

PI: _____
 Phone: (____) ____-____ Email: _____

Alternative Contact: _____
 Phone: (____) ____-____

Environmental Health & Safety: Compressed Gas Questionnaire

Purpose: This questionnaire serves as a safe use and compliance reference for primary investigators and their research groups who possess compressed gas cylinders on site. It is important for research teams to understand the nature of compressed gases, how they can be harmful, and what they can do to safeguard their laboratory space. In order to ensure that this questionnaire proves useful for research teams, it would be best to fill out the questionnaire and place a copy with the team’s chemical control plan. Every member of the research team should be made aware of the location of the chemical control plan.

Questions, comments, or concerns? Please contact EHS at (216) 368 – 2907

Please list all compressed gases on site:	Check all that apply to each compressed gas:		
_____ Gas Name _____ Gas Location	Corrosive	Oxidizer	Non liquefied gas
	Flammable	Pyrophoric	Liquefied gas
	Highly toxic	Unstable	Compressed gas
	Irritant nonflammable	Inert	Compressed mixture
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	Yes	No
...provided with a pressure relief device to protect the cylinders from rupture in the event of over pressure?		
...affixed with the proper regulator for the particular gas?		
...properly marked with gas name and hazard warning? Visible labeling?		
...secured against accidental dislodgement with chains or by other means? Each cylinder with its own securing device? No more than two per chain or strap?		
...stored at room temperature and protected against temperature extremes?		
...in an upright position (valve end up), except those designed in a horizontal position?		
...separated from materials and conditions that pose an exposure hazard (accidental release or chemical compatibility concerns)?		
...stored so they do not interfere with exit paths?		
...labeled and stored away from empty cylinders?		
In regards to piping that is designed or intended to carry more than one gas at various times:		
○ Are the appropriate signs and markings posted at the manifold, along the piping, and at each point of use to provide clear indication that a gas is being used?		
○ Are the compressed gas systems and controls designed to prevent materials from leaving the process or reaction system?		
Are response plans for your gases currently available for all laboratory workers?		
Is every laboratory worker knowledgeable on the type of gas they will be working with, potential hazards, and how to use shutoff valves?		
Are leaking, damaged, or corroded systems replaced, repaired, or removed from service?		
Do you have flammable gases, combustibles liquids or flammable cryogenic fluids? (If yes, please continue with the questionnaire)		

Please note: *The researcher is responsible for knowing the characteristics of the gases being used: toxicity, flammability, compatibility with materials and other gases.*

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Relevant Vocabulary

Absolute pressure – pressure based on a zero reference point, the perfect vacuum

Combustible liquid – a liquid having a closed-cup flash point at or above 37.8 C, which is subdivided into classes (II, IIA, IIIB)

Compressed gas container – a pressure vessel designed to hold compressed gas at an absolute pressure greater than 1 atm at 20 C that includes cylinders, containers, and tanks

Cryogenic fluid – a fluid with a boiling point lower than -90 C at an absolute pressure of 14.7 psi (101.3 kPa)

Cylinder – a pressure vessel designed for absolute pressures higher than 40 psi (276 kPa) and having a circular cross-section.

Emergency shutoff valve – a designated valve designed to shut off the flow of gases or liquids

Automatic – fail-