



CITY OF  
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**FIRE DEPARTMENT  
INFORMATION BULLETIN**

**SUBJECT: STORAGE, HANDLING AND USE OF LIQUID AND SOLID  
HAZARDOUS MATERIALS**

**Bulletin Number:** 001

**Date of Issue:** April 26, 1994

**Code Reference:**

1994 Uniform Fire Code (UFC), Articles 74, 79 & 80

1994 Uniform Building Code (UBC), Chapters 5 & 9

Santa Rosa City Code (SRCC), Chapters 18-16 & 18-44

**NOTE:** This bulletin is a summary of Fire Department interpretations of City, State and Federal Codes. Information contained herein applies to typical instances and may not address all circumstances. This bulletin is not intended to address retail storage and/or sales of hazardous materials.

**DEFINITIONS**

**CONTROL AREA(S)**

A control area is an area within a building, enclosed by the exterior wall(s), interior wall(s), the roof and foundation of the building, constructed as a one-hour occupancy separation, where hazard materials may be stored and/or used.

**HAZARDOUS MATERIAL**

"Hazardous Materials" include those materials which represent a physical hazard, such as flammable or combustible liquids and oxidizers; or health hazards, such as corrosives, toxics, irritants, sensitizers or carcinogens. Hazardous materials may also include substances that may be harmful to the environment such as metal bearing wastewater, or fuel contaminated soil or groundwater.

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Refer to the Material Safety Data Sheet (MSDS) to determine if a substance is "hazardous", or for a general listing of hazardous materials you may refer to the following:

- Federal Department of Transportation (DOT) - 49 CFR Part 107
- EPA Priority Pollutants - 40 CFR Part 401.15
- State Department of Health Services (DHS) - CCR Title 22, Sections 66680 & 66685
- Cal OSHA Directors Lists - CCR Title 8, Section 339
- National Fire Protection Association (NFPA)

**SECONDARY CONTAINMENT**

**Single Containers** - When used to contain an individual container, the secondary containment shall be designed to contain 110% of the primary container volume.

**Multiple Containers** - When used to contain multiple containers, the secondary containment shall be designed to contain 150% of the largest container or 10% of the total aggregate quantity, whichever is greater.

**Fire Sprinkler Flow** - If the area is exposed to an automatic fire sprinkler system, the secondary containment must also be designed to contain the additional volume of 20 minutes of fire protection water (approximately 4 gal. per sq. ft. for general business occupancies).

**Rainwater** - If the area is exposed rainwater, the secondary containment must also be designed to contain the additional volume equivalent to 24 hours of rainfall (approximately 10 inches).

In addition, the secondary containment must be constructed of materials compatible with the hazardous materials to be contained. It must not be degraded or become contaminated upon contact with the hazardous materials. Incompatible hazardous materials must be contained separately and separated by either 20 feet, by a non-combustible partition or within an approved fire-rated storage cabinet.

**PERMIT REQUIREMENTS**

Permits shall be required for the storage, use and handling of hazardous materials in excess of the permit quantities listed in UFC Article 1. *UFC 8001.3.1.*

Permits shall also be required to install, repair, or close any hazardous materials storage facility or system. *UFC 8001.3.1.* Separate Building Department Permits may also be required for these activities.

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Other Fire Code permits may be required for flammable liquids spraying or dipping operations, welding and cutting, compressed gases, aerosol storage, or for underground tank systems.

**GENERAL REQUIREMENTS**

Each facility which stores **any** quantity of hazardous materials must maintain a Hazardous Materials Inventory Statement (HMIS) and Facility Storage Map. Facilities which store, use or handle hazardous materials in excess of 55 gallons for liquids or 500 pounds for solids must also provide a Hazardous Materials Management Plan (HMMP). *UFC 8001.3.3.*

Individual containers in excess of "work-station" quantities - generally considered as up to 5 gallons, must be secondarily contained. Piping and dispensing systems for materials which require secondary containment must also have secondary containment. *UFC 8003.1.7.*

Secondary containment for hazardous materials must be inspected for apparent leaks from the primary container(s) in accordance with a regularly scheduled program. Documentation or monitoring logs of such inspections must also be maintained, even if there has not been a leak. If a leak has occurred, the incident must be reported to the Fire Department if the spilled material may increase the risk of a fire, or the material has not been contained within the secondary containment. *UFC 8003.1.7.4.*

Facilities which store hazardous materials in excess of permitted quantities shall provide an NFPA Warning Placard for the exterior of the facility, as specified in NFPA-704. The placard should be visible upon approach to the building and located so that it will not be obstructed by open doors or vegetation. *UFC 8001.7* (Refer to NFPA - Hazard Warning Marking Regulations - Information Bulletin #91-009.)

All containers, tanks and piping containing hazardous materials must bear a label identifying the contents therein. Piping shall be labeled every 20 lineal feet and change in direction. *UFC 8001.7.*

A portable fire extinguisher with a minimum rating of 20-B,C shall be provided within 10 to 50 feet of hazardous material storage, use and dispensing areas. *UFC 1002.1.*

Specific storage and use requirements for each hazardous material classification may be found in UFC Articles 8003.2 through 8003.15. Refer to these sections for additional information and requirements.

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**INTERIOR STORAGE, USE AND DISPENSING**

The use, handling and storage of hazardous materials in excess of the exempt amounts specified in UBC Section 8001.13 must be within an approved Hazardous ("H") Occupancy. *UFC 8003.1.1.*

Flammable liquids in opened containers must be stored in an approved flammable liquid storage cabinet when the aggregate quantity exceeds 10 gallons. *UFC 7902.5.8.*

Entrances to rooms or areas where hazardous materials are stored shall be placarded, as specified in NFPA-704. The placard should **not** be affixed directly to the door, or where it may be obstructed from view. *UFC 8001.7.*

Mixing and/or dispensing flammable liquids in excess of UFC Table 7902.2-B must be conducted within an approved flammable liquid mixing room constructed as an H-2 or H-3 Occupancy. *UFC 7903.2.3.*

Mechanical exhaust ventilation must be provided for hazardous materials storage, use or dispensing areas where fumes, vapors or dusts may be generated. The ventilation system shall be capable of providing 1 cfm of exhaust air per square foot, or 6 air exchanges per hour, whichever is greater. For hazardous materials having an NFPA hazard ranking of 3 or 4 a means of local exhaust must be provided at the point of generation. *UFC 8003.1.8.*

**EXTERIOR STORAGE, USE AND DISPENSING**

Exterior storage areas shall be secured from unauthorized access. *UFC 8001.9.2.*

Hazardous material storage areas shall be placarded, as specified in NFPA-704. *UFC 8001.7.*

If the storage area is exposed to vehicle traffic, guard posts shall be provided to protect it from vehicle impact. *UFC 8001.9.3.*

Exterior storage areas must be located away from buildings, streets, property lines, public ways, etc., in accordance with UFC Articles 8003.3.2 through 8003.15.2.2. Additional plan review and approval may also be required by the Santa Rosa Planning and/or Building Departments.