Principal Investigator: _____ ***Date Approved:*** _____

This document covers basic chemical safety information for carcinogens and reproductive toxicants. The use of any carcinogen or reproductive toxicant is subject to pre-approval by the Principal Investigator (PI) and/or Supervisor. PI and/or Supervisor may use the sheet attached to this SOP to document any lab specific training for Carcinogens and Reproductively Toxic Gases. DO NOT USE CARCINOGENS OR REPRODUCTIVE TOXICANTS UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Carcinogens and Reproductively Toxic Gases

Compressed gases are gases which are stored above atmospheric pressure in metal cylinders. The gases covered by this SOP are also carcinogens (have the potential to cause cancer) and/or reproductive toxicants (have the potential to interfere with fertility, fetal development, and/or lactation). This makes the potential for release of these gases of elevated concern, and the consequences of exposure to them more serious than for inert gases.

Examples of carcinogenic and reproductively toxic gases include carbon monoxide, ethylene oxide, and low molecular weight halocarbons.

Personal Protective Equipment & Personnel Monitoring		
 **Lab Coat**	 **Gloves**	 **Eye Protection**
Traditional lab coat.	For proper glove selection, review the chemical safety data sheet and consult glove manufacturer recommendations with your PI or supervisor.	ANSI Z87.1-compliant safety glasses or safety goggles.

Labeling & Storage

Carcinogenic and reproductively toxic gases should be stored in a toxic gas cabinet or exhausted enclosure away from combustible materials. Please consult with EHS if your protocol does not allow for this type of storage.

Ensure compressed gas cylinders are in an upright position to prevent tipping and rolling. This can be achieved by using a strap or chain 1/3 from the top of the cylinder. Alternatively, use a cylindrical casing to secure the cylinder within the exhausted enclosure next to your experimental setup. Refer to American Society of Mechanical Engineers code for Process Piping, ASME B31.3, to select compliant piping.

Also, if not plainly visible (e.g. through a cabinet window), labeling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

WHAT NOT TO DO: Never store cylinders on transportation carts. Never store cylinders with regulators still attached, instead remove the regulator and replace with the safety cap. Never use a cylinder without a regulator. Never permit the gas to enter the regulator suddenly. Never try to stop a leak between a cylinder and regulator by tightening the union nut unless the cylinder valve has been closed first. Never strike an electric arc on the cylinder.

Engineering Controls, Equipment & Materials

Fume Hood

If you have any reason to believe that your protocol may generate fugitive carcinogenic or reproductively toxic gases (e.g. an open system which terminates outside of a fume hood or other exhausted enclosure), contact EHS to determine whether alternative engineering controls (e.g. a burn box), additional respiratory protection, and/or medical surveillance is warranted.

Ordering & Disposal

As of *July 1st 2022,* Receiving & Stores will no longer coordinate the cylinder gas program for campus departments. Beginning on July 1, departments will enter requisitions for cylinder gases into 49er Mart directly to the mandatory State Term Contract #1214A vendors, Airgas or ARC3 Gases, and deliveries/pickups will be made by the vendors directly to the department. Any order or service issues should be communicated directly to the vendor supplying the cylinder gas, or to the Purchasing Office who will assist the department with any issues encountered.

First Aid & Emergencies

Inhalation

If you suspect that a person has lost consciousness due to oxygen deprivation, call 911 and **DO NOT** enter the room. Move person into fresh air only if safe to do so. If symptoms persist, get medical attention.

Name	Signature	Date