How to Make an NFPA 704 Placard "Diamond"

In 5 Steps

This picture shows what an NFPA 704 Placard/ Diamond looks like in action. The purpose of this sign is to help the Fire Department know what types of safety hazards are inside of a Room or an Area of a building or property. It is an important sign that helps Firefighters and other Emergency Responders stay safe during emergencies. Here are some tips about where it should go:

The NFPA 704 Placard should:

1. Be large enough to be **seen from a distance**.
2. Be on the building, **to the side of the door** so that it can be seen if the door is left open by accident (not above the door or on the door).
3. Be permanently affixed with **durable material**, so that it doesn't fade in the sun or fall down.
4. If the hazardous material is compressed gas, there must also be a sign that reads "**COMPRESSED GAS**".

This is a Step by Step Guide to help you determine how to make and post an NFPA 704 Placard / "Diamond".

Step 1: Identify the Hazardous Materials

Determine which **Hazardous Materials** are in the area that needs to be labeled with an NFPA 704 Diamond and talk to the fire inspector about which hazardous materials are important for emergency responders to know about.

Example: A Room contains the following hazardous materials in the following amounts:

Acetylene (10 large tanks)

Carbon Dioxide (5 large tanks)

Motor Oil (one 55 gallon drum)

Windex cleaning solution (1 gallon)

In this example, we will not be concerned with the Windex cleaning chemical because it is only 1 gallon. The fire inspector will direct you to create a sign that includes information for the Acetylene, Carbon Dioxide and Motor Oil.

Step 2: Get the Safety Data Sheets

Get the **Safety Data Sheet** for each Hazardous Material that you want to include on the NFPA 704 diamond. This can be done through an internet search, or from the on-site Safety Data Sheet log.

Example: Google or Bing “Carbon Dioxide SDS” or “Carbon Dioxide Safety Data Sheet”.

SAFETY DATA SHEET

Carbon Dioxide

Section 1. Identification

GHS product identifier	: Carbon Dioxide
Chemical name	: Carbon dioxide, gas
Other means of identification	: Carbonic, Carbon Dioxide, Carbonic Anhydride, R744, Carbon Dioxide USP
Product type	: Gas.
Product use	: Synthetic/Analytical chemistry and Medical use.
Synonym	: Carbonic, Carbon Dioxide, Carbonic Anhydride, R744, Carbon Dioxide USP
SDS #	: 001013
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
24-hour telephone	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: GASES UNDER PRESSURE - Liquefied gas Simple asphyxiant.
GHS label elements	
Hazard pictograms	:
Signal word	: Warning
Hazard statements	: Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. May increase respiration and heart rate.
Precautionary statements	
General	: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position.
Prevention	: Use and store only outdoors or in a well ventilated place.
Response	: Not applicable.
Storage	: Protect from sunlight. Store in a well-ventilated place.
Disposal	: Not applicable.
Hazards not otherwise classified	: In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation. May cause frostbite.

Step 3: Find the NFPA Numbers in the SDS

Look through the Safety Data Sheet for the section that includes “Other Information”, and find where they classify the chemical with the numbering system from the National Fire Protection Association, or NFPA. Usually this is **Section 16 Other Information**.

Find each chemical’s NFPA rating for **Red**, **Blue**, **Yellow**, and White.

(Step 3: Continued)

Examples:

Acetylene's SDS:

Japan	:	**Japan inventory (ENCS)**: This material is listed or exempted. **Japan inventory (ISHL)**: Not determined.
Malaysia	:	Not determined.
New Zealand	:	This material is listed or exempted.
Philippines	:	This material is listed or exempted.
Republic of Korea	:	This material is listed or exempted.
Taiwan	:	This material is listed or exempted.
Thailand	:	Not determined.
Turkey	:	This material is listed or exempted.
United States	:	This material is listed or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide th... HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered tradem... vice mark of the American Coatings Association, Inc.

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National Fire Protection Association (U.S.A.)

Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

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Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas	Expert judgment According to package

Carbon Dioxide's SDS:

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	0
Physical hazards	3

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Procedure used to derive the classification

Classification	Justification
GASES UNDER PRESSURE - Liquefied gas	Expert judgment

History

Date of printing	:	2/12/2018
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Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

Motor Oil's SDS:

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 15, 16.
Revision Date: MARCH 22, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUME

TLV - Threshold Limit Value	TWA - Time Weight[illegible]age
STEL - Short-term Exposure Limit	PEL - Permissible Exp[illegible] Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract[illegible]ce Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International[illegible]time Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection[illegible]ciation (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Progra[illegible]SA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

Note: Some Safety Data Sheets do not have colors and may look like this!

Step 4: Select the Highest Hazards

Select the highest number from each category and combine any special symbols.

	Health	Flammability	Reactivity	Special
Acetylene	0	4	3	
Carbon Dioxide	2	0	0	SA
Motor Oil	0	1	0	
Highest #:	2	4	3	SA

Step 5: Make a new NFPA 704 Placard with the numbers

Note: You may prefer to use an internet search (Google or Bing) to find sign manufacturers that will create the sign with the appropriate numbers for you.