

# MAFES Dawg



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*Safe use of Compressed  
Gas Cylinders*



We look closely at compressed gas cylinders and the method of storing and handling them. The tanks, if handled carelessly and incorrectly, can be very dangerous, and not just from escaped gases, but in a tip over or a fall. They can become a deadly projectile that will destroy anything and everything in its path.

Following are some tips that will help to keep the areas where they are located and the personnel safer, if practiced. Labels on the cylinders and the MSDS will define the hazardous properties of the gas, such as toxic, flammable, or oxidizer. In some cases, you may have seen cylinders with the label missing. If this is the case, labels should be made and a chain or cord attached. They should be hung over the cylinder for identification. The other hazard is, as mentioned above, the gas in under pressure. Extra caution should be taken in handling empties, as they will still contain pressure. There have been cases where cylinders have penetrated concrete-block walls.

With these precautions in mind, we should,

- Store cylinders in an area designated for this purpose. They should be stored so that they are protected from being struck by another object. It should be well ventilated and away from heat sources. They should be at least 20 feet away from combustible materials. Oxidizers must be stored at least 20 feet away from flammable gases.
- Have proper signage affixed in the area, identifying the type of gas, with "No Smoking" signage, Open Flames and any other signage pertinent for protection of personnel in or passing through the area.
- Make sure that cylinders are not dropped or allowed to fall. Chain and rack them in an upright position during use and storage. When transporting them, they must be secured from falling. We should use a suitable hand truck or similar vehicle with attachments to secure the cylinders when moving, even for short distances.

- Be careful when moving a cylinder, even for short distances, that all the valves are closed, the regulator removed and the valve cap re-installed. We should never lift a cylinder by the valve cap.
- Never use a sling or magnet to move a cylinder.
- Do not allow cylinders to make contact with live electrical equipment or grounding cables
- Protect cylinders from direct sunrays, especially in high temperature climates. They should also be protected from ice and snow accumulations.
- Make sure that in a setup where the cylinders are in an area outside a laboratory (separated by a wall and the lines extend through that wall to the immediate location of their intended use inside the laboratory) that all lines are identified by their type of gas with a label or color code on each line. Both methods would furnish added protection.
- Make sure not to store reserve containers of oxygen with cylinders containing flammable gases. Section 7403.3.5.3 states that a fire resistant partition should be installed separating the oxygen from fuel gases.
- Check before the gas is used that the proper pressure-reducing regulator on the valve is installed. After the installation, check to see that the regulator is working, that all the gauges are operating correctly and that all the connections are tight for protection against leaks. It is recommended that the valve be opened by hand instead of a wrench or other tool. If the valve can't be open by hand, do not use it.

I hope that we can practice these suggestions that will help prevent an accident. As with any type of equipment, not just compressed gases, safety is everyone's responsibility.

Ted Gordon – Risk Mgmt. / Loss Control Mgr. 8/10/2007  
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Sources/Excerpts: [www.webworldinc.com/wes-con/gascylind.htm](http://www.webworldinc.com/wes-con/gascylind.htm)  
[www.firstsafety.com](http://www.firstsafety.com) (Excerpts from Compressed  
Gas Association-Uniform  
Fire Code)

**THE PRICE OF AN ACCIDENT  
IS ALWAYS HIGH-**

**BE ALERT - - ACCIDENTS HURT!**