



County of Henrico
Department of Emergency
Management &
Workplace Safety

Verification	Originator	Revised	Issued
Initials	EMWS	EMWS	EMWS
Date	05/01/2015	07/28/2022	08/01/2023

Safety Manual
Chapter 24 Compressed Gas Cylinders

Area of Application:	County of Henrico General Government & Schools	
Document Location:	http://employees.henrico.us/info/safety-manual/	
Revisions:		
Rev. No.	Date	Description
001	08/24/17	Added "General Safety Rules".
002	07/28/2022	Aligned EMWS titles and terminology. Non-substantive changes.

Purpose:

The chapter helps to ensure all compressed gas cylinders located in the County of Henrico are handled, used and stored in compliance with Occupational Safety and Health Administration and Virginia Occupational Safety and Health program (OSHA /VOSH) standards 29 CFR 1910.101-105 and 29 CFR 1926.350.

Scope:

This chapter applies to all County of Henrico employees, as well as contractors that transport, receive, and/or use compressed gas cylinders containing oxygen, argon, acetylene, or other gasses while performing work on any County of Henrico property.

Program Administration:

With guidance from the Department of Emergency Management & Workplace Safety (EMWS), affected departments will establish procedures that address gas cylinder use specific to their operations, and will outline how the requirements of this chapter and the standards will be met. For assistance, contact EMWS at 804-501-5162.

Responsibility:

Department Heads, their designees, and/or supervisors will ensure all affected personnel comply with the requirements of this chapter.

Procedures:

A. General Safety Rules:

1. Understand the properties of each gas, its applications, and the precautions needed before use. Refer to the specific Safety Data Sheet for guidance.
2. Select equipment and/or tools that are appropriate for working with a gas(es) and understand how to use all equipment safely.
3. Know how to recognize potential hazards, and how to respond to an emergency.
4. Use appropriate Personal Protective Equipment (PPE). See Chapter 21 of the Safety Manual for guidance.
5. Regarding the storage, use, and disposal of compressed gases, comply with all OSHA /VOSH standards.



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- Compressed gas cylinders have a high center of gravity. Only persons trained to handle and move cylinders shall do so. Use equipment designed to move the cylinders, not generic hand trucks.

B. Storage

- Store cylinders away from all heat sources except while used for hot work.
- Inside buildings, cylinders shall be stored in protected, ventilated, dry locations at least twenty (20) feet from highly combustible materials.
- Store cylinders away from elevators, stairways, doorways, or gangways.
- Store cylinders so they shall not be knocked over or damaged by routine traffic and/or falling objects.
- If necessary, secure the cylinder storage area/room to prevent tampering by unauthorized persons.
- Cylinders shall not be stored in unventilated enclosures such as lockers, closets or cupboards.
- Store all empty cylinders with valves tightly closed.
- Valve caps, for cylinders designed to accept a cap, shall always be in place, and hand-tightened, except when the cylinder are in use or connected to supply hoses.
- Acetylene cylinders shall be stored with the valve end in an upright position.
- Oxygen cylinders shall never be stored near:
 - Oil, grease, and flammable liquids,
 - Reserved stocks of carbide and acetylene or other fuel-gas cylinders,
 - Material(s) that may ignite or accelerate a fire,
 - The interior of an acetylene generator compartment.
- Oxygen cylinders in storage shall be secured by chains or other appropriate support system. Cylinders shall be separated from fuel gas cylinders or combustible materials a minimum of 20 feet, or by using a non-combustible barrier at least five (5) feet in height with a fire resistance rating of at least one-half hour.

NOTE: On a construction site, welding carts shall not be used to store oxygen and fuel gas cylinders greater than 24 hours. For all other locations, welding carts may hold oxygen and fuel cylinders greater than 24 hours as long as the supply hoses are properly connected.

Operating Procedures

- Do not handle cylinders, cylinder valves, couplings, regulators, hoses and other apparatus with oily hands or gloves.
- A jet of oxygen must never be permitted to contact oily surfaces, greasy clothes, or enter a storage tank with fuel oil or other flammable or combustible material/liquid.
- Never transport a cylinder with the valve cap or regulator missing.
- Never use a valve cap to lift a cylinder from one vertical position to another.
- Unless cylinders have been secured on a special truck, regulators shall be removed. A valve cap shall be in place before cylinders are moved.
- Cylinders without fixed hand wheels shall have keys, handles, or non-adjustable wrenches attached to the valve stem while cylinders are in use.



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7. Valves shall be closed before moving cylinders.
8. Close cylinder valves once the work is finished. Relieve pressure in each supply hose.
9. Close valves on all empty cylinders prior to storage.
10. Keep cylinders away from welding or cutting operation so that sparks, hot slag, or flames.
NOTE: If this is not possible, fire resistant shields must be provided. (See Chapter 23 “Hot Work” of the Safety Manual for additional guidance).
11. Never store cylinders where they might become part of an electrical circuit.
12. Always handle cylinders carefully.
13. Do not use a hammer or wrench to open cylinder valves. If a valves cannot be opened by hand, contact the supplier for assistance, or a replacement cylinder.

Disclaimer:

Although every effort has been made to ensure this Chapter addresses all applicable regulations, it is the responsibility of each department to maintain compliance.