

Seattle Fire Department

Permit Conditions

7501

Site Address: _____

Inspector: _____

Cryogenic Fluids

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. Containers shall be provided with substantial concrete or masonry foundation or structural steel supports on firm concrete or masonry foundation. (SFC 5503.1.3)
2. Containers shall be equipped with approved pressure relief devices. (SFC 5503.2)
3. Pressure relief devices shall be located such that they are provided with ready access for inspection and repair. (SFC 5503.2.4)
4. Pressure relief devices shall be arranged to discharge unobstructed to the open air in such a manner as to prevent impingement of escaping gas on personnel, containers, equipment and adjacent structures or to enter enclosed spaces (SFC 5503.2.5)
Exception: DOT containers with an internal volume of 2 cubic feet or less.
5. Shutoff valves shall not be installed between pressure relief devices and containers. (SFC 5503.2.6)
Exceptions:
 1. A shutoff valve is allowed on containers equipped with multiple pressure relief device installations where the arrangement of the valves provides the full required flow through the minimum number of required relief devices at all times.
 2. A locking-type shutoff valve is allowed to be used upstream of the pressure relief device for service-related work performed by the supplier when in accordance with the requirements of the ASME Boiler and Pressure Vessel Code.
6. Visible hazard identification signs in accordance with NFPA 704 shall be provided at entrances to buildings or areas in which cryogenic fluids are stored, handled or used. (SFC 5503.4.1)
7. Stationary and portable above-ground containers shall be marked with the name of the gas contained or with a hazard identification sign in accordance with NFPA 704. Portable containers shall be identified in accordance with CGA C-7. (SFC 5503.4.2.)
8. Signs and markings shall not be obscured or removed, shall be in English as a primary language, shall be durable and the size, color and lettering shall be approved. (SFC 5003.6)
9. Stationary above-ground containers shall have a permanent nameplate that displays the manufacturing specification and the maximum allowable working pressure. The nameplate shall be installed on the container in an accessible location. The nameplate shall be marked in accordance with the ASME Boiler and Pressure Vessel Code or DOT 49 Parts 100-185. (SFC 5503.4.3)
10. Stationary above-ground container inlet and outlet connections, liquid-level limit controls, valves and pressure gauges shall be identified in accordance with one of following:
 - marked with a permanent tag or label identifying their function, or
 - identified by a schematic drawing which portrays their function and designates whether they are connected to the vapor or liquid space of the container.
 - Where a schematic drawing is provided, it shall be attached to the container and maintained in a legible condition. (SFC 5503.4.4)

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11. Piping systems shall be identified in accordance with ANSI A13.1. (SFC 5503.4.5)
12. Emergency shutoff valves shall be identified and the location shall be clearly visible and indicated by means of a sign. (SFC 5503.4.6)
13. Containers and systems shall be secured against unauthorized entry and safeguarded in an approved manner. (SFC 5503.5.1)
14. Stationary containers shall be secured to foundations in accordance with the Seattle Building Code. (SFC 5503.5.2)
15. Portable containers shall be secured in an approved manner, including nesting. (SFC 5503.5.2)
16. Vaporizers, heat exchangers and similar equipment shall be anchored to a suitable foundation and its connected piping shall be sufficiently flexible. (SFC 5503.5.3)
17. Containers, piping, valves, pressure relief devices, regulating equipment and other appurtenances shall be protected against physical damage and tampering. (SFC 5503.5.4)
18. Stationary containers shall be separated from combustible materials such as paper, leaves, weeds, dry grass and debris by not less than 15 feet. (SFC Table 5504.3.1.1)
19. Portable containers shall be separated from exposure hazards in accordance with the following:
[SFC Table 5504.3.1.2.1]

Exposure Hazard	Minimum separation distance (feet)
Building exits	10
Wall openings	1
Air intakes	10
Lot lines	5
Combustible materials such as paper, leaves, weeds, dry grass	15

20. Containers shall not be used for any purpose other than to serve as a vessel for containing the product which it is designated to contain. (SFC 5503.8)
21. Leaking, damaged or corroded containers shall be removed from service. Leaking damaged or corroded systems shall be replaced, repaired or removed in an approved manner. (SFC 5503.9)
22. Cryogenic containers shall be moved using an approved method. (SFC 5505.5.1)
23. Where cryogenic containers are moved by hand cart, hand truck or other mobile device, such carts, trucks or devices shall be designed for the secure movement of the container. (SFC 5505.5.1)
24. Carts and trucks used to transport cryogenic containers shall be designed to provide a stable base for the material to be transported and shall have a means of restraining containers to prevent accidental dislodgement. (SFC 5505.5.1)

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25. Pressurized containers shall be transported in a closed condition. (SFC 5505.5.2)
26. Containers designed for use at atmospheric conditions shall be transported with appropriate loose fitting covers in place to prevent spillage. (SFC 5505.5.2)