

COMPRESSED GAS DISPOSAL

This guide is intended for the following audiences:

Labs	Dental	Art	Podiatry	Maintenance	Office	Healthcare	Dining	Housing	Misc. University Departments
X	X	X	X	X	X	X	X	X	X

Please contact EHRS at 215-707-2520 for additional disposal guidance information.

INTRODUCTION:

Compressed gas cylinders come in a variety of types and sizes. These cylinders are widely used at the University in teaching and research labs, healthcare, art shops/studios and in maintenance and construction operations. The primary disposal management goal for these cylinders is preventing these cylinders from needing disposal to begin with by returning them to the supplier or vendor. Many of the cylinders in use at temple contain hazardous materials and may be classified as flammable, poisons, reactive and corrosive. The disposal of any (full, partially full or empty) compressed gas cylinder, including lecture cylinders in the municipal waste stream is strictly prohibited.

The EHRS does not routinely collect or manage compressed gas cylinders, including lecture cylinder/bottles, for hazardous waste disposal. University personnel are required to use proper management techniques or purchase cylinders from vendors or supplier that will accept them for return when you are finished with the cylinder.

The cost for properly disposing of a compressed gas cylinder if you are unable to return it back to the vendor or supplier is expensive. Disposal cost for certain specialty gases and lecture cylinders can cost over \$1,000 per cylinder. Your cooperation in following this guideline will be helpful in you properly purchasing and managing your compressed gas cylinder and avoiding disposal cost being charged to you or your department.

WASTE MINIMIZATION:

Check with your colleagues to determine if they have any surplus cylinder or bottles or if you can borrow a particular gas in the event you only need a small amount of gas. The Temple University Chemical Environmental Management System ([CEMS](#)) can assist you in identifying colleagues who may have the gas you are interested in using for your work.

PURCHASING GUIDELINES:

Arrangements prior to purchasing must be made with the vendor or supplier to ensure that they offer returnable and/or refillable bottles or cylinder for purchase. The

majority of vendors/suppliers that Temple utilizes do offer this type of service for most of the gasses they provide. You will need to plan for the proper management and disposal in the event you are unable to identify a supplier/vendor who is unable to handle the return or refilling of a cylinder or bottle. In the event the vendor or supplier does not offer this type of service, contact EHRS at 215-707-2520 prior to purchasing the cylinder or bottle of compressed gas to discuss disposal options and the cost associated with the disposal the cylinder/bottle.

GAS CYLINDER RETURNS:

Contact the supplier or vendor to confirm their policy on returns. You must follow any shipping instructions given by the vendor or supplier. Contact EHRS at 215-707-2520 if you have any questions.

LECTURE CYLINDERS\BOTTLES:

Lecture bottles are very small compressed gas cylinders typically 2-3 inches in diameter and 12-18 inches in height. Most gas suppliers or vendors will offer these types of cylinders or bottle for purchase. However, most of the vendor or suppliers will not accept these cylinders (full, partially full or empty) back for refill/return or disposal. The proper disposal and management of unwanted lecture cylinder/bottles are extremely expensive.

Temple University personnel must only purchase lecture cylinder/bottles that can be returned to the suppliers or vendors. You or your department will be required to pay for the cost of disposal in the event EHRS needs to send a lecture cylinder/bottle out for disposal via our hazardous waste contractor.

The following vendor or supplier offers returnable lecture cylinder/bottles:

[Airgas](#)

INTENTIONAL VENTING OF CYLINDERS\BOTTLES:

The intentional venting of a cylinder/bottle that contains a hazardous gas or material is against federal, state, local regulations and Temple policy.

VALVE REMOVAL OF CYLINDERS\BOTTLES:

Removal of valves from a cylinder or bottle can present a significant hazard if the cylinder/bottle is not fully discharged or if there are chemical residues present. Cylinders/bottles that held pyrophorics or flammable gases may still present a fire or explosion hazard while those that held corrosive, poisonous or reactive gases may still have sufficient residues to present a serious hazard.

TRAINING

Any employee who handles compressed gas cylinders/bottles is required to have initial and annual refresher chemical waste training. All new employees are required to have their initial training within 30 days of their initial employment date. Please visit the EHRS [EHRS training page](#) or contact the Training Program Coordinator at 215-707-2520 for additional information

DAMAGED/LEAKING CYLINDERS/BOTTLES

The following steps must be taken if a compressed gas cylinder/bottle shows evidence of leakage, spillage, or damage.

- Evacuate the area and immediately contact Temple University Police at 215-204-1234 or 1-1234.
- Immediately contact Environmental Health & Radiation Safety at 215-707-2520 or contact the Page Operator at 215-707-4545 after normal business hours and ask to speak with the EHRS staff member on call.
- If possible, put on pair of chemically protective gloves and immediately place the compressed gas cylinder/bottle inside a chemical fumehood.

SUPPLIES:

Collection Containers: Contact EHRS at 215-707-2520 for information and availability.

Secondary Containment: Contact EHRS at 215-707-2520 for information and availability.

Labels: Contact EHRS at 215-707-2520 for information and availability.

It is the individuals department's responsibility for supplying labels, collection containers, pallets or secondary containment if the type (s) or size(s) needed are not available through EHRS. All items must meet the regulatory requirements as specified by the EPA and DOT. Please contact EHRS at 215-707-2520 for guidance.

DISPOSAL INSTRUCTIONS:

1. Any compressed gas cylinder/bottle that is not returnable or cannot be managed on site will require management as a hazardous waste. EHRS will arrange for the most cost effective and environmentally sound disposal for

- you. Compressed Gas Cylinders/bottles will not be picked up until EHRS has an appropriate cost center, PO or means of payment.
2. All cylinders that require disposal will need to be clearly identified. A “Hazardous Waste” label is required to be placed on any cylinder\bottle that will need to be disposed of through EHRS. The Hazardous waste label will be required to have the following:
 - a. Identification of the gas or mixture of gases
 - b. Identification of Hazards (Poison, Flammable, Corrosive, etc...)
 - c. Approximate pressure (PSI)
 - d. The words “ Hazardous Waste”
 3. Compressed Gas Cylinders/bottles that are unknowns or are not easily identifiable require additional precautions. Contact EHRS at 215-707-2520 or 2-2520 for additional information.
 4. Request a pickup-Complete a [Pickup Request Form](#) under the Chemical Waste section and submit electronically(E-mail request) or fax to 2-1600

Related Information

EHRS Handbook-[2.7-Management of Spent Gas Cylinders](#)

Hazardous Waste Manager

David.mcdonough@temple.edu

Phone: 2-0109 or 215-707-0109 (off campus)

[Contact EHRS](#)

Phone: 2-2520 or 215-707-2520 (off campus)

[Waste Pickup](#) (to request a pickup)