



## IWU PHYSICAL PLANT SAFETY PROGRAM

Revision: 1

Gas Cylinder Safety

Section: 10

### **STANDARDS**

Compressed gases (general requirements), OSHA 1910.101

#### **1. Purpose**

Many varied and useful gases are supplied in compressed gas cylinders for use in the Physical Plant. However, misuse can lead to serious injury or death. The purpose of this section is to provide basic guidelines for handling compressed gas cylinders in a safe manner.

#### **2. Procedure**

- A. When a compressed gas cylinder is received, the Physical Plant's representative will perform a brief visual check to ensure that the cylinder is not damaged, leaking or showing any cracks on the neck or stem. Any of these will be reported to the responsible Manager and the supplier.
- B. The label on the cylinder will be checked to ensure that the cylinder contains the proper gas. If the contents of the cylinder cannot be verified, the cylinder will not be used and will be labeled "Contains unknown gases". The cylinder is to be returned to the supplier.
- C. Before using any gas for the first time, its hazards will be identified and understood. These hazards include:
  - Flammability,
  - Whether it is poisonous or not,
  - Whether it will replace the oxygen in the room if accidentally released, and
  - Whether it will combine with other materials in the room to form a hazardous substance.
- D. All users will review the Safety Data Sheet (SDS) for the gas before using it for the first time.
- E. At a minimum, all users will wear sturdy shoes when handling cylinders, including shoes with safety toes when necessary.
- F. Users will always be sure to use a regulator with all cylinders of compressed gases, making sure it is the correct regulator for the gas in the cylinder.



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- G. Users will ensure that the cylinder cap is always screwed onto the tank when handling, storing or transporting the cylinder, thus protecting the neck against accidental breakage.
- H. Users will wear appropriate personal protective equipment (PPE) when handling gases. They will refer to the SDS for the gas to know what PPE is required.

### Cylinder Storage

- A. Cylinders will be stored in compatible groups. For example:
  - Flammables away from oxidizers
  - Corrosives away from flammables
  - empty cylinders apart from full ones
  - All cylinders away from corrosive vapors
- B. Oxygen cylinders are to be stored at least **twenty feet** away from combustibles or flammable gases, such as acetylene.
- C. If a twenty-foot separation cannot be maintained, a noncombustible barrier (at least one-half fire hour resistance rating) and at least five feet high is to be provided between the cylinders.
- D. All cylinders will be stored in an upright position in racks or secured with chains. This will keep them from falling over.
- E. Empty cylinders will be marked EMPTY or MT. Beware of “empty” cylinders, since once filled, a cylinder is never completely empty. Valves are to be closed on empty cylinders, to keep the remaining gas from leaking out. Empty cylinders are to be stored away from sources of heat and electrical wiring.
- F. Cylinders should be stored in defined locations away from elevators, stairs or other passageways.
- G. Assigned storage places should be located where cylinders will not be knocked down or damaged by passing or falling objects, or subject to tampering by unauthorized individuals.