

Compliance – Resource Bulletin

NFPA 704 Signs

Overview:

NFPA 704 is a standard maintained by the US-based National Fire Protection Association (NFPA). It defines a graphic system primarily used by emergency personnel to quickly identify the risks posed by the presence of hazardous materials in a certain area. Known as the NFPA “diamond,” the four section multicolor diamond shape indicates the health, flammability, instability and related hazards that are presented by short-term, acute exposure to a material during a fire, spill or other emergency-related condition. This is necessary to help emergency personnel determine what, if any, special equipment should be used, procedures followed, or precautions taken during the first moments of an emergency response.

The objectives of the system are:

- To provide an appropriate signal or alert for the protection of both public and private emergency response personnel.
- To assist in planning for effective fire and emergency control operations, including clean-up.
- To assist all designated personnel, engineers, plant, and safety personnel in evaluating hazards.

The 704 rating system is applicable to industrial, commercial, and institutional facilities that manufacture, process, use, or store hazardous materials. It is important to note that the standard is not applicable to transportation or for use by the general public. This is a relevant matter, because the NFPA 704 system is often confused with the placarding required by the Department of Transportation for hazardous materials. The standard is also not applicable to chronic exposures or to non-emergency occupational exposure.

NFPA 704 is a voluntary standard; each local jurisdiction determines whether or not it will be maintained as a requirement.^[1]

Resources:

NFPA 704: Standard System for Identification of Hazards of Materials: (\$\$\$)

<http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards?mode=code&code=704>

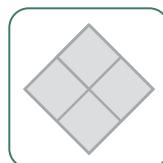
Fire Protection Guide to Hazardous Materials: (\$\$\$)

[Fire Protection Guide to Hazardous Materials, 2010 Edition](#)

ComplianceSigns.com strongly recommends the purchase of the entire NFPA standard from the link above.

Design of NFPA 704 Signs:

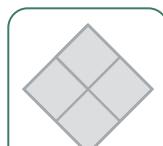
- The NFPA “diamond” displays the material hazard information by category and severity, with the information arranged in a consistent format on the diamond. (**see graphic aid 1 below**)
- **HAZARD CATEGORY:** The hazard categories appear on the sign as follows:
 - **HEALTH:** At the 9 o'clock position of the diamond on a blue background. (704.5)
 - **FLAMMABILITY:** At the 12 o'clock position on a red background. (704.6)
 - **INSTABILITY:** At the 3 o'clock position on a yellow background. (704.7)
 - **SPECIAL:** At the 6 o'clock position on a white background. (704..8)



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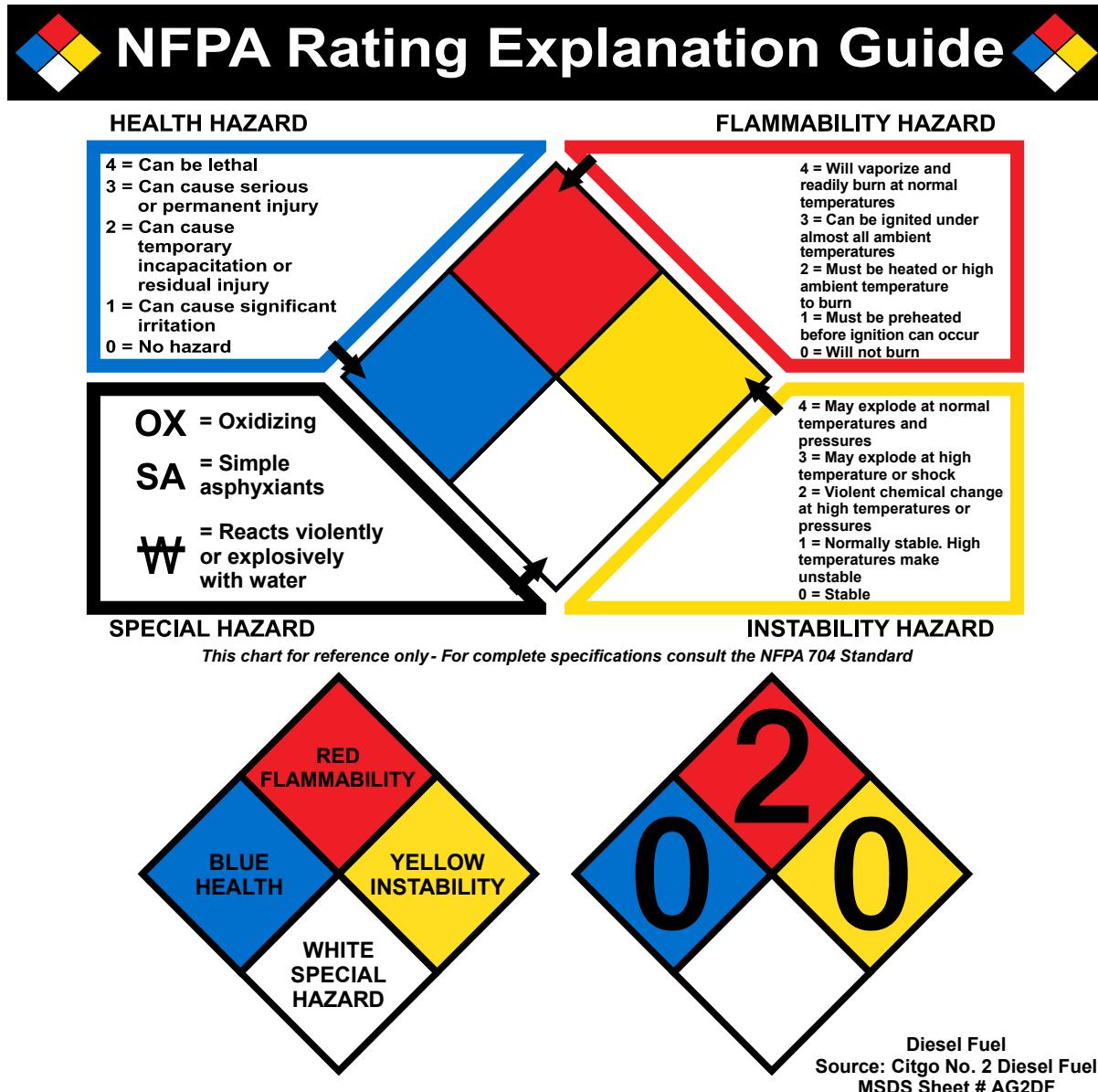
- **HAZARD SEVERITY LEVEL:** The severity level of the Health, Flammability, and Instability hazards are indicated by a number from 0 (minimal hazard) to 4 (severe hazard). Detailed descriptions of the particular hazard levels for each category may be found in the standard. (704.5-7)
- **THE SPECIAL HAZARD CATEGORY:** This is reserved for three hazard symbols. (704.8.2)
 - “W” indicates the material reacts violently or explosively with water and serves as a caution about the use of water in either firefighting or spill control response. A severity level “2” or “3” may also follow the symbol, but is not required. (704.8.2.1 & F2)
 - “OX” indicates the material has oxidizing properties that present a combustion hazard.
 - “SA” denotes gases which are simple asphyxiants; (limited to nitrogen, helium, neon, argon, krypton, and xenon).
- **NON-STANDARD SYMBOLS:** There are also special hazard symbols and markings beyond **OX**, **W** and **SA** that are not part of the NFPA 704 standard. These additional symbols must be placed outside the NFPA 704 “diamond”. Questions about placement and related issues regarding these additional non-standard special hazard symbols should be directed to your local emergency responder.
- **DETERMINING HAZARD RATINGS:** While the system is basically simple in application, the hazard evaluation should be performed by persons who are technically competent and experienced in the interpretation of the hazard criteria as set forth in the standard. If a chemical’s rating is unknown it can be determined by consulting the Fire Protection Guide to Hazardous Materials, which contains NFPA 325 and 49, which provide chemical ratings. If the chemicals are not found there, the ratings can be determined by using the Safety Data Sheet (SDS) with the guidelines found in NFPA 704. (Appendix B, C, &D)
- **COMPOSITE RATING METHOD:** A common question regarding the ratings is how to configure the sign when a variety of different chemicals are present in the facility. In this case, the Composite Method can be used to characterize the hazards as simply as possible. The sign would indicate a rating for the area, not for individual chemicals. For example, the exterior of the building could have a sign displaying the highest hazard ratings present within, while specific areas or rooms within could display signs with more specific ratings of the chemicals present there. The number of signs displayed at any one facility should not exceed five. (704.A.2.3.3)
- **LOCATION OF SIGNS:** At a minimum, signs should be posted on two exterior walls containing access to the facility, each access to a room or area, and each principal access to an exterior storage area. Since the placard is to provide quick hazard information for emergency responders, it should be visible in case of emergency where the responders are likely to enter. The placement and quantity of signs should be decided using good judgment and the advice of the local fire authority. (704.4.3) (NFPA.org FAQ)



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Graphic Aid 1:



For NFPA 704 signs please visit our store:
<https://www.compliancesigns.com/nfpadiamonds.shtml>

[1] NFPA.org FAQ