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THE CITY OF SEATTLE  
**FIRE DEPARTMENT**  
*Fire Marshal's Office*  
220 Third Ave South  
Seattle, WA 98104-2608  
(206) 386-1450

# PERMIT

7-90261

### PERMIT INFORMATION

**Expiration Date:** 04/01/2009

Permit Issue Date: 05/05/2008

Event Date: N/A

Sta. # / Occ. #: 17, NOT GIVEN

Unit No.: N/A

Contact Person: GARY PEDERSEN

Contact Phone: 206-543-1612

Inspector: McCARTY

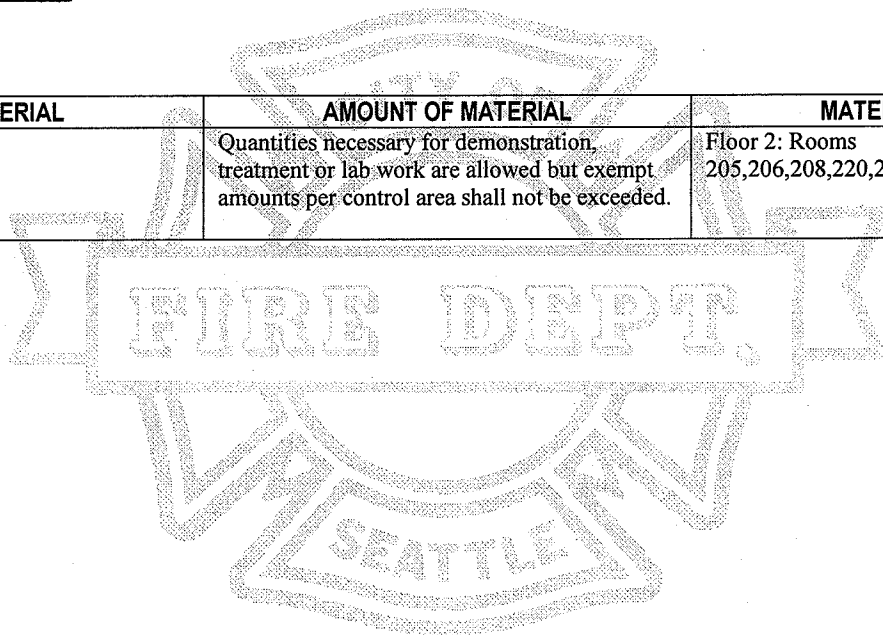
**UW CHEMISTRY DEPT**  
**BOX 351700**  
**SEATTLE, WA 98195**  
**GARY PEDERSEN**

**PERMIT CODE(S):** 7401, 801-FL  
**PERMIT TITLE:** Inert Compressed Gas, Flammable Compressed Gas, Oxidizing Compressed Gas  
**JOB SITE:** 3900 OKANOGAN LN NE-BAGLEY HALL

**OPERATIONS PERMITTED:** Store and use "Inert Compressed Gas, Flammable Compressed Gas, Oxidizing Compressed Gas" in accordance with applicable provisions of the Seattle Fire Code and the attached conditions at the noted operation address.

**PERMIT CONDITION(S):** \*\*\* SEE ATTACHED CONDITIONS. \*\*\*

TYPE OF MATERIAL	AMOUNT OF MATERIAL	MATERIAL LOCATION
Non-Flammable Gas Flammable Gas Oxidizing Gas	Quantities necessary for demonstration, treatment or lab work are allowed but exempt amounts per control area shall not be exceeded.	Floor 2: Rooms 205,206,208,220,263,291,291A,291B,293.



**THIS PERMIT MUST BE POSTED IN A CONSPICUOUS PLACE ON THE PREMISES.**  
**THIS PERMIT MUST BE KEPT TOGETHER WITH ANY ATTACHMENTS ISSUED WITH IT TO BE VALID.**

Permission is hereby granted, subject to the provisions of the Seattle Fire Code, to conduct the operations described herein at the location(s) specified in this permit, in accordance with the conditions set forth in this permit or attached hereto.

**VIOLATION OF ANY PERMIT CONDITION OR ANY APPLICABLE PART OF THE SEATTLE FIRE CODE SHALL BE GROUNDS FOR REVOCATION OF THIS PERMIT. CONDUCTING OPERATIONS WITHOUT A VALID PERMIT MAY RESULT IN CRIMINAL PROSECUTION.**

**This permit is not transferable. Any change in ownership or operation address requires a new permit.**

**STANDARD PERMIT CONDITIONS  
PERMIT CODE NO 7401  
INERT COMPRESSED GASES**

1. Compressed gas containers, cylinders, tanks and systems shall be marked in accordance with nationally recognized standards. All markings shall be visible from any direction of approach. (1997 SFC Sec. 7401.5)
2. Markings used for piping systems shall consist of the content's name and include a direction of flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at a minimum of every 20 feet or fraction thereof throughout the piping run. (1997 SFC Sec. 7401.5.3)
3. Containers, cylinders, tanks and systems shall be secured against falling, accidental dislodgment and against access by unauthorized personnel. (1997 SFC Sec. 7401.6)
4. Compressed gas containers, cylinders, tanks and systems, if exposed to possible vehicular damage shall be protected by guard posts or other approved means. (1997 SFC Sec. 7401.6.3)
5. Compressed gas containers, cylinders and tanks designed for protective caps, collars, or other protective devices shall have the caps or devices in place except when the containers, cylinders or tanks are in use or are being serviced or filled. (1997 SFC Sec. 7401.7.2)
6. Compressed gas containers, cylinders and tanks designed for valve protection caps or other protective devices shall have the caps and devices attached. When outlet caps or plugs are installed, they shall be in place. (1997 SFC Sec. 7401.7.3)
7. Compressed gas containers, cylinders and tanks containing gases with different hazard classes shall be separated by one of the following methods:
  - a separation 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 gases, or
  - stored in separate gas cabinets. (1997 SFC Sec. 7401.8.2)
8. Combustible waste, vegetation and similar materials shall be kept a minimum of 10 feet from compressed gas containers, cylinders, tanks and systems. An unpierced noncombustible barrier extending not less than 18 inches above and to the front and rear of storage or use is allowed in lieu of such distance. (1997 SFC Sec. 7401.8.3)
9. Compressed gas containers, cylinders and tanks shall not be placed near elevators, unprotected platform ledges or other areas where the distance of the fall is greater than one half the height of the container, cylinder or tank. (1997 SFC Sec. 7401.8.4)
10. Compressed gas containers, cylinders, and tanks shall not be heated by devices which could raise the surface temperature of the container, cylinder or tank to above 125 degrees Fahrenheit. (1997 SFC Sec. 7401.8.7)
11. Open flames and high-temperatures devices shall not be used in a manner that creates a hazardous condition. (1997 SFC Sec. 7401.8.8)
12. 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. (1997 SFC Sec. 7401.8.9)
13. Leaking, damaged or corroded compressed gas cylinders, containers and tanks shall be removed from service. (1997 SFC Sec. 7401.13)
14. To prevent bottom corrosion, containers, cylinders and tanks shall be protected from direct contact with soil or unimproved surfaces. (1997 SFC Sec. 7401.14)
15. Liquefied gas compressed gas containers, cylinders and tanks, except those designed for use in a horizontal position, and all compressed gas containers, cylinders and tanks containing non-liquefied gases shall be stored in a "valve end up" upright position. (1997 SFC Sec. 7402.1.2)

**EXCEPTION:** Compressed gas containers, cylinders and tanks with a water volume less than 1.3 gallons are allowed to be stored in a horizontal position.
16. Containers, cylinders and tanks shall be moved using an approved method. Where hand carts, hand trucks or other mobile device is used, such carts, trucks or devices shall be designed for the secure movement of containers, cylinders and tanks. (1997 SFC Sec. 7403.3)

**STANDARD PERMIT CONDITIONS  
PERMIT CODE 801-F  
FLAMMABLE COMPRESSED GAS (EXCEPT LPG)**

**FOR THE SPECIFIC STORAGE OR USE SITUATIONS LISTED BELOW, ADD THE PERMIT CONDITIONS AS FOLLOWS:**

Storage for Quantities Exceeding Exempt Amounts

1. Except for surfacing, floors of storage areas shall be of noncombustible construction. [1997 SFC Sec. 8003.1.13]
2. Mechanical ventilation shall be maintained at a rate of not less than 1 cubic foot per minute per square foot of floor area. [1997 SFC Sec. 8003.1.4.2]
3. Static producing equipment located in flammable gas storage areas shall be grounded. [1997 SFC Sec. 8003.5.1.3]
4. Minimum distances to buildings, streets, alleys, public ways or property that can be built upon shall be maintained in accordance with the following for the quantity listed on this permit:

<b>Minimum Amount Per Storage Area (cubic feet)</b>	<b>Minimum Distance to Buildings, Streets, Alleys, Public Ways or Property Can be Built Upon (feet)</b>	<b>Minimum Distance Between Storage Areas (feet)</b>
0-4,225	5	5
4,226-21,125	10	10
21,126-50,700	15	10
50,701-84,500	20	10
84,501 or greater	25	20

The distances from storage to exposures can be reduced to 5 feet when protective structures having a minimum fire resistance of two hours interrupt the line of sight between the container and the exposure. The protective structure shall be at least 5 feet from the exposure. [1997 SFC Sec. 8003.14.2.2]

5. The area surrounding an outdoor storage area or tank shall be kept clear of combustible materials and vegetation for a minimum distance of 30 feet. [1997 SFC Sec. 8003.1.12]

Requirements for Use of Compressed Gas

1. Transfer of gases between containers, cylinders and tanks shall be performed by qualified personnel using equipment and operating procedures in accordance with nationally recognized standards. [1997 SFC Sec. 7403.1.8]
2. Markings used for piping systems shall consist of the content's name and include a direction of flow arrow. Markings shall be provided at each valve; at wall or ceiling penetrations; at each change of direction; and at a minimum of every 20 feet or fraction thereof throughout the piping run. [1997 SFC Sec. 7401.5.3]
3. Compressed gas systems conveying flammable gases shall be provided with emergency shutoff capability that can be activated at each point of use and at each source. [1997 SFC Secs. 8001.16.2.1, 8004.1.12]

## **STANDARD PERMIT REQUIREMENTS**

### **PERMIT CODE 801-L**

### **OXIDIZING COMPRESSED GAS**

**FOR THE SPECIFIC STORAGE OR USE SITUATIONS LISTED BELOW, ADD THE PERMIT CONDITIONS AS FOLLOWS:**

#### Storage for Quantities Exceeding Exempt Amounts

1. Class 3 and 4 oxidizers shall be stored on the ground floor only. [1997 SFC Sec. 8003.6.1.7]
2. Mechanical ventilation shall be maintained at a rate of not less than 1 cubic foot per minute per square foot of floor area. [1997 SFC Sec. 8003.1.4.2]
3. Static producing equipment located in oxidizer gas storage areas shall be grounded. [1997 SFC Sec. 8003.6.1.10]
4. Minimum distances to buildings, streets, alleys, public ways or property that can be built upon shall be maintained in accordance with SFC Table 8003.6-G for the quantity listed on this permit. The distances can be reduced to 5 feet when protective structures having a minimum fire resistance of two hours interrupt the line of sight between the container and the exposure. The protective structure shall be at least 5 feet from the exposure. [1997 SFC Sec. 8003.6.2.2.2]
5. The area surrounding an outdoor storage area or tank shall be kept clear of combustible materials and vegetation for a minimum distance of 30 feet. [1997 SFC Sec. 8003.1.12]

#### Retail and Wholesale Storage Requirements

1. Individual container size shall not exceed 100 pounds or 5 gallons capacity. [SFC Sec. 8001.14.3.3]
2. Storage and display height shall not exceed 6 feet above the finished floor. [1997 SFC Sec. 8001.14.3.3]
3. Aisles having a minimum width of 4 feet shall be maintained on three sides of the storage or display area. [1997 SFC Sec. 8001.14.3.10]

#### Requirements for Use of Compressed Gas

1. Compressed gas systems shall be suitable for the use intended and shall be designed by persons competent in such design. Where nationally recognized good practices or standards have been established for the process employed, such practices and standards shall be followed. [1997 SFC Sec. 7403.1.2]
2. Compressed gas systems conveying oxidizing gases shall be provided with emergency shutoff capability which can be activated at each point of use and at each source. [1997 SFC Sec's. 8001.16.3.1, 8004.1.12]

**GENERAL PERMIT CONDITIONS  
FOR  
COMPRESSED GAS HAZARDOUS MATERIALS**

1. Permits shall be kept on the premises designated herein at all times and shall be posted in a conspicuous location on the premises. Permits shall be available for inspection at all times. [1997 SFC Sec. 105.5]
2. MSDS shall be readily available on the premises for hazardous materials regulated by this permit. [1997 SFC Sec. 8001.6]
3. Persons responsible for the operation of areas in which hazardous materials are stored, dispensed, handled, or used shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of a fire, leak, or spill. [1997 SFC Sec. 8001.11.1.1]
4. Equipment, machinery, and required detection and alarm systems associated with hazardous materials shall be listed or approved, and shall be maintained in an operable condition. Electrical wiring and equipment shall be in accordance with the Electrical Code. [1997 SFC Sec's. 8001.4.4, 8001.4.7.1, 8001.11.4, 7401.9]
5. Provisions shall be made for controlling and mitigating unauthorized discharges of hazardous materials. [1997 SFC Sec. 8001.5.2.3]
6. Hazardous materials shall not be released into a sewer, storm drain, ditch, drainage canal, lake, river or tidal waterway, or upon the ground, sidewalk, street, highway, or into the atmosphere. The Chief shall be notified immediately when an unauthorized discharge becomes reportable under state, federal, or local regulations, or when any release inside or outside a building could present a life safety hazard. [1997 SFC Sec's. 8001.5.1, 8001.5.2.2]
7. The person, firm, or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharges, whether sudden or gradual, at no cost to the jurisdiction. [1997 SFC Sec. 8001.5.2.5]
8. "COMPRESSED GAS" signs, "NO SMOKING" signs, and/or hazard identification signs as specified by UFC Standard 79-3, shall be posted and maintained in conspicuous locations as required by the Chief. The marks or labels on individual containers, cylinders, tanks, or systems shall be maintained in accordance with nationally recognized standards. [1997 SFC Sec's. 8001.7-8001.9, 7401.5.1]
9. Compressed gas containers, cylinders, tanks, and systems shall be secured against unauthorized access and safeguarded with such protected facilities as public safety requires. [1997 SFC Sec's. 7401.6.1, 8001.11.2]
10. A minimum rated 40BC fire extinguisher shall be located within 30 feet of all hazardous material storage and use. [1997 SFC Sec. 1002.1]
11. Means of egress shall not be obstructed in any manner and shall remain free of any material or matter where its presence would obstruct or render the means of egress hazardous. Storage is prohibited under exit stairways. [1997 SFC Sec's. 1203, 1210.3]
12. Combustible waste, vegetation or similar materials shall be kept a minimum of 10 feet from compressed gas containers, cylinders, tanks, and systems. An unpierced noncombustible barrier extending not less than 18 inches above and to the front and rear of the area of storage or use is allowed in lieu of such distance. [1997 SFC Sec. 7401.8.3]
13. Incompatible materials in storage and storage of materials incompatible with use shall be separated when the stored materials are in containers having a capacity of more than 5 pounds or ½ gallons. Separation shall be accomplished by one of the following methods:
  - Segregating incompatibles by a distance of not less than 20 feet,

**GENERAL PERMIT CONDITIONS  
FOR  
COMPRESSED GAS HAZARDOUS MATERIALS**

- Isolating storage by a noncombustible partition extending not less than 18 inches above and to the sides of the stored material,
- Storing liquid and solid materials in hazardous materials storage cabinets,
- Storing compressed gases in gas cabinets or exhausted enclosures.

Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure. [1997 SFC Sec. 8001.11.8]

14. Compressed gas containers, cylinders, tanks and systems shall not be exposed to open flame, high temperature or heating devices which could raise the surface temperature above 125 degrees, or which could otherwise create a hazardous condition. [1997 SFC Sec's. 7401.8.9, 8001.9]
15. Compressed gas containers, cylinders, tanks and systems shall not be used for electrical grounding and shall not be located where they could become part of an electrical circuit. [1997 SFC Sec. 7401.9]
16. Compressed gas containers, cylinders, tanks and systems which could be exposed to vehicular or other physical damage shall be protected by guard posts or other approved means. [1997 SFC Sec's. 7401.6.3, 8001.11.3]
17. Compressed gas containers, cylinders and tanks shall not be placed near unprotected ledges or other areas where they could drop distances exceeding one half the height of the container, cylinder or tank. [1997 SFC Sec. 7401.8.4]
18. Compressed gas containers, cylinders and tanks shall not be placed in areas where they are likely to be damaged by falling objects. [1997 SFC Sec. 7401.8.6]
19. Compressed gas containers, cylinders and tanks shall be protected from direct contact with soil, other unimproved surfaces, or areas of standing water in order to prevent bottom corrosion. [1997 SFC Sec. 7401.14]
20. Compressed gas containers, cylinders, tanks and systems shall be designed and constructed in accordance with nationally recognized standards and shall not be used for any purpose other than to serve as a vessel for containing the product which it is designed to contain. [1997 SFC Sec's. 8001.4.1, 8001.4.2, 7401.11]
21. Leaking, damaged, corroded, or defective compressed gas containers, cylinders, tanks and systems shall be removed from service and repaired, replaced, or disposed of in an approved manner. [1997 SFC Sec's. 7401.13, 8001.4.7.1]
22. 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 in accordance with nationally recognized standards. [1997 SFC Sec. 7401.10]
23. Empty containers and tanks previously used for the storage of hazardous materials shall be free from residual vapor or explosive vapors as defined by DOT or R.C.R.A. or other regulating authority or shall be maintained as specified for the storage of the hazardous material. [1997 SFC Sec. 8001.4.6]
24. Compressed gas containers, cylinders, or tanks designed for protective caps, collars or other protective devices shall have the caps or devices in place except when the containers, cylinders or tanks are in use or are being serviced or filled. [1997 SFC Sec. 7401.7.2]
25. Compressed gas containers, cylinders, tanks and systems shall be secured against accidental dislodgment or falling due to contact, vibration, or seismic activity. [1997 SFC Sec. 7401.6.1, 7401.6.4]

**GENERAL PERMIT CONDITIONS  
FOR  
COMPRESSED GAS HAZARDOUS MATERIALS**

26. Liquefied gas compressed gas containers, cylinders and tanks, except those designed for use in a horizontal position, and all compressed gas containers, cylinders and tanks containing non-liquefied gases shall be stored in a "valve end up" upright position.

**EXCEPTION:** Compressed gas containers with a water volume less than 1.3 gallons are allowed to be stored in a horizontal position. [1997 SFC Sec's. 7402.1.2, 8001.16.3]

27. 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 or tanks. [1997 SFC Sec's. 7403.3.2, 8001.12.3.2]
28. When processes or conditions exist where a flammable mixture could be ignited by static electricity, means shall be provided to prevent the accumulation of a static charge. [1997 SFC Sec. 8001.11.5]
29. Transfer of gas between containers, cylinders and tanks shall be performed by qualified personnel utilizing equipment and operating procedures in accordance with nationally recognized standards. [1997 SFC Sec. 7403.1.8 ]
30. Markings used for piping systems shall consist of the content's name and include a direction of flow arrow. Markings shall be provided at each valve; at wall or ceiling penetrations; at each change of direction; and at a minimum of every 20 feet or fraction thereof throughout the piping run. [1997 SFC Sec. 7401.5.3]