HOW TO RECYCLE EMPTY BALLOON TIME® HELIUM TANKS

UNIVERSITY AT ALBANY
OFFICE OF ENVIRONMENTAL HEALTH & SAFETY
518-442-3495
THE DISPOSAL OF A COMPRESSED GAS TANK/CYLINDER AT THE UNIVERSITY AT ALBANY IS REGULATED BY FEDERAL, STATE AND LOCAL REGULATIONS.

THE FOLLOWING GUIDELINES WILL HELP ESTABLISH THE PROPER PROTOCOL ON HOW TO SAFELY RECYCLE EMPTY BALLOON TIME® HELIUM TANKS.

TO RECYCLE ALL OTHER TYPES OF COMPRESSED GAS TANKS/CYLINDERS, PLEASE CONTACT THE OFFICE OF ENVIRONMENTAL HEALTH & SAFETY AT (518) 442-3495.
WARNINGS & PRECAUTIONS

- Before using the Balloon Time® Helium Balloon Kits, please familiar yourself with the following warnings. These warnings can also be found on the product carton.

- **Keep out of the reach of children.**
- **Balloons represent a possible choking hazard.** Children under eight years can choke or suffocate on uninflated or broken balloons. Adult supervision is required. Keep uninflated balloons away from children. Discard broken balloons immediately.
- **Do not place nozzle in mouth or nose for any reason.** Doing so can damage lungs and other body parts, which can result in serious personal injury or death. The cylinder contains compressed helium under pressure.
**WARNINGS & PRECAUTIONS**

- **Do not inhale helium. Use only in a well ventilated area.** Never use in closed spaces. Helium reduces and can eliminate oxygen available for breathing. Inhaling helium can result in serious personal injury or death.
- **Do not refill with any material.** This is a non-refillable cylinder. This could result in violent bursting of the cylinder resulting in serious personal injury or death.
- **Do not store in damp areas.** This can cause the cylinder to rust. Rusting of the cylinder can result in a violent bursting of the cylinder resulting in serious personal injury or death.
- **Never expose the cylinder to direct heat or fire.** Exposure to those conditions could result in the operation of the pressure relief device, which will result in a sudden discharge of pressure from the cylinder, resulting in serious personal injury or death.
Do not mistreat the tank by dropping on sharp or pointed surfaces. This could puncture the tank causing a sudden release of the contents resulting in serious injury or death.

For more information on helium gas, refer to the Balloon Time Helium Material Safety Data Sheet.
WARNING: Failure to follow these instructions for safe disposal of the non-refillable Balloon Time® tank can result in an immediate release of gaseous helium resulting in personal injury, property damage or both.

Balloon Time is a non-refillable tank. Please do not refill it with any substance. Read all tank warnings for more information.
1. Only attempt disposal of the Balloon Time® tank when it is empty.

2. Take the tank to a well-ventilated area. Fully open the valve handle by turning it counter-clockwise. Press and hold down on the tilt-nozzle (see photo 2) until the tank is empty. Listen and feel for pressure discharging from the tilt-nozzle. The tank is empty when no sound is heard or pressure is felt.

3. Unscrew and remove the tilt-nozzle (see photo 3) either by hand or with the help of a ¾ inch wrench.
4. Take the tank to a steel recycling center or place with curbside recycling pickup. However, please note that recycling programs for this product may not exist in your area.

If your local steel recycling center or curbside recycling will not accept the empty Balloon Time® tank, please continue with these additional instructions.

5. Place the tip of a flat-head screwdriver on the inside serration of the rupture disc located on the shoulder of the tank (see photo 5).

6. With a hammer or mallet, LIGHTLY tap the handle of the screwdriver to pierce the rupture disc open (see photo 6).
7. Carefully, completely open the rupture disc. With a permanent magic marker, draw a large circle around the open rupture disc and write the word “EMPTY” on the tank (see photo 7).

8. Once the rupture disc is open, the tank can be recycled with other steel recyclables at your local recycling center or Solid Waste Authority (SWA). The phone number for your local SWA can be found in the blue government section of your white pages. If your local SWA will not accept the punctured tank, dispose of the punctured tank in your trash.

To recycle tanks at the University at Albany, once you have completed Step #7, bring the empty tank to the Social Sciences loading dock and place the tank in the scrap metal dumpster.
Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Helium, Compressed
Trade Name(s): Helium, Lasertag™ Helium, Medilite® Helium, Ultrapure™ Helium
Chemical Name: Helium
Synonyms: Helium-4, refrigerant gas, R-704

Product Grades: Industrial, Ultra High Purity, research/kinematical, 99.999% trace, analytical, 99.999% UHP, 4.7, 5.0, 5.5, 6.0 Laser, 4.6 iso, oxygen-series, 5.0 multigas series, R-704, 4.5, 5.0, 6.0, 6.6 semiconductor-process gas.

Company Name: Praxair, Inc.
Address: 28 Old Ridgebury Road
Darien, CT 06820

Telephone: 1-800-545-4533
Company Name: Praxair, Inc.
Address: 28 Old Ridgebury Road
Darien, CT 06820

2. Hazards Identification

EMERGENCY OVERVIEW

CAUTION! High-pressure gas. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers. Under ambient conditions, this is a colorless, odorless, tasteless gas.

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:
Effects of a Single (Acute) Overexposure

Inhalation: Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, dizziness, dizziness, excitement, extra salivation, vomiting, and uncoordinatedness. Lack of oxygen can kill.

Skin Contact: No harm expected.

Swallowing: This product is a gas at normal temperature and pressure.

Eye Contact: No harm expected.

Effects of Repeated (Chronic) Overexposure: No harm expected.

Other Effects of Overexposure: Helium is an asphyxiant. Lack of oxygen can kill.

3. Composition/Information on Ingredients

This section covers materials of manufacture only. See sections 8, 10, 11, and 16 for information on by-products generated during use in welding and cutting. See section 16 for important information about mixtures.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NUMBER</th>
<th>CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helium</td>
<td>7440-59-7</td>
<td>100%</td>
</tr>
</tbody>
</table>

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

SKIN CONTACT: An unlikely route of exposure. This product is a gas at normal temperature and pressure.

SWALLOWING: An unlikely route of exposure. This product is a gas at normal temperature and pressure.

EYE CONTACT: An unlikely route of exposure. This product is a gas at normal temperature and pressure.

NOTES TO PHYSICIAN: There is no specific antidote. This product is inert. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Nonflammable.

SUITE EXTINGUISHING MEDIA: Helium cannot catch fire. Use media appropriate for surrounding fire.

PRODUCTS OF COMBUSTION: Not applicable.

PROTECTION OF FIREFIGHTERS: CAUTION! High-pressure gas. Evacuate all personnel from danger area. Immediately douse cylinders with water from maximum distance until cooled, then move them away from fire area if not needed. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156. Specific Physical and Chemical Hazards. Heat of fire can build pressure in cylinder and cause it to rupture. No part of cylinder should be subjected to a temperature higher than 125°F (52°C). Helium cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.)
PRAXAIR MSDS (SDS)

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION: High-pressure gas.

Personal Precautions. Helium is an asphyxiant. Lack of oxygen can kill. Evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off leak if without risk. Ventilate area of leak, or move cylinder to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before entering.

Environmental Precautions. Prevent escape from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner. In full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable wrench to remove overtightened or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. Close valve after each use, keep closed even when empty. Never apply force or localized heat directly to any part of the cylinder. High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely, venting the cylinder contents. For other precautions in using helium, see section 10.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store only where temperature will not exceed 125°F (52°C). Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap tight in place by hand. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

RECOMMENDED PUBLICATIONS: For further information on storage, handling, and use, see Praxair publication P-14-153, Guidelines for Handling Gas Cylinders and Containers. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

See section 16 for important information on by-products generated during use in welding and cutting.

COMPONENT
Helium

OSHA PER
Not Established.

ACGIH TLV/TWA (2007)
Simple asphyxiant.

IDLH = Not available.

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust system if necessary, to prevent oxygen deficiency, and in welding, to keep hazardous fumes and gases in the worker’s breathing zone below all applicable exposure limits.

Mechanical (General). General exhaust ventilation may be acceptable if it can maintain an adequate supply of air and keep hazardous fumes and gases in the worker’s breathing zone below all applicable exposure limits.

Special. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves when handling cylinders; welding gloves for welding.

Respiratory Protection. Per input or existing MSDS.

Eye Protection. Use safety glasses while handling cylinders; welding goggles for welding.

9. Physical and Chemical Properties

APPEARANCE: Colorless gas
ODOR: None
ODOR THRESHOLD: Not applicable
PHYSICAL STATE: Gas at normal temperature and pressure
pH: Not applicable
BOILING POINT at 1 atm: -455.5°F (-271.9°C)
FLASH POINT (closed cup): Not applicable
EVAPORATION RATE (Butyl Acetate = 1): Not applicable
FLAMMABILITY: Nonflammable
FLAMMABLE LIMITS IN AIR: % by volume: LOWER: Not applicable. UPPER: Not applicable
VAPOR PRESSURE at 68°F (20°C): Not applicable
VAPOR DENSITY at 20°F (21.1°C) and 1 atm: 0.0124 (air = 1.000)
LIQUID DENSITY at boiling point and 1 atm: 7.82 lb/ft³ (124.04 kg/m³)
SPECIFIC GRAVITY (Air = 1) at 70°F (21.1°C) and 1 atm: 0.135
SOLUBILITY IN WATER at 32°F (0°C) and 1 atm: 0.0054
PARTITION COEFFICIENT: n-octanol/water: Not available.

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8/14/2014
10. Stability and Reactivity

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: None known.

INCOMPATIBLE MATERIALS: None known. Helium is chemically inert.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur

11. Toxicological Information

ACUTE DOSE EFFECTS: Helium is a simple asphyxiant.

STUDY RESULTS: None known.

12. Ecological Information

ECOTOXICITY: No known effects.

OTHER ADVERSE EFFECTS: Helium does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

DOT/Shipping Name: Helium, compressed

HAZARD CLASS: 2.2

UN/Identification Number: UN1040

PRODUCT: None

Shipping Label: NONFLAMMABLE GAS

FLAMMABILITY (as required): NONFLAMMABLE GAS

NOT APPLICABLE

SPECIAL SHIPMENT INFORMATION: Cylinders should be transported in a secure position in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Transmission of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law (49 CFR 173.301(b)).

MARINE POLLUTANT: Helium is not listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)


Section 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQs) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ: (40 CFR 355): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

Sections 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQs) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ: (40 CFR 355): None

Sections 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPC hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: Yes

DEADLINED: No

REACTIVITY: No

FIRE: No

SECTIONS 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Helium is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Helium is not listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Helium is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQs) of highly hazardous chemicals.

Helium is not listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: Helium is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: Helium is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7901-7929).
16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: High-pressure gas. Use piping and equipment adequately designed to withstand pressures to be encountered. Use a backflow prevention device in any piping. Never work on a pressurized system. If there is a leak, close the cylinder valve. Blow the system down in an environmentally safe manner in compliance with all federal, state, and local laws, then repair the leak. Never place a compressed gas cylinder where it may become part of an electrical circuit.


Areas and sparkps can ignite combustible materials. Paint free. Refer to NFPA 51B, Standard for Fire Prevention in Welding, Cutting, and Other Hotwork. Do not strike an arc on the cylinder. The deflagrated oxygen atom can burn could lead to cylinder rupture.

Use in Underwater Breathing. Suitability of this product for use in underwater breathing must be determined by or under the supervision of someone experienced in the use of underwater breathing gas mixtures. This person must be familiar with how the product is used, the frequency, duration, and effects of use, the hazards and side effects of use, and the precautions to take to avoid or control them.

Mistakes. When you mix two or more gases or liquefied gases, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>INSTABILITY</th>
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HIMIS RATINGS:

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<th>PHYSICAL HAZARD</th>
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<tbody>
<tr>
<td>0</td>
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<td>3</td>
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SPECIAL:

SA (CGA recommends this to designate Simple Asphyxiant.)

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

<table>
<thead>
<tr>
<th>THREADING</th>
<th>PIN-INDEXED YOKES</th>
<th>ULTRA-HIGH INTEGRITY CONNECTION</th>
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<tbody>
<tr>
<td>0-3000 Dn psi</td>
<td>CGA-B68</td>
<td>CGA-J78</td>
</tr>
<tr>
<td>3001-7500 Dn psi</td>
<td>CGA-B68</td>
<td></td>
</tr>
<tr>
<td>5001-7500 Dn psi</td>
<td>CGA-B69</td>
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Use the proper CGA connections. DO NOT USE ADAPTERS. Additional limited-standard connections may apply. See CGA pamphlet V-1 listed below.