

## Handle Specialty Gases with Care

For someone who uses a chainsaw every day, it may not seem like a big deal to be handling this highly dangerous piece of equipment. The same goes for specialty gases.

If procurement and distribution of gases are key components of your business operation, it is easy to forget routine safety considerations that must be observed when handling compressed specialty gases, no matter how experienced you are.

Compressed specialty gases are capable of creating environments that are explosive, reactive, flammable, oxidizing, oxygen deficient, exceptionally cold, corrosive and otherwise extremely hazardous to your health. When working with compressed gases, always follow these safety handling tips and procedures.

**ALWAYS** familiarize yourself with the weight of the specialty gases you have on site—especially those that are flammable. By understanding whether the gas is heavier or lighter than air, you can determine where to place monitoring equipment and how a leak could potentially travel to an ignition source.

**ALWAYS** wear safety glasses with side shields when handling or working with compressed specialty gases.

**ALWAYS** wear the proper personal protective equipment (PPE) for the job, such as gloves, flame-retardant clothing and safety shoes.

**ALWAYS** return cylinders to your supplier with approximately 25 psi (pounds per square inch) of pressure remaining to prevent cylinder contamination. If you believe a cylinder has become contaminated, tell your gas supplier.

**ALWAYS** move cylinders by using a cylinder cart designed specifically for the type of cylinder you are moving.

**ALWAYS** secure cylinders - whether in use or storage - by using brackets, chains, straps or systems designed to secure cylinders and prevent tipping.

**ALWAYS** securely apply protective valve caps on cylinders when idle or in transport. Never move a cylinder with a regulator still attached. An uncontrolled release of gas under pressure can be very dangerous. Many cylinders contain pressures in excess of 2,000 psi. Therefore, a broken valve resulting from a falling cylinder is all it takes for the cylinder to release gas or become a projectile.

**ALWAYS** keep a fire extinguisher rated for flammable liquids available where compressed gases are stored, and be sure all who work in the area are qualified and trained to use it. While a fire extinguisher can rarely fully extinguish a flammable gas fire, it can certainly help slow its progression so your workers can leave the jobsite safely. Know your emergency and evacuation plan in case a fire occurs.

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**ALWAYS** segregate full cylinders from empty cylinders. Keeping cylinders separate means you'll always know how many full cylinders you have and won't risk your process by connecting an empty cylinder.

**ALWAYS** verify the contents of each compressed gas cylinder by reading its label prior to placing it in service. Read the label, know the gas properties and review the Safety Data Sheets (SDS).

**ALWAYS** check your equipment for possible leaks. Immediately remove any leaking equipment from service. Remember: Small leaks can cause big problems.

**ALWAYS** use specified and calibrated gas monitors as directed by your safety representative. When you use the specified monitors and make sure they are properly calibrated, your workplace risk is minimized.

**And...**

**NEVER** store cylinders where they can come in contact with objects at extreme temperatures, like near a furnace or cryogenic (extremely cold) liquid. Extreme temperatures can weaken containers and cause a gas release.

**NEVER** store cylinders where they can come in contact with corrosive materials. Corrosive materials can attack the cylinders and cause them to fail.

**NEVER** store cylinders where water is freestanding or may collect. Water may cause advanced corrosion of the cylinder. Submerged compressed gas cylinders can cause an explosion risk if they become contaminated with hydrocarbons.

**NEVER** store cylinders where they can become part of an electrical circuit. Store cylinders away from electrical switches, outlets and extension cords.

**NEVER** store cylinders containing a flammable and oxidizing gas—such as oxygen—together, near each other or near an ignition source, such as an open flame, furnace, water heater or sparking device. There are safety walls designed and available for this that comply with codes and regulations.

**NEVER** store a flammable liquefied compressed gas—such as propane—on its side unless the cylinder is designed to be used on its side. Where allowed, make sure to follow additional safety precautions as needed.

**NEVER** transfer gas from one cylinder to another. Gas transfer activities require special training, equipment and qualifications.

**NEVER** attempt to adapt or modify valve components on cylinders or gas apparatus. Fittings are assigned to specific gases to help prevent misuse of the gas.

**NEVER** conceal damage, contamination, arc burns or attempted repairs to a cylinder.

**NEVER** weld on or attach anything to a cylinder.

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**NEVER** use cylinders as a support, doorstop or coat rack.

**NEVER** lift cylinders by the protective valve cap or with a magnet.

**NEVER** attempt to repair cylinders, their valves or valve components. Repairs require special training and equipment, and should only be performed by authorized service personnel.

**NEVER** move cylinders by rolling them on their side.

**NEVER** remove, alter or cover cylinder labeling or markings.

**NEVER** lubricate or use pipe dope on cylinder valves or fittings. Valves and fittings are designed to operate without lubrication. If the valve is hard to operate, it needs repair and should be returned to your supplier with clear details about the problem.

**NEVER** handle any part of a cylinder (including the valve, valve component or gas apparatus) with oily hands or oily gloves. Contamination of cylinder surfaces with oil, grease or any type of hydrocarbon material is dangerous.

**NEVER** allow cylinders to be stored or transported where contamination may get in or on the surface of the cylinders.

**NEVER** breathe gas from a cylinder unless it has been authorized and provided for that reason. Specialty gases should only be provided by authorized and trained personnel. Use these guidelines for safe handling of compressed gases, but they should not replace proper education and training for anyone who utilizes or transports compressed gas cylinders. Ensure that safety is as important to your business partners as it is to you and your business. Together with your supplier, review the properties, procedures, uses and safety precautions before using any gas. Ask for the SDS for each of the supplied specialty gases and if you are unfamiliar with the hazards associated with a particular gas, ask your supplier for additional materials.

Search our database of [safety data sheets](#) for more exhaustive safety information on individual gases.