

Medical Gas Storage

Medical gases are gases such as oxygen, nitrogen, nitrous oxide, carbon dioxide and air that are used during medical procedures. Safely storing medical gases requires adherence to guidelines to help protect staff, patients/residents, visitors and the environment. Healthcare facilities must comply with the National Fire Protection Association's NFPA 101® Life Safety Code® and the NFPA 99 Health Care Facilities Code.

Medical Gas Cylinder Labeling and Storage

The following considerations help facilities comply with the requirements for medical gas cylinder labeling and storage:

Cylinder Labeling

All medical gas cylinders are to be labeled with the type of gas and whether the cylinder has been opened or not. A system such as "full," "partial," or "empty" should be established to avoid comingling of cylinders. Full and partially full cylinders are permitted to be stored together.

- **Full:** a cylinder that has not been opened or used
- **Partial:** a cylinder that has been opened or used
- **Empty:** a cylinder defined as "empty" shall be segregated from other cylinders and labeled as empty per NFPA 99 section 11.6.5.2 and 11.6.5.3

Some facilities elect to label a cylinder that has been opened as "empty" rather than "partial" to prevent unintended interruption of treatment should the cylinder unexpectedly run out of gas while in use. Educate staff and specify in your policy the definition of "empty" utilized by your facility.

In-Use and Immediate-Patient-Use Designation

- **In-Use:** small sized oxygen cylinders (A, B, D or E) that are securely mounted to a cylinder stand or to medical equipment designed to receive and hold medical gas cylinders.
- **Immediate-Patient-Use:** an individual cylinder located in a patient/resident room. Cylinders designated as immediate-patient-use must be secured to prevent tipping.

Oxygen cylinders not meeting in-use or immediate-patient-use designation require compliance with storage regulations.

Measures to Safely Store Medical Gas Cylinders

- Secure all medical gas cylinders in racks or stands to prevent them from tipping over. Ensure cylinders on wheelchairs are secure.
- Keep cylinders upright whenever possible. If you must store cylinders horizontally, ensure they can't roll into other cylinders or objects.
- Inspect cylinders regularly for damage or leaks.
- Always store cylinders at least 20 feet away from open flames, combustible materials or heat sources.
- Ensure that those entering the premises understand that oxygen cylinders are present and what to do in case of an emergency.
- Always ensure valves are completely closed before storing.
- Never store cylinders in small spaces such as cupboards, closets, unventilated rooms, etc.
- In a space approximately 150 ft x 150 feet (22,500 square feet), no more than 12 E-size cylinders should be stored.