
COMPRESSED GAS USE POLICY

Category: Events and Facilities

Responsible Office: Environmental Health & Safety Office

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POLICY SUMMARY

This policy is intended to ensure that compressed gas cylinders are managed in a manner that is safe for SUNY Buffalo State faculty, staff and students, in accordance with the requirements established by Occupational Health and Safety Administration (OSHA) regulations.

POLICY

Policy Statement

This policy identifies the requirements for visual inspection and safe handling, use, storage, and transport of compressed gas cylinders on the SUNY Buffalo State premises.

Background

According to the United States Department of Labor Guidance for Hazard Determination for Compliance with the OSHA Hazard Communication Standard (29 CFR 1910.1200), compressed gases are potentially hazardous since they are under great pressure in a container. Accidental rupture of the container and the rapid release of the pressurized gas can result in injury to persons and damage to objects in the vicinity. Not only can the gas be released with great force, but the force of the release may propel the container for a long distance. In addition to the mechanical hazard from the pressure or propelled container, other hazards may exist from the released gas. The hazard from some compressed gases may be strictly mechanical (e.g., compressed air); others may possess other types of hazards, such as being flammable (e.g., methane and propane) or toxic (e.g., ammonia and chlorine).

Applicability

This policy applies to all SUNY Buffalo State employees who service, move, transport, inspect, use or otherwise handle compressed gas cylinders as part of their job duties; and all SUNY Buffalo State employees who procure, specify, monitor or supervise vendor/contractor services where compressed gas cylinders are used.

Procedure

1. Visual Inspection
 - a. SUNY Buffalo State employees shall determine that compressed gas cylinders under their control are in a safe condition by performing visual inspections.
 - i. Visual inspections shall be performed: 1) prior to moving or transporting cylinders; 2) each day compressed gas is being used or consumed; and 3) at a minimum frequency of monthly.

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- ii. Visual inspections shall be documented at least monthly and performed in accordance with Compressed Gas Association Pamphlets C-6 and C-8. The inspection log sheet/book shall be maintained and made available to the Environmental Health & Safety (EH&S) Office personnel upon request.
 - b. Compressed gas cylinders shall be equipped with safety relief devices and properly labeled to identify the cylinder contents.
 - c. In the event visual inspection results in the identification of deficiencies with respect to items a. or b. above, the cylinder supplier -- whether it is the Campus Services Office or a vendor/contractor -- shall immediately notify EH&S to initiate follow-up action.
2. Prior to Moving, Transporting, Storing, or Using Compressed Gas Cylinders
 - a. The product label shall be read to identify the hazards and the label instructions shall be followed.
 - b. Prior to moving or transporting the compressed gas cylinder, the following shall be performed and adhered to:
 - i. Ensure that the cylinder valve is fully closed and the protection cap (where applicable) is secured in place; and
 - ii. Do not smoke and extinguish any nearby ignition sources.
3. Moving Full or Empty Compressed Gas Cylinders
 - a. The following safety precautions shall be adhered to:
 - i. Safety gloves, glasses and safety shoes shall be worn;
 - ii. Carts or hand trucks shall be used to move the cylinder;
 - iii. The cylinder shall be properly placed and secured to the cart or hand truck before the cart or truck is used;
 - iv. Never drop cylinders or allow them to strike each other violently; and
 - v. Never lift cylinders with a lifting magnet.
4. Storing Compressed Gas Cylinders
 - a. Compressed gas cylinders shall be stored upright and in accordance with the following:
 - i. Single cylinders shall be secured in place using stands, clamps, or other securing devices;
 - ii. Multiple cylinders should be stored in compact interlocked groups so that each cylinder contacts those around it;
 - iii. Stored cylinders shall be kept out of high traffic areas or in areas where activities could damage or contaminate the cylinders;
 - iv. Use great care when welding near cylinders. Electric arc welding can destroy the integrity of a metal cylinder if a welder carelessly strikes an arc on a cylinder; and
 - v. Cylinders shall not be stored together with flammable materials.
5. Transporting Compressed Gas Cylinders with a Motor Vehicle
 - a. The following practices shall be followed when transporting a compressed gas cylinder in a vehicle:
 - i. Compressed gas cylinders containing combustible gases such as acetylene shall not be transported in enclosed and confined compartments -- such as the trunk of motor vehicles - - lacking adequate ventilation. The preferred vehicle is one with adequate ventilation such as the back of a properly placarded truck.
 - ii. Properly secure the cylinder in an upright position in the vehicle;

- iii. Be aware of environmental conditions such as heat exposure, which may cause cylinder temperature to rise to excessive levels that could lead to a release of compressed gas, even if the ambient temperature is relatively low; and
- iv. Take the most direct route to the destination with the least amount of intermediate stops. When the destination is reached, immediately remove the cylinder.

6. Non-Refillable Cylinders

- a. Non-refillable cylinders are typically manufactured to DOT-39 specifications and should have gray painted shoulders. These containers shall **not** be refilled.
- b. Prior to disposal, non-refillable cylinders must have contents properly drained, then the valve opened and the cylinder punctured before placement into a metal recycling bin.

7. Refillable Cylinders

- a. Refillable cylinders generally must comply with DOT 49 CFR specifications. These cylinders should: 1) be painted yellow on top and shoulders; 2) be stamped with manufactured date; 3) have maximum gross weight stenciled on the cylinder; 4) be labeled with the contents identified. If the cylinder does not have all of these features, it should not be refilled.
- b. Refillable cylinders shall not be filled to more than 80% of capacity.

Definitions

Compressed gas - A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C); or a liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C).

Responsibility

Who should know this policy

- SUNY Buffalo State employees who handle compressed gas cylinders or supervise vendors/contractors who do so
- Environmental Health & Safety Office Staff

SUNY Buffalo State employees who handle compressed gas cylinders, or supervisor vendors/contractors who do so

- All SUNY Buffalo State employees who service, move, transport, inspect, use or otherwise handle compressed gas cylinders as part of their job duties are responsible for compliance with the provisions of this policy and referenced regulations.
- All SUNY Buffalo State employees who procure, specify, monitor, or supervise vendor/contractor services where compressed gas cylinders are used are also responsible for ensuring vendors/contractors comply with the applicable provisions of this policy and referenced regulations. Methods to ensure compliance include communicating appropriate requirements as specifications into procurement documents and work instructions, monitoring of vendor/contractor activities, and interfacing with the vendor during field work.

Environmental Health & Safety Office

The Environmental Health and Safety (EH&S) Office is responsible for:

- Monitoring, assessing, and improving the process for compliance with this policy;
- Monitoring regulations and disseminating information to affected SUNY Buffalo State employees on new or modified requirements for managing compressed cylinders;
- Providing consultative advice to SUNY Buffalo State employees on appropriate methods to ensure compliance with regulations governing compressed gas cylinders; and
- Preparing reports and notifications to regulatory agencies as necessary.

RELATED INFORMATION

Documents and Forms:

Information on requirements and practices specific to safe and proper handling of refrigerants may be found in the Environmental Health & Safety Policy and Procedure # REF-007-001.

Environmental Health & Safety Office Document Number: CGC-007-001.JPB

Related Links:

[OSHA 29 CFR Part 1910.101: Compressed Gases \(General Requirements\)](#)

[DOT-39 specifications](#)

[Compressed Gas Association Website](#)

CONTACT INFORMATION

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REVISION HISTORY

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Brief description of edit: Adapted to standard template

APPROVAL

Approved prior to 2016