

Compressed and Hazardous Gases SOP

SCOPE/PURPOSE

Scope: Any academic department that uses the compressed gases.

Purpose: The purpose of this plan is to lay out the safe storage and handling procedures for compressed gas cylinders. In addition, this plan includes instructions for maintenance, refilling and transportation.

STORAGE AND HANDLING

- 1) Store cylinders in an upright position and in a well ventilated area. Always store tanks with the valve cap securely screwed on.
- 2) Secure cylinders with at least one restraint, and preferable both upper and lower restraints. If using one restraint position it about 2/3rd of the way up the cylinder. Laboratory cylinders less than 18inches tall may be secured by stands or wall brackets.
- 3) Different classes of gases (flammable, oxidizing, toxic, inert) should be stored separate from others. Oxygen and other oxidizing gases must be stored separately from flammable gases.
- 4) Do not store cylinders in exit or egress routes.
- 5) Cylinders and gas lines must be labeled. Do not depend on color codes, no single standard exists.
- 6) Do not roll, drag, slide, or lift cylinders by their caps to transport them. Instead, use a hand truck or other suitable device.
- 7) Always transport cylinders with valve caps securely in place.
- 8) Do not attempt to repair a faulty cylinder, valve, or regulator. Contact our compressed gas vendor for service.
- 9) If a cylinder leak cannot be stopped by tightening the valve gland or packing nut, close the leaking valve, place the valve cap and move the cylinder to a well-ventilated area. Notify our compressed gas vendor for service.
- 10) Always use the correct regulator of the type of gas and never use adapters.
- 11) When using flammable gases, be sure that the regulator is intrinsically safe and approved for such use. Ensure that flashback protectors are installed.

MAINTENANCE AND REFILLING

Whitworth University both owns and rents tanks. Each department is responsible for the maintenance of their owned tanks and for managing their account with our compressed gas

vendor. Gas cylinders must be hydrostatically tested periodically to ensure that they still meet the Department of Transportation strength requirements. Each time a cylinder is tested, the month and year are stamped on the shoulder of the tank. Retesting is required every 5 years. If the cylinder is also stamped with a five-point star immediately follow the test date, the next test is not for 10 years. Cylinders do not have to be taken out of service as soon as the retest date arrives, but they cannot be refilled until after it has been tested. Hydrostatic testing requires the tank to be de-valved, filled with water (tested), dried, cleaned, re-valved, and then refilled. To accomplish this testing our gas vendor usually transports the cylinders to their Tri-cities location. Persons needing cylinders refilled and tested should be aware that this process takes at least 2 weeks, plan accordingly.

TRANSPORTATION

If cylinders of compressed gases are transported over roads, they must have a safety cap securely in place and must be adequately secured so that they cannot move around in the vehicle. Department of Transportation regulations must be followed when transporting gas cylinders. Contact the CHO for additional information and compliance assistance.

REVIEW

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| Dean, College of Arts and Sciences: | Noelle Wiersma | Nov 7, 2016 |
| Chemical Hygiene Officer: | Joy Diaz | Nov 1, 2016 |
| Department of Chemistry Chair: | Deanna Ojennus | Nov 11, 2016 |
| Department of Biology Chair: | Craig Tsuchida | Nov 7, 2016 |
| Department of Physics Chair: | John Larkin | Nov 16, 2016 |