



UNDER THE MICROSCOPE

The Dartmouth College laboratory safety newsletter

Specific questions? Ask EHS: 646-1762 or ehs@dartmouth.edu

Compressed Gas Cylinders: Basics and Beyond

The fundamentals

- Capped or connected:** If not connected to an incubator, instrument, etc., remove the regulator and put the cap on.
- Closed unless currently needed:** If you don't need gas flowing, turn it off.
- Secured:** Make sure cylinder is held in place by chain or strap. *Even if you don't move cylinders yourself, keep an eye out for any that aren't secure!*
- Labels visible:** As with any chemical container, being able to identify contents is important. When possible, turn cylinder so label can be seen.



More to consider

Rules for compressed gas management come primarily from parts of the fire code:
NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals
NFPA 55, Compressed Gases and Cryogenic Fluids Code

- Do you have unused cylinders?** Minimize extra or spare cylinders and return any that are no longer needed. (Fire code doesn't allow storage of unused cylinders in labs, except as single spares alongside active cylinders.)
- Do you have cylinders by your only exit(s)?** Store cylinders where a leak won't prevent you from safely escaping.
- Do you have flammable, toxic, corrosive, or reactive gases?** 1. There are quantity limits based on hazard and location.
2. A room gas sensor should be considered.
- Do you have toxic or pyrophoric gases?** Constant ventilation in a fume hood or gas cabinet may be required.
- Do you have multiple types of gases?** If you have cylinders with different hazard categories, minimum separation distances or barriers may be required. This is similar to segregating your liquid chemicals in cabinets. Flammable, corrosive, and different types of reactive gases should not be stored together.

Example	HELIUM, COMPRESSED	CARBON DIOXIDE, USP	OXYGEN, COMPRESSED	HYDROGEN, COMPRESSED	CHLORINE, UN 1017, Inhalation Hazard	CARBON MONOXIDE, COMPRESSED
NFPA	0 0 0	0 2 0	0 0 0	0 4 0	0 4 0	0 2 0
GHS	SA WARNING	- WARNING	OX DANGER	- DANGER	OX DANGER	- DANGER

Note: carbon dioxide has health hazards but is not considered a toxic gas. It is managed as an asphyxiant.

How do you know if any of these additional considerations apply to you?

Simple! Ask EHS and we will help you figure it out.

EHS Staff: Bree, Caitlyn, Erik, Jason, Jeff, Mark, Matt, Meg, Molly, Ryan