What are the types of compressed gas cylinders?

There are many types of compressed gases; however, this fact sheet will focus primarily on compressed gases that are non-liquefied such as helium, nitrogen, oxygen and argon.

Where do I obtain additional information?

If you have any questions, please contact the Environmental Health and Safety Office at 704-687-1111. The EHS Office can provide training, emergency preparedness and onsite compliance consultations.

What are some of the potential hazards of compressed gas cylinders?

- Explosion and fire hazards
- May create a toxic environment
- Oxygen displacement
- A ruptured cylinder may cause property damage and/or personal injury

What can you do to control these hazards?

- Contact EHS prior to an initial order for compressed gas cylinders to review activities and ensure adequate controls are implemented.
- Inspect all cylinders (visually for dents, bulges, cracks, hoses, regulators etc.) prior to use.
- Ensure employees have been trained on how to use compressed gas cylinders.
- Segregate empty and full cylinders.
- Segregate incompatible gases.
- Ensure that the correct pressure regulator is in use.
- Store compressed gas cylinders in a cool, dry, well-ventilated, fire resistant area (keep out of direct sunlight).
- Ensure cylinders are secured upright to avoid tipping over or rolling (i.e., chained, holding cage(s), or sturdy straps).
- Ensure empty cylinders are labeled "EMPTY".
- Keep all cylinders capped when not in use.
- Keep oxygen stored away from all flammables, oil products, and grease (at least 20 feet away).
- Fuel gases and oxidizers must be separated by at least 20 feet, or a noncombustible wall at least 5 feet high with at least a half-hour fire rating.
- Never vent flammable gases inside a building.
- Ensure regulator valve is shut before installing on a cylinder.
- Use less than 30 psi when using compressed air for cleanup.
- Never use compressed air to clean off your clothing or yourself.
- Do not smoke near a compressed air or gas cylinder.
- Open cylinder valve slowly, and never fully open cylinder valve.

How should you transport a compressed gas cylinder?

- Regulators must be removed.
- Valves must be in the closed position and valve caps must be on.
- Do not drag or roll cylinders horizontally.
- Do not lift cylinders by their valve cap.
- Secure cylinders in a cart or a hand truck specifically designed for cylinders. Chain (secure) the cylinder and move to a new location.

What type of Personal Protective Equipment (PPE) must be worn?

- Safety glasses must be worn at all times.
- Use face shields and other required PPE for cryogenic gases.
- Always refer to Safety Data Sheets (SDS) for the necessary required PPE.