

# Seattle Fire Department

## Permit Conditions

7401

### Inert and Simple Asphyxiant Compressed Gas

#### NOTICE

**This permit shall be kept on the premises designated herein at all times and shall be readily available for inspection by the fire code official. (SFC 105.3.5)**

1. Compressed gas containers, cylinders or tanks that are not designed for refillable use shall not be refilled after use of the original contents. (SFC 5303.1)
2. Stationary compressed gas containers, cylinders and tanks shall be marked with the name of the gas and shall be labeled with visible hazard identification signs in accordance with Sections 5003.5 and 5003.6. Such markings shall be visible from any direction of approach; in English as a primary language or in approved symbols; durable, and the size, color and lettering shall be approved. Such markings shall not be obscured or removed. (SFC 5303.4.1)
3. Portable containers, cylinders and tanks shall be marked in accordance with Compressed Gas Association (CGA) C-7. (SFC 5303.4.2)
4. Piping systems shall be marked in accordance with ANSI A13.1. Markings used for piping systems shall consist of the contents name and include a direction of flow. Markings shall be provided at each valve; at wall, floor and ceiling penetrations, at each change of direction, and at a minimum of every 20 feet or fraction thereof throughout the piping run. (SFC 5303.4.3)
5. Areas used for the storage, use and handling of compressed gas shall be secured against unauthorized entry and safeguarded in an approved manner. (SFC 5303.5.1)
6. Compressed gas containers, cylinders, tanks and systems which could be exposed to physical damage shall be protected by guard posts or other approved means. (SFC 5303.5.2)
7. Compressed gas containers, cylinders, tanks and systems shall be secured to prevent falling by one of the following methods:
  - Securing to a fixed object with one or more restraints,
  - Securing on a cart or other mobile device designed for movement,
  - Nesting at container filling or servicing facilities or in seller's warehouses not accessible to the public. Nesting shall be allowed provided that the nested containers, cylinders or tanks, if dislodged, do not obstruct the required means of egress.
  - Securing to or within a rack, framework, cabinet or similar assembly. (SFC 5003.5.3)
8. Compressed gas container, cylinder and tanks shall have protective caps, collars or other protective devices in place except when the containers, cylinders or tanks are in use or being serviced or filled. (SFC 5303.6.2)
9. Compressed gas containers, cylinders and tanks shall be separated from each other based on the hazard class of their contents. Incompatible materials shall be separated by one of the following methods:
  - Segregating by a distance of not less than 20 feet.
  - Isolating by a noncombustible partition extending not less than 18 inches above and to the sides of the stored material.
  - Storing in approved gas cabinets or exhausted enclosures. Materials that are incompatible shall not be stored in the same cabinet or exhausted enclosure. (SFC 5303.7.1, 5003.9.8)
10. Combustible waste, vegetation and similar materials shall be kept a minimum of 10 feet from compressed gas containers, cylinders, tanks and systems. (SFC 5303.7.2)
11. Compressed gas containers, cylinders and tanks shall not be placed near elevators, unprotected platform ledges or other areas where falling would result in compressed gas containers, cylinders or tanks being allowed to drop distances exceeding one-half the height of the container, cylinder or tank. (SFC 5303.7.3)

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12. Compressed gas containers, cylinders and tanks, whether full or partially full, shall not be exposed to artificially created high temperatures exceeding 125 degrees F or subambient (low) temperatures unless designed for use under the exposed conditions. (SFC 5303.7.4)
13. Compressed gas containers, cylinders and tanks shall not be placed in areas where they are capable of being damaged by falling objects. (SFC 5303.7.5)
14. Compressed gas containers, cylinders and tanks, whether full or partially full, shall not be heated by devices which could raise the surface temperature of the container, cylinder or tank to above 125 degrees F. (SFC 5303.7.6)
15. Open flames and high temperature devices shall not be used in a manner which creates a hazardous condition. (SFC 5003.7.7)
16. Compressed gas containers, cylinders, tanks and systems shall not be exposed to corrosive chemicals or fumes which could damage containers, cylinders, tanks, valves or valve-protective caps. (SFC 5303.7.8)
17. Service, repair modification or removal of valves, pressure-relief devices or other compressed gas container, cylinder or tank appurtenances shall be performed by trained personnel. (SFC 5303.9)
18. Leaking, damaged or corroded compressed gas containers, cylinders and tanks shall be removed from service. Leaking, damaged or corroded compressed gas cylinders and tanks shall be replaced, or repaired in accordance with the following:
  - 1) Compressed gas containers, cylinders and tanks which have been removed from service shall be handled in an approved manner.
  - 2) Compressed gas systems which are determined to be leaking, damaged or corroded shall be repaired to a serviceable condition or removed from service. (SFC 5303.12)
19. To prevent bottom corrosion, containers, cylinders and tanks shall be protected from direct contact with soil or unimproved surfaces. (SFC 5303.13)
20. Compressed gas containers, cylinders and tanks, except those designed for use in a horizontal position, and all compressed gas containers, cylinders and tanks containing nonliquefied gases, shall be stored in an upright position with the valve end up. An upright position shall include conditions where the container, cylinder or tank axis is inclined as much as 45 degrees from the vertical.

**Exceptions:** 1) Compressed gas containers with a water volume less than 1.3 gallons (5L) are allowed to be stored in a horizontal position.

2) Compressed gas containers, cylinders and tanks containing nonflammable gases or cylinders, containers and tanks containing nonliquefied flammable gases, which have been secured to a pallet for transportation purposes. (SFC 5304.1, SFC 5305.6)
21. Compressed gas equipment, machinery and processes shall be listed or approved. (SFC 5305.1)
22. Transfer of gases between containers, cylinders and tanks shall be performed by qualified personnel. (SFC 5305.7)
23. Where containers, cylinders and tanks are moved by hand cart, hand truck or other mobile device, such carts, trucks or devices shall be designed for the secure movement of containers, cylinders and tanks and shall protect containers, cylinders and tanks against dropping or otherwise striking against each other or other surfaces. (SFC 5305.10.1)
24. Ropes, chains or slings shall not be used to suspend compressed gas containers, cylinders and tanks unless provisions at time of manufacture have been made on the container, cylinder or tank for appropriate lifting attachments, such as lugs. (SFC 5305.10.2)
25. Compressed gas containers, cylinders and tanks, except those designed for use in a horizontal position, and all compressed gas containers, cylinders and tanks containing nonliquefied gases, shall be used in an upright position with the valve end up. An upright position shall include conditions where the container, cylinder or tank axis is inclined as much as 45 degrees from the vertical. Use of nonflammable liquefied gases in the inverted position when the liquid phase is used shall not be prohibited provided the container, cylinder or tank is properly secured and the dispensing apparatus is designed for liquefied gas use.

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**Exception:** Compressed gas containers with a water volume less than 1.3 gallons (5L) are allowed to be stored in a horizontal position. (SFC 5305.6)