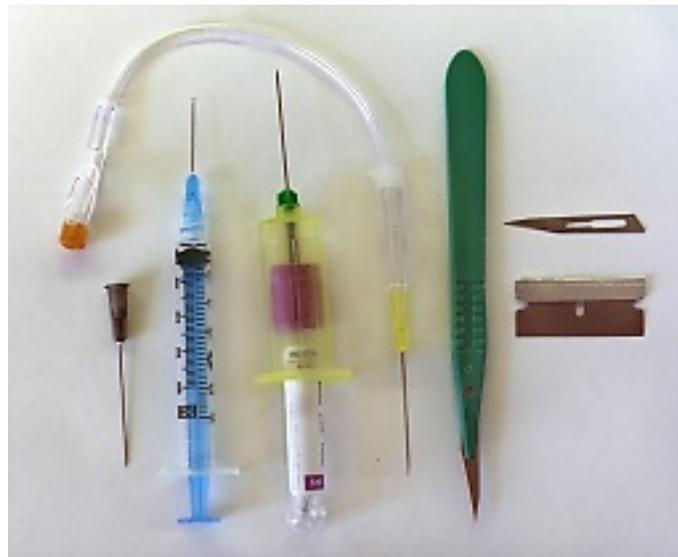
1. Allow at least 3 business days from submittal of the Pickup Work Order to pickup date.
2. Request a Transportation Work Order at <https://commons.lbl.gov/display/fac/Work+Request+Center>.
3. A "TAF" form will be e-mailed to you; fill out the information and attach it to the item(s) to be picked up.

**For assistance in coordinating salvage pick-up, contact your Building Manager (see Information).**

## Sharps

Sharps are devices with sharp edges capable of piercing or cutting the skin. The following is a list of typical sharps found in shops, offices, and labs:

- Drill bits capable of piercing or cutting the skin (thin bits like hypodermic needles)
- Needles
- Razor blades
- Scalpel blades
- Syringes – glass or plastic (with needles)
- Small shards of plastic and glass



Sharps items must be accumulated in approved sharps containers labeled “UNREGULATED SHARPS WASTE”. These containers are leakproof, rigid, and puncture-proof. Sharps containers can be purchased from Lab Safety Supply, and other vendor catalogues. When the containers are full, seal them and call the ATAP Generator Assistant (Deborah Price, 486-5182 or 510-859-6227) for proper disposal as medical waste.