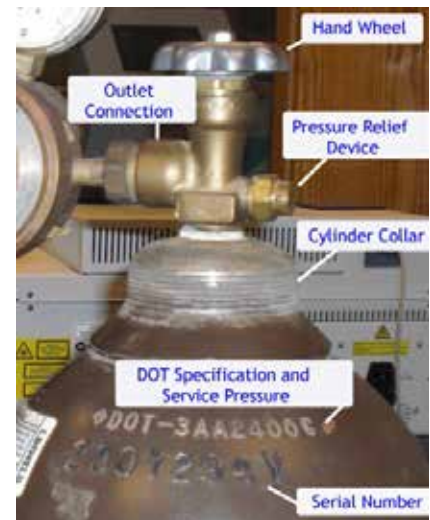


# Compressed Gas Cylinders – Safe Handling and Storage

Compressed gas cylinders are commonly used in many types of applications, from welding in general industry and construction, to fire protection systems, to school laboratories, flower shops, and even hospitals and medical clinics. The content of these cylinders varies widely; however, many of them present special hazards, such as flammable gas, oxidizer gases, asphyxiates that displace oxygen in the environment, and even toxic gases. The content of the cylinders can also increase the fire- or life-safety hazard, depending on the type of gas involved.

The common denominator, however, is that the gas contents are under pressures up to 2,500psi. This presents an inherent hazard because even nonflammable, inert gas cylinders can pose a very real danger if the valve breaks off or the cylinder ruptures and suddenly releases the gas. The energy of the escaping gas can actually cause the cylinder to become an airborne projectile that can cause serious injury and property damage.



To prevent serious losses, it's important to follow these basic safety rules when handling or storing compressed gas cylinders:

1. Make certain all cylinders are properly identified using durable stamped or stenciled labels or a three-part tag system.
2. Never use a cylinder of compressed gas if the label is missing or contents are unknown. Mark it "Contents Unknown" and return it to the supplier.
3. Never rely on the cylinder color coding as a way to identify the contents.
4. Properly secure cylinders in the upright position with chains or heavy straps and store in an area where vehicles and/or power equipment cannot strike them.
5. Store cylinders with like contents in a well-ventilated area free of wet or corrosive conditions and ignition sources or temperatures higher than 125 degrees.
6. Separate oxygen and oxygen-mix gas cylinders from fuel gases by at least 20 feet of space or with a 5-foot high, non-combustible barrier wall with a fire rating of at least 30 minutes.
7. Until they're ready to use, keep cylinder caps in place to protect the valves.
8. Check that cylinder valves are closed tightly and not leaking when first received, and are securely closed again after each use.

9. Never drag or roll cylinders or attempt to lift or handle by the cylinder valve. Use a special cylinder cart and move only one cylinder at a time.
10. Never attempt to repair a damaged or stuck cylinder valve. Return it to the supplier.
11. Use the proper pressure regulator valve for the gas to be used; don't force if threads don't mate easily as cylinders have both right- and left-handed threads.
12. Separate full from empty cylinders and clearly mark them.

If you follow these simple safety rules when handling, storing, or using compressed gas cylinders, you can reduce the serious injuries and property damage losses associated with the improper use of compressed gas cylinders.

## Authority and Reference:

- OSHA 29 CFR 1910.101
- NFPA 55 Storage, Use and Handling of Compressed and Liquefied Gases in Portable Cylinders
- Compressed Gas Association (safety publications)
- University of Wisconsin-Milwaukee (gas cylinder safety)
- Oklahoma State University Compressed Gas Cylinder Safety

