

DPD SFD	Joint Ruling DPD Director's Rule 24-2005 SFD Administrative Rule 27.02.04	
	Applicant: CITY OF SEATTLE Department of Planning and Development Seattle Fire Department	Page 1 of 6 Publication: 8/18/05
Subject: Storage and Use of Hazardous Materials, Including Flammable And Combustible Liquids, in Freight Containers Outside of Buildings	Code and Section Reference: 2003 Seattle Building Code Section 415 2003 Seattle Fire Code Chs 27 and 34	
	Type of Rule: Code Interpretation	
	Ordinance Authority: SMC 3.06.040; City Charter Art. X Sec. 3	
	Approved	Date
Index: Seattle Building Code	Approved	
	Date	
	<u>(signature on file)</u> John H. Nelsen, Fire Marshal, SFD	<u>9/13/05</u>
	<u>(signature on file)</u> Diane M. Sugimura, Director, DPD	<u>9/21/05</u>

A. BACKGROUND AND PURPOSE

Seattle Building Code (SBC) and Seattle Fire Code (SFC) require that buildings must comply with the requirements of SBC Section 415 for Hazardous (Group H) Occupancies where flammable and combustible liquids and other hazardous materials are stored or used in quantities exceeding the maximum allowable quantities allowed by the codes. The purpose of this rule is to provide an alternative to meeting all the requirements for Group H occupancies for freight containers in which hazardous materials are stored or used in quantities greater than the maximum allowable quantities.

Freight containers used for the storage or use of hazardous materials in quantities not exceeding the "maximum allowable quantities per control area" allowed by SBC Tables 307.7(1) and 307.7(2) and SFC Tables 2703.1.1(1) and 2703.1.1(2) may be issued a Seattle Fire Department permit without prior approval of the use or location of the container from DPD.

B. DEFINITION

FREIGHT CONTAINER is a reusable container having a volume of 64 cubic feet or more, designed and constructed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading.

C. APPLICABILITY

1. Storage and Use of Hazardous Materials

This Rule applies to noncombustible freight containers which are located outside buildings, and in which flammable and combustible liquids and other hazardous materials are stored or used in quantities in excess of the maximum allowable quantities per control area allowed by SBC Tables 307.7(1) and 307.7(2) and SFC Tables 2703.1.1(1) and 2703.1.1(2).

EXCEPTIONS:

1. Freight containers in transportation and which have valid active shipping papers are not subject to the requirements of this Rule.
2. Freight containers may not be used for the following materials when present in amounts in excess of the maximum allowable quantities.
 - a. Highly toxic flammable or toxic flammable gases
 - b. Toxic and highly toxic gases
 - c. Class I-A flammable liquids
 - d. Combustible dusts
 - e. Class 4 oxidizers
 - f. Unclassified detonable and Class I organic peroxides
 - g. Pyrophoric gases
 - h. Class 3 and 4 unstable (reactive) materials
 - i. Class 2 and 3 water-reactive solids and liquids

2. Spray Finishing

This rule is not applicable to spray finishing operations. Spray finishing must be conducted in an approved spray booth, spraying room or spray area in accordance with the Seattle Fire and Building codes.

3. Dispensing of Hazardous Materials

Dispensing of hazardous materials must comply with the SBC and SFC. Dispensing of flammable and combustible liquids and other hazardous materials in quantities up to the maximum allowable quantities per control area for open use is allowed inside freight containers that meet the requirements of this rule. See SBC Tables 307.7(1) and 307.7(2) and SFC Tables 2703.1.1(1) and 2703.1.1(2) for basic maximum allowable quantities per control area for dispensing.

D. REQUIRED PERMITS

1. Fire Department Permits. Fire Department permits are required to store, handle or use flammable or combustible liquids and other hazardous materials. Call the Permit Section in the Fire Marshal's Office at (206) 386-1025 for permit applications and information. Before the Fire Department will approve a permit, the applicant must provide documentation that DPD has approved the building, mechanical and electrical permits.

Freight containers used for the storage or use of hazardous materials in quantities not exceeding the "maximum allowable quantities per control area" allowed by SBC Tables 307.7(1) and 307.7(2) and SFC Tables 2703.1.1(1) and 2703.1.1(2) may be issued a Seattle Fire Department permit without prior approval of the use or location of the container from DPD.

2. DPD Permits. Building, mechanical and electrical permits are required for all freight containers used for storage. All plumbing installations shall comply with the Seattle Plumbing Code.

3. Washington Department of Labor and Industries. Containers that are modified off-site or that are changing use are required to have a "Gold Seal" issued by the Washington State Department of Labor and Industries. Note that containers that change from use as a freight container to use as a permanent structure must be reviewed by Labor and Industries.

4. Puget Sound Clean Air Agency. Spray finishing operations are subject to regulation by the Puget Sound Clean Air Agency (PSCAA). Operators of spray finishing equipment should contact PSCAA before applying for a building permit.

E. LAND USE REGULATIONS

Several factors determine whether a freight container will be allowed on a particular site. The factors include:

- Is the use allowed in the zone in which the site is located?
- Will the container be located in a required yard or setback?

- Is the container's use accessory to an established use?
- Has storage or use of hazardous materials been established as a use on the site?
- Is the site located in a Shoreline zone?

To answer these questions, call DPD at (206) 684-8467.

F. CODE PROVISIONS FOR STORAGE AND USE OF HAZARDOUS MATERIALS

When freight containers are used as described in Section C of this Rule, the requirements of this Rule may be substituted for the requirements of Seattle Building Code Section 415 for a Group H Occupancy, provided all of the conditions stated in this Rule are met. Freight containers complying with this rule shall be classified as Group H Occupancies.

Building and Fire Code Provisions

1. For purposes of this Rule, it will be assumed that freight containers are of Type V-N construction unless the applicant presents evidence showing the container is of another construction type.
2. Incompatible materials shall be separated in compliance with the Seattle Fire Code Section 2703.9.8.
3. Vertical stacking of freight containers is not allowed.
4. Individual freight containers governed by this rule shall not exceed 500 square feet of gross floor area.
5. There shall be no more than three containers on any site. Where more than one container is located on a site, the containers shall be separated from each other by at least five feet.
Exception: More than one group of three containers may be located on a site if the groups are separated from each other by at least 100 feet.
6. At the time the permit application is submitted, the applicant shall submit a plot plan designating the location of freight containers. The designated location shall not be changed without a new DPD permit.
7. Where freight containers are located near buildings with openings, they shall comply with SBC. Otherwise, the location of freight containers shall comply with the following table.

Location of Freight Containers

Fire-resistive Rating of Adjacent Building Wall with No Openings on Same Property ¹	Minimum Distance from Freight Container to Buildings on the Same Property ²
No rating	16 feet
1 hour	10 feet
2 hour	5 feet
4 hour	0 feet
<p>1 Walls with no openings or combustible projections within 10 feet in any direction of a freight container shall be considered as having no openings.</p> <p>2 Incidental and Group U structures need not comply with this requirement.</p>	

8. Freight containers shall be located at least 16 feet from all property lines.
9. Freight containers must comply with SBC requirements for means of egress.

Exceptions:

- a. Two exits are not required.
- b. Door hardware is not required to comply with SBC requirements if a sign is posted on the container stating that the doors must remain open whenever the container is occupied.

10. Containers not positioned directly on grade shall have a permanent foundation designed by a structural engineer. Containers positioned on grade must be tied down, but an engineer's stamp is not required. A structural engineer's stamp is required if the container is structurally modified.

11. An accessible route shall be provided to the interior of the container, but an accessible route is not required through the container.

12. Containers shall be in sound condition.

13. A spill containment system to prevent the flow of liquids from the freight container shall be provided. The containment system shall have sufficient capacity to contain 10 percent of the aggregate volume of the liquids stored in the freight container or the volume of the single largest storage container, whichever is greater.

14. Automatic sprinkler systems are not required.

15. Hazard identification signs as specified in NFPA 704 identifying the specific materials contained inside shall be placed in conspicuous locations on all four sides of the freight container.

Energy Code Provisions

16. Heated or semi-heated containers must comply with the Seattle Energy Code.

Electrical Code Provisions

17. Containers shall comply with the Seattle Electrical Code.

18. The interiors of containers in which Class I flammable liquids are used or stored shall be considered Class I, Division 2 classified locations for compliance with the Seattle Electrical Code.

19. Electrical equipment and wiring in freight containers in which only Class II and Class III combustible liquids are stored or used shall be suitable for general purpose use.

20. Electrical equipment and wiring in freight containers hazardous materials other than flammable or combustible liquids are stored or used shall be classified in accordance with the Electrical Code.

Mechanical Code Provisions

21. The container shall be equipped with continuous mechanical ventilation that provides at least 1 cubic foot per minute (cfm) of exhaust per square foot of floor area, but not less than 150 cfm. The mechanical ventilation system shall be equipped with an airflow switch or other equally reliable method that is interlocked to sound a visible and audible alarm upon failure of the mechanical ventilation system.

22. Exhaust fans shall comply with Seattle Mechanical Code.

23. Exhaust ventilation shall be arranged to consider the density of the potential fumes or vapors released. For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 inches of the floor.

24. Air exhausted from the freight container shall be vented directly to the exterior of the container.

25. A manual shutoff control for the ventilation system shall be provided outside of the container in a position adjacent to the access door to the container or in a location approved by the Fire Chief. The switch shall be of the break-glass type and shall be labeled VENTILATION SYSTEM EMERGENCY SHUTOFF.

26. Exhaust terminations shall be located according to the following table.

Minimum distance from exhaust termination

Location	Distance
Property line ^a	30 feet
Operable openings into the container	10 feet
Exterior walls or roof of the container	6 feet
Noncombustible walls in the direction of exhaust discharge	10 feet
Combustible walls or operable openings in the direction of the exhaust discharge	30 feet
Adjoining grade	10 feet
Mechanical air intake	10 feet

a For purposes of this table, "property line" includes property lines separating one lot from another lot but does not include property lines separating a lot from a public street or alley right-of-way.