

Huntington Beach Fire Department

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

This City Specification outlines placarding and labeling requirements for businesses that store, use, or handle hazardous materials within the city of Huntington Beach. Other related Fire Department specifications are as follows and can be found on the Huntington Beach Fire Department website.

- *City Specification #403 – Fire Access For Pedestrian or Vehicle Security Gates & Buildings* (KNOX® emergency access products information)
- *City Specification #428 – Premise Identification* (addressing standards)
- Hazardous Materials Disclosure – Huntington Beach Municipal Code (HBMC) §17.58

DEFINITIONS

Hazardous Materials – Chemicals or substances that are physical or health hazards, whether the materials are in usable or waste condition. See HBMC §17.58.010 for detailed definition.

Material Safety Data Sheets (MSDS) – A standardized written or printed document containing safety and health information about a hazardous material which is prepared in accordance with Federal Occupational Safety and Health Administration (OSHA) regulations contained in Title 29 of the Code of Federal Regulations (CFR) Part 1910.1200, California “Cal-OSHA” regulations contained in 8CCR5194(g), or California Labor Code sections 6390-6399.2.

NFPA 704 – National Fire Protection Association (NFPA) Chapter 704, “*Standard System for the Identification of the Hazardous Materials for Emergency Response.*” A standardized, simple, readily recognized marking system that provides a general idea of the hazards, the severity of the hazards, or the hazardous material(s) stored inside a facility.

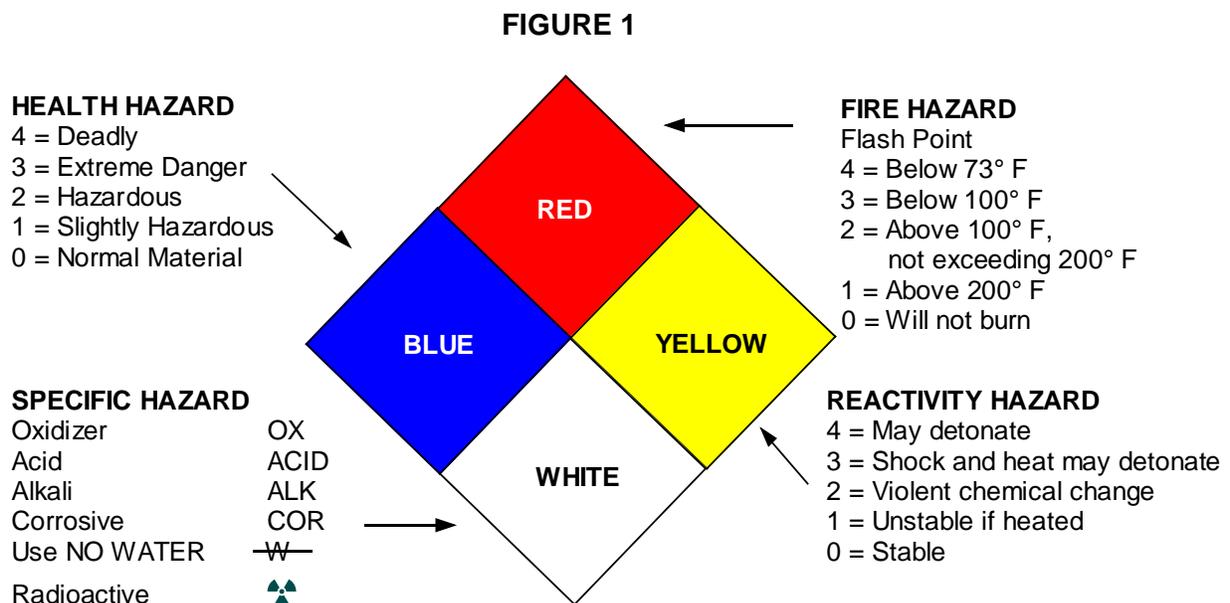
REQUIREMENTS

1. PLACARDING

- 1.1 The NFPA 704 placarding system is intended to provide emergency response personnel with information about the relative hazards of hazardous materials within a facility, which allows emergency response personnel to formulate a more effective, timely response to an emergency incident at the facility.

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

- 1.2 An NFPA 704 placard is divided into four color-coded quadrants, each identifying a different hazard category:
- Blue for health
 - Red for flammability
 - Yellow for reactivity (instability)
 - White for special hazard information such as water reactive materials
- 1.3 The placard system also uses a number rating system ranging from “0” to “4” to indicate the relative hazard within each hazard category (Figure 1):
- “0” represents NO or very minimal hazard
 - “4” represents the HIGHEST degree of hazard



- 1.4 Placarding is required when hazardous materials are stored, handled, or used in excess of the following quantities, and whose NFPA ratings exceed 2 for Health or 1 for Reactivity:
- 500 pounds of a hazardous solid
 - 1,000 cubic feet of a compressed inert gas
 - 200 cubic feet of any other compressed gas
 - 55 gallons of a hazardous liquid
 - 5 gallons of a cryogenic liquid

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

- 1.5 NFPA placarding is also required for either of the following:
- Any amount of a hazardous material stored, used, or handled above the quantity found on the California Environmental Protection Agency's (EPA) list of extremely hazardous substances/acutely hazardous substances, the California Accidental Release Prevention Program (CalARP) chemicals list, or any radioactive material in a quantity exceeding the amounts listed in Title 10 of the Code of Federal Regulations (CFR) 30, 40 and 70.
 - Any aboveground storage tank used for the storage of a hazardous material that exceeds the quantity listed in the California Fire Code (CFC) Tables 2703.1.1(1)-(4).
- 1.6 The Fire Code Official may require placarding for any type of material not listed above when the material's characteristics, storage, use, or handling is determined to pose a threat to the surrounding community, public safety or the environment.

2. DETERMINING PLACARD NUMBERING

- 2.1 NFPA placard numbering is based on the relative hazards of a chemical, not on absolute values, so ratings can vary slightly between different manufacturers of the same chemical; therefore, the first place to look for placarding information is on the MSDS from the chemicals' manufacturer. Also, check with your chemical supplier for placard rating information. If neither of these sources can assist you, contact the Huntington Beach Fire Department's Hazardous Materials Disclosure Program office at (714) 536-5469.
- 2.2 NFPA placarding may be done using an **Individual Numbering** system, a **Composite Numbering** system, or a combination of both. Combination systems are allowed when multiple chemicals may present the major risk factor at a facility and an individual NFPA placard for a specific material would not properly represent the facility's hazards to emergency response personnel.
- 2.3 **Individual Numbering** – This method is used when only one or two chemicals of concern are stored or used at a facility. Individual placards will reflect the hazard rating of each chemical of concern.
- 2.4 **Composite Numbering** – Placarding method used to characterize the hazards by reflecting the composite ratings when there are multiple chemicals of concern at a facility. To determine the appropriate numbering for multiple chemicals, the placard will indicate the aggregate hazards within the occupancy. This may be accomplished by determining the **highest** aggregate rating for each of the hazard quadrants (health, flammability, reactivity) as indicated in the two examples below.

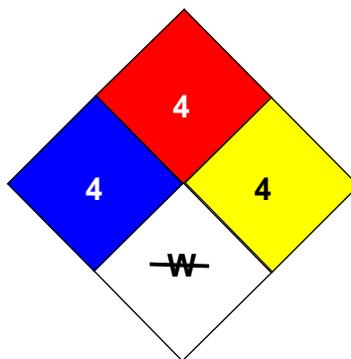
EXAMPLE #1: If the facility has individual chemicals with NFPA ratings of 1-1-4, 4-1-2, and 2-4-3 W, the facility would be labeled with a composite placard with ratings of 4-4-4 W (Figure 2).

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

EXAMPLE #2: If the facility has a chemical storage room or area that contains chemicals with NFPA ratings of 1-1-4 and 4-1-2, the room or area would be labeled with a placard with ratings of 4-1-4.

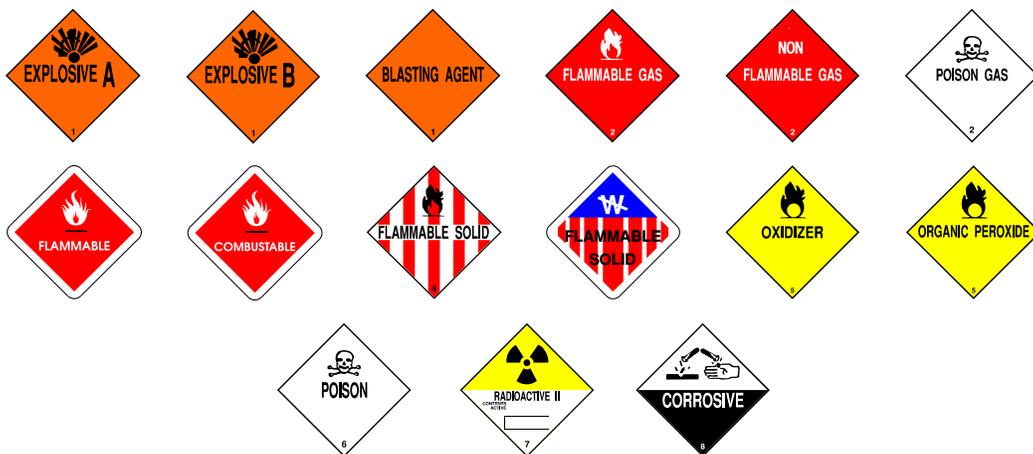
EXCEPTION FOR EXAMPLES #1 AND #2: When a high hazard rating would be misleading due to the presence of an insignificant quantity of the material requiring the rating.

FIGURE 2



2.5 When it is unreasonable to require specific identification of hazardous materials due to an excessive number of different materials stored in one location, an identification number is not assigned to a particular material, or when approved by the Fire Code Official, a Department of Transportation (DOT) placard indicating the general hazard of the materials (explosive, flammable, oxidizer, etc.) may be substituted (Figure 3).

FIGURE 3



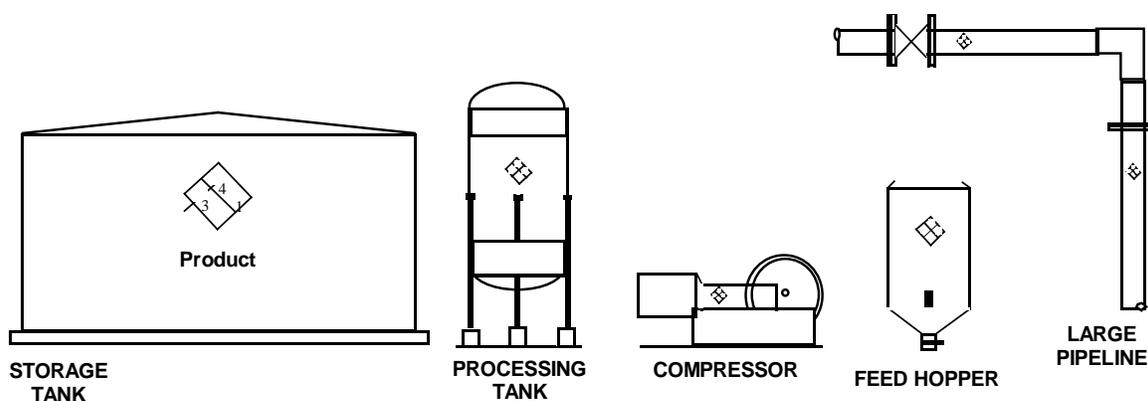
2.6 Placards used in this application shall be diamond-shaped, labeled, sized and colored in accordance with DOT requirements.

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

3. LOCATION OF PLACARDS

- 3.1 Placards shall be permanently mounted upon the building, excluding building windows or glass, and doorways. Additional placarding may be required in certain circumstances, such as aboveground storage tanks, processing vessels, large pieces of equipment or pipelines, as shown in Figure 4.

FIGURE 4



- 3.2 **Placard Construction** – Placards may be made of any weatherproof material. Reflective numbers/ symbols should be used in the red, yellow, blue and white quadrants. The numbers/symbols should contrast with the color of the specific quadrant. Outside placarding shall be located on the front of the building on the same side as the building's address and may be required on the rear of the building in a Fire Department approved location. Visibility of placards shall not be obstructed by doors, window coverings, vent coverings, vegetation, equipment or machinery.
- 3.3 **Front Building Placards** – Front building placards shall be mounted near the building address in a conspicuous, unobstructed location no less than 4 feet above grade.
- 3.4 **Rear Building Placards** – Rear building placards shall be mounted in a conspicuous, unobstructed location, at least 4 feet above grade, near rear doorways or building openings.
- 3.5 **Area-Specific Placards** – At the discretion of the Fire Code Official, area-specific placarding may be required when chemicals are segregated or concentrated into separate fire-rated rooms, or concentrated in hazardous materials storage areas inside or outside a facility.

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

4. MINIMUM PLACARD DIMENSIONS

4.1 The size and design of placards shall conform to the following minimum dimensions:

- Minimum dimension for placards shall be 10 inches x 10 inches, or 100 square inches.
- Minimum dimensions for each colored quadrant shall be 5 inches x 5 inches, or 25 square inches.
- Minimum dimensions for black or white hazard numbers shall be 4 inches in height with 5/8 inch stroke.

5. SIGNS

- 5.1 **Electrical Rooms** – Door leading into dedicated electrical control panel rooms shall be marked with a sign stating “ELECTRICAL ROOM” or similar wording.
- 5.2 **Hazardous Materials Storage Areas** – Areas or rooms where hazardous materials and hazardous wastes are stored shall be identified with a sign stating “HAZARDOUS MATERIALS STORAGE AREA – DANGER” or an equivalent.
- 5.3 **Compressed Gas Storage** – Any area or cabinet used to store compressed gases shall be labeled with a sign stating “COMPRESSED GAS.”
- 5.4 **No Smoking Signs** – A “NO SMOKING” sign shall be posted in areas where flammable/combustible materials (liquids, solids, or gases) are stored or used.
- 5.5 **Storage and Use Areas for Class 1 and 2 Explosives** – All entrances to explosive material manufacturing and storage sites, and all access roads shall be posted with the following warning sign. The sign shall be weather resistant with reflective surface and lettering at least 2 inches high.

**DANGER
NEVER FIGHT EXPLOSIVE FIRES
EXPLOSIVES ARE STORED ON THIS SITE
CALL 9-1-1**

6. LABELING

- 6.1 All containers, drums, cylinders, portable tanks and chemical feed lines shall be labeled with their contents. Labels applied at a manufacturer’s site are acceptable, as are shipping labels that include the name of the chemical. Hazardous waste labels are acceptable for containers used to accumulate hazardous wastes. Chemical feed lines shall also be labeled with direction of flow.

Hazardous Materials Identification Guide – Placarding, Labeling and Sign Requirements

- 6.2 **Aboveground Storage Tanks (AST)** – ASTs shall be labeled with their contents. This can be a product label from a manufacturer, a stenciled material name applied to the AST in a contrasting color, or other acceptable means that will readily identify the container's contents. This labeling may also be required for containers, tanks or piping of any size containing non-hazardous materials so that their contents will not need to be determined during an emergency response incident.
- EXAMPLES:** Water tank, container/tank containing sand or other non-hazardous material, process water distribution piping, or compressed air piping distributing air throughout a facility.
- 6.3 **Emergency Shut-off Switches (ESOs)** – ESOs on chemical feed lines, including lines carrying gases, shall be clearly labeled.
- 6.4 **Hazardous Materials and Flammable Liquids Storage Cabinets** – These shall be clearly marked so that they are easy to identify. Hazardous materials storage cabinets shall be marked with the words "HAZARDOUS – KEEP FIRE AWAY." Flammable liquids storage cabinets shall be labeled with "FLAMMABLE – KEEP FIRE AWAY."

APPROVED: _____
Original Signed
Patrick McIntosh, Fire Chief

DATE: _____
May 30, 2012