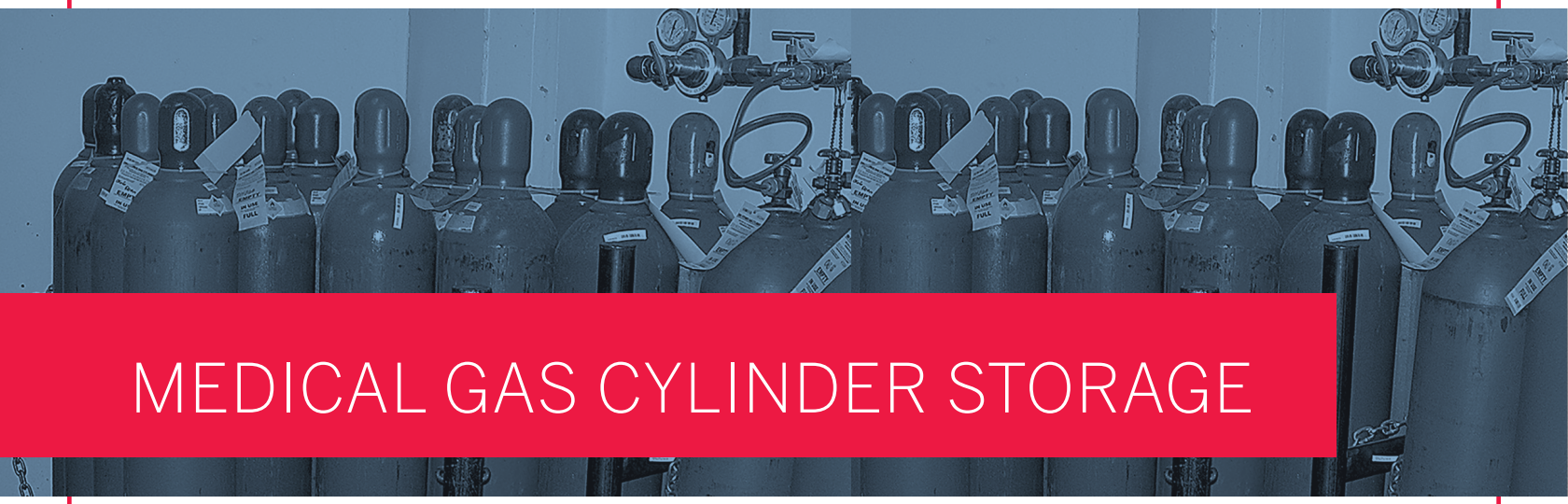
FACT SHEET



MEDICAL GAS CYLINDER STORAGE

What Is Medical Gas?

Medical gas refers to oxygen, nitrous oxide, medical air, carbon dioxide, helium, nitrogen, instrument air, and mixtures of these gases. They are used for many purposes in health care facilities including in the application of human respiration and the calibration of medical devices used for human respiration.

Hazards of Medical Gases

A common hazard in a health care facility is storing and handling compressed gases in cylinders. Medical gas cylinders are supply tanks that contain gases at pressures that can be in excess of 2000 psi.

Two types of hazards are associated with medical gas equipment:

1) General fires and explosions enhanced by oxygen-rich atmospheres
2) Mechanical problems such as physical damage to compressed gas cylinders

The requirements of NFPA 99, *Health Care Facilities Code*, for storing and handling medical gas cylinders aim to minimize hazards with the design and construction of cylinder storage locations and safe operation and handling of the cylinders.

How NFPA 99 Applies

Guidance for keeping patients, staff, and the public safe in facilities with these cylinders is offered in the 2018 edition of NFPA 99. Chapter 5 covers piped medical gas systems and requirements for cylinder storage locations that have large volumes of stored gas. Chapter 11 includes requirements for all other storage and handling of medical gas cylinders.

Guidelines for Medical Gas Storage

A newly updated NFPA White Paper, "Medical Gas Cylinder Storage," identifies the requirements of the 2018 edition of NFPA 99 that detail the storage and handling of these cylinders in a health care facility. The document explains:

- Types of hazards that exist
- Storage location design and construction
- Signs and identification needed
- Ventilation required
- Safety precautions that must be taken when working with these cylinders
- Typical volumes in different size cylinders based on gas

Safety Precautions For Handling Cylinders

- Handle oxygen cylinders and manifolds based on CGA G-4, Oxygen
- Protect cylinders from contact with oil and grease
- Protect cylinders from contamination
- Protect cylinders from damage
- Secure cylinders from falling
- Handle cylinders with care
- Remove/repair defective equipment

FACT SHEET

MEDICAL GAS CYLINDER STORAGE
CONTINUED

NFPA Resources At-a-Glance

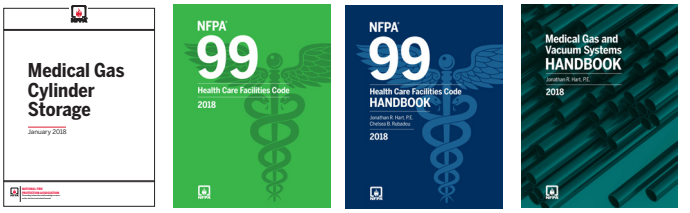
Codes & Standards

Visit NFPA 99's document information page, and click the Free Access link to access the entire standard.

www.nfpa.org/99

Products

- NFPA's "Medical Gas Cylinder Storage," 2018
- NFPA 99, *Health Care Facilities Code*, 2018 edition
- *Health Care Facilities Code Handbook*, 2018 edition
- *Medical Gas and Vacuum Systems Handbook*, 2018 edition



www.nfpa.org/medgas

Training

- NFPA 99, Medical Gas Systems (2018): Online Training Preparation for ASSE Series 6000 Recertification
- NFPA 99: Health Care Facilities Code (2012) 2-Day Classroom Training
- NFPA 99: Health Care Facilities Code (2012) Online Training Series
- NFPA 101 and NFPA 80 Fire Door Inspection for Health Care Facilities 1-Day Classroom Training
- Certified Life Safety Specialist (CLSS) Core Learning Online Training Series

www.nfpa.org/training

Certifications

- Certified Emergency Power Systems Specialist (CEPSS-HC) for Health Care Facility Managers Certification
- Certified Life Safety Specialist (CLSS-HC) for Health Care Facility Managers

www.nfpa.org/certifications

Other Resources

- Online Community – NFPA Health Care Section. Stay up-to-date with what's happening with the Health Care Section and participate in discussions by visiting NFPA's Xchange community.

www.nfpa.org/healthcare

- CMS Information – Visit the NFPA website to access resources for health care facilities including U.S. Centers for Medicare & Medicaid Services (CMS) requirements.

www.nfpa.org/cms

BECOME AN NFPA MEMBER
FOR MORE OF THESE RESOURCES

IT'S A BIG WORLD.
LET'S PROTECT IT TOGETHER.