

North Dakota State University

Compressed Gas Cylinders

I. Introduction

Improper procedures used by NDSU employees can cause injury, disability, or even death. By outlining and following safe operating procedures we learn to prevent injury and safeguard ourselves and our coworkers.

II. Purpose

To ensure all employees know the safe operating procedure for storing and handling compressed gas cylinders.

III. Goals

To reduce the risk of potential injuries associated with the storage and handling of compressed gas cylinders.

IV. Guidelines

1. Compressed gas cylinders must be handled only by experienced and properly trained personnel.
2. The user responsible for the cylinder and its installation must visually check the cylinder and the area for existing or potential hazards.
 - a. Gas leaks/smell
 - b. Cylinder condition and proper labeling
 - c. Extreme temperatures or combustibles in storage area
 - d. Storage conditions and appropriate holding apparatus
3. All compressed gas cylinders received, used, or stored must be labeled according to Department of Transportation (DOT) and Occupational Safety and Health Administration (OSHA) regulations.
4. Compressed gas cylinders must be properly labeled with the name of their contents. Safety Data Sheets (SDS) must be maintained for all compressed gases.
5. Gas cylinders are often color coded, but the codes are not standard and sometimes are not regulated. Cylinder color should *not* be used for positive product identification. Gas cylinders have labels which identify the product they contain and the label alone should be used for positive identification.
6. Before handling a compressed gas cylinder, turn valve off, disconnect regulator, and fasten valve cap. Additional precautions must be taken when toxic or flammable gases are involved. Contact the University Police & Safety Office (UP&SO) for additional information or concerns about flammable or toxic gas storage.
7. Cylinders must be moved, stored, and used in the upright position and must be securely fastened to prevent them from falling or being knocked over. Suitable racks, straps, chains or stands are required to support cylinders. Certain products require that they be housed in a cabinet at all times.

8. Follow manufacturer's recommendations for storage, manifolding and use for all products.
9. When transporting cylinders, use a suitable hand truck with the cylinder firmly secured. Do not drag, slide or roll the cylinder.
10. Cylinders must be stored a minimum of 20 feet from incompatible materials and a minimum of 10 feet from combustible material, including vegetation.
11. Cylinder valves must be protected with the standard cap when not in use. Regulators are to be protected with covers when there is a likelihood of being damaged.
12. Never use a leaking, corroded or damaged cylinder. Remove the cylinder from service and contact the supplier for return.
13. Empty cylinders must be marked EMPTY or MT and stored separately from full cylinders. The user and/or designated person is responsible for proper removal of gas cylinders when they are empty or no longer needed. Contact the supplier/vendor to obtain guidelines for the shipment of cylinders to be returned. Contact the UP&SO for removal of cylinders that cannot be returned to the supplier/vendor.
14. In the event of a leak or suspected leak of gas, evacuate the area and/or building and contact the emergency personnel listed for the lab. [Emergency Information Signs](#) can be found for posting on laboratory doors at the University Police and Safety Office section of the Downloadable Forms website.