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

Compressed Gases

Compressed gases are gases which are stored above atmospheric pressure in metal cylinders. The main hazard when working with high-pressure apparatuses is the possibility of explosion due to equipment failure. Many compressed gases are also considered to be simple asphyxiants due to their ability to displace oxygen in the event of their rapid release.

Examples of compressed gases include nitrogen, hydrogen, argon, and carbon dioxide.

Personal Protective Equipment & Personnel Monitoring		
 **Lab Coat**	 **Gloves**	 **Eye Protection**
Flame-resistant 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 goggles.

Labeling & Storage

Compressed gas cylinders should be secured to a stable structure (ideally with double chains), such as a wall, with no more than three cylinders of equal size secured with a single set of chains. The first chain should be ⅓ from the bottom of the cylinder and the second chain should be ⅓ from the top of the cylinder. Alternatively, use a cylindrical casing to secure the cylinder to the floor next to your experimental setup. Refer to American Society of Mechanical Engineers code for Process Piping, ASME B31.3, to select compliant piping.

WHAT NOT TO DO: Never store cylinders on transportation carts. Remove regulators from cylinders when not in use and replace 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. Do not move cylinders by hand long distances (more than several feet), always use a hand truck with the cylinder strapped. Toxic gases should not be purchased or used prior to contacting EHS.

Engineering Controls, Equipment, & Materials

Fume Hood

Use a fume hood when working with materials which are toxic by inhalation. If your protocol does not permit the handling of such materials in a fume hood or other containment device, contact EH&S to determine whether additional respiratory protection is warranted.

Oxygen Sensor

Oxygen sensors may be necessary in rooms where large quantities of compressed gases are stored or handled. Never enter a room if an oxygen sensor is in alarm.

First Aid & Emergencies

Inhalation

If you suspect that a person has lost consciousness due to oxygen deprivation, call 911 or TWU DPS (940-898-2911 in Denton; 214-689-6666 in Dallas; 832-870-6128 in Houston) and **do not** enter the room. Move affected individual(s) into fresh air only if safe to do so. If symptoms persist, seek medical attention.

By signing and dating the log below, individuals are certifying that they have been informed and understand this Standard Operating Procedure and agree to abide by its contents.

Name	Signature	Date