



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER EL PASO

Operating Policy and Procedure

HSCEP OP: 75.19, Compressed Gas Cylinder Safety

PURPOSE: This policy covers all Texas Tech University Health Sciences Center El Paso (TTUHSC El Paso) users of compressed gas cylinders, and medical oxygen and nitrous oxide, and provides a guideline on the proper use, storage, and transport of compressed gas cylinders.

This policy covers all Texas Tech Physicians of El Paso clinics and research buildings.

REVIEW: This policy will be reviewed in March of every even-numbered year by the senior director of safety services, with recommendations and revisions forwarded by the managing director of physical plant and support services to the chief operating officer by March 31.

PROCEDURE: Compressed gases present unique hazards. Depending on the particular gas, there is potential for simultaneous exposure to both mechanical and chemical hazards. Gases may be flammable, combustible, explosive, corrosive, poisonous, or a combination of these hazards. The pressure in a compressed gas cylinder can cause the cylinder to become a serious hazard if the valve stem is damaged.

I. Identification:

The contents of any compressed gas cylinder must be clearly identified. The identification should be stenciled or stamped on the cylinder itself. Compressed gas cylinders that are missing a label and whose contents cannot be identified shall be reported to the clinic manager/nurse or Department of Safety Services immediately. Never rely on the color of the cylinder for identification. Cylinder colors vary from supplier to supplier.

II. Personal Protective Equipment (PPE):

When working with compressed gas cylinders, e.g., switching out regulators, safety glasses/goggles shall be worn to prevent personal injury.

III. Cylinder Labeling:

Clinical departments will use a three-tag system to identify cylinder status appropriately: **“full,” “in use,”** and **“empty.”**

IV. Inspection:

Each department that handles compressed gas cylinders shall identify an employee to perform a visual inspection of the cylinder to ensure it is in safe condition. If a problem is discovered, the employee will then seek professional assistance.

This employee will inspect for:

- A. Corrosion, wear and tear, and mechanical stress around the valve.
- B. Damage: evidence of abuse, rust, corrosion, and/or dents on the cylinder.

- C. The cylinder gauge and determine if the cylinder has enough gas to safely be used. If the cylinder is determined to be empty, the employee shall tag it appropriately and move it to the empty cylinder area.

The cylinder gauge identifies when the cylinder needs to be refilled. This marking can be used as a guideline for determining when to place the cylinder in empty status.



V. Safety Data Sheets:

Department users shall keep safety data sheets (SDSs) for each type of compressed gas they have on hand.

VI. Handling and Use:

Users of compressed gas cylinders shall ensure that:

- A. Gas cylinders remain secured at all times, with chains, sturdy straps, or carts, to prevent tipping.
- B. Gas cylinders are not accepted without clear labels and/or if they appear to be in poor condition.
- C. When a cylinder is in use, it has an appropriate regulating device.
- D. If a leaky cylinder is discovered, it is reported to the department supervisor immediately and removed from the service area.
- E. Employees do not attempt to repair a cylinder or valve under any circumstances.
- F. Cylinder valves are protected at all times.
- G. Cylinders are placed with the valve accessible at all times.
- H. Cylinder valves are closed whenever not in use or unattended.
- I. Cylinders are labeled appropriately, as "full," "in use," or "empty."
- J. Oxygen cylinders and other oxygen apparatus are kept free from oil and grease.

VII. Storing Compressed Gas Cylinders:

When storing compressed gas cylinders, departments shall adhere to the following:

- A. Cylinders are secured with a chain or on a cart.
- B. Cylinders are labeled appropriately as “empty” or “full”
- C. Full and empty cylinders are stored in separate locations.
- D. Cylinder valves are in the “off” position.
- E. Cylinder gauges are used to determine when the cylinder will be labeled “empty.”
- F. Cylinders are not stored in exit corridors, near exit stairs, or in areas normally used or intended for safe egress from the building.
- G. Cylinders are not stored near sources of heat, combustible substances, flammable liquids, or corrosive materials.
- H. Cylinders are not stored where they can be part of an electrical circuit.

VIII. Transport of Cylinders:

- A. Transport cylinders correctly. Cylinders shall be moved by means of a suitable hand cart and secured in place. Do not roll, drag, or slide cylinders to transport them from one area to another.
- B. Cylinders should not be dropped or permitted to strike against each other or other surfaces violently.