

Detailed Compressed Gas Cylinder and Regulator Use

- 1- Locate your gas cylinder from the gas cylinder cage and transport to the lab with the use of a gas cylinder cart. Make sure the cylinder is properly secured to the cart before transporting.
- 2- Remove the shrink wrap paper over the cylinder valve. If there is no shrink wrap; the cylinder is empty. Mark cylinder as empty and return it to the empty cylinder area at the shipping dock and secure with the chain.
- 3- Secure the cylinder in the lab, to the wall or bench with a gas cylinder clamp.
- 4- Undo the cap and screw on the appropriate regulator for the gas. Use a proper regulator wrench to tighten the regulator. Do not over tighten. Do not use Teflon tape on the cylinder connections.
- 5- Some regulators have left-handed threads such as for acetylene, hydrogen and other fuel gases. The locking nuts on these regulators will have notches. Most regulators have right-handed threads such as for argon, helium, etc.
- 6- Check that the flow control valve is closed.
- 7- Turn the pressure adjusting screw on the regulator counterclockwise until it turns freely.
- 8- Slowly open the cylinder valve. One (1) turn is usually sufficient.
- 9- Check the gas cylinder pressure gauge (gauge closer to the cylinder valve). A full cylinder will have approximately 2200 psi except for acetylene, carbon dioxide or special gas mixtures.
- 10- Turn the pressure adjusting screw clockwise until the required pressure is reached (gauge further from the gas cylinder valve).
- 11- Check for gas leaks by using Snoop™ on all the threaded connections including the cylinder valve.
- 12- If a gas leak is detected on the connection between the regulator and the gas cylinder, close the cylinder valve and tighten the regulator once again carefully. If the leak continues, remove regulator, inspect regulator nipple for scratches/dents/debris and then reconnect. Call the department technicians for help if you are unsure.
- 13- If a gas leak is detected on the cylinder valve do not use the gas cylinder. Remove the regulator, replace the cylinder cap, remove gas cylinder from the lab and return back to empty gas cylinder area. With chalk write "Leak" on the side of the cylinder and contact the supplier for return. If the cylinder is a fuel gas, contact the safety committee or call 3000 immediately.
- 14- If all is correct, control the gas flow by the flow control valve on the regulator. Do not use the pressure adjusting screw for flow control.
- 15- For shut down: shut the cylinder valve, allow residual gases in valve and lines to drain. When gauges fall to zero, turn the pressure adjusting screw counterclockwise until it runs freely and close the flow control valve.
- 16- When moving the gas cylinder always remove the regulator, replace the cap, and then move cylinder using a gas cylinder cart.