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Title:	HazMat_Comm Ver1.1

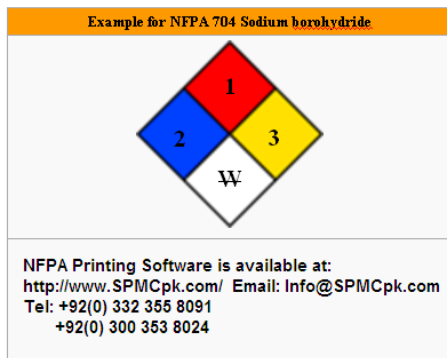
## **Hazard Communication by NFPA 704 Diamond**

Our jobs revolve working around Hazardous chemicals. Most of us are not even aware of the hazards posed by these chemicals we often come in contact with.

The visitors to our work places are not made aware of precautionary measures against accidental contact with these hazardous chemicals.

The need is to communicate these hazards to workers and visitors and ensure that the awareness to this important aspect does not fade away with time.

The National Fire Protection Association (NFPA) has developed a system for indicating the health, flammability, reactivity and special hazards for many common chemicals through use of the NFPA 704 Diamond as shown below:



The four divisions are typically color-coded, with blue indicating level of health hazard, red indicating flammability, yellow (chemical) reactivity, and white containing special codes for unique hazards. Each division is rated from 0 (no hazard; normal substance) to 4 (severe risk). Details of this rating are given in the end of this document.

For communicating hazard through NFPA 704 Diamond, **Hazard Communication Version 1.0** software was developed for your use at your premises and the subject of this tutorial.



## Installation:

1. Copy file "Hazard\_Communicator\_v1.1.ex\_" to c:\
2. Rename "Hazard\_Communicator\_v1.1.ex\_" to "Hazard\_Communicator\_v1.1.exe"
3. Alternately Click Start Menu > Run and type "rename c:\ Hazard\_Communicator\_v1.1.ex\_ Hazard\_Communicator\_v1.1.ex\_" without quote
4. Run file "Hazard\_Communicator\_v1.1.exe". This will install file in C:\ drive

## Working:

Hazard Communication is design to be very simple for use. Follow the steps given below:

HAZARD COMMUNICATION BY NFPA DIAMOND

SULPHURIC ACID 7664-93-9  
DO NOT REMOVE THIS TAG.

**DANGER**

RATINGS  
0-Minimal  
1-Low  
2-Moderate  
3-Serious  
4-Extreme

Consult MSDS for further details  
HAZARDOUS MATERIAL Communicator. Tel: +92 (0)332 3558091  
Email: Info@SPMCpk.com, Tufail.Ali@SPMCpk.com

For help and other softwares Contact:  
Services, Products & Management Consultants [SPMC]  
http://www.SPMCpk.com  
Info@SPMCpk.com +92 (0)332 355 8091  
Tufail.Ali@SPMCpk.com +92 (0)300 353 8024

Chemical Name: Sulphuric Acid  
CAS No: 7664-93-9  
Fire Risk = 0  
Health Risk = 3  
Reactivity Risk = 2  
Specific Hazard = W

Draw

Print Preview

1. Input the name of chemical for which the NFPA 704 Diamond is desired.
2. Add its CAS number, if known.
3. Click and select the Rankings for Fire, Health, Reactivity and Special Specific Hazard.
4. Click and select one of the keyword i.e. DANGER, WARNING, CAUTION.
5. Next click on DRAW button to make the label.
6. Next click on Print Preview button. This will open a Print Preview window.

7. In Print Preview Window, select Label's Width & Height.
8. Next Select, Number of Labels to print on a Single A4 sized paper.
9. Click Preview button to see a blurred image of the final print layout
10. Click Print Button to print the image on a Single A4 sized paper.

HAZARD COMMUNICATION BY NFPA DIAMOND

Print Preview

SULPHURIC ACID 175869-3  
DO NOT REMOVE THIS TAG.

**COR**

RATINGS  
0-Minimal  
1-Low  
2-Moderate  
3-Serious  
4-Extreme

Width (inch): 6  
Height (inch): 3  
Per Page: 2

Preview

Print

Chemical Name: Sulphuric Acid  
CAS No: 175869-3  
Fire Risk = 2  
Health Risk = 1  
Reactivity Risk = 1  
Specific Hazard = COR

Draw

Print Preview

Contact Us:

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Cost of Hazard\_Communicator\_v1.0 = \$ 5.00

Registration is Free

With registration, upgrades will be free.

Technical Support will be free

## Rating Summary

### Hazard Rating Index: Health

Use the most severe rating code regardless of volume.

4	<p>Materials which upon very limited exposure could cause death or major residual injury even though prompt medical treatment is given, including those which are too dangerous to be approached without specialized protective equipment. This degree should include:</p> <ul style="list-style-type: none"> <li>• Materials which can penetrate ordinary rubber protective clothing;</li> <li>• Materials which under normal conditions or under fire conditions give off gases which are extremely hazardous (i.e., toxic or corrosive) through inhalation or through contact with or absorption through the skin.</li> </ul>
3	<p>Materials which upon short-term exposure could cause serious temporary or residual injury even though prompt medical treatment is given, including those requiring protection from all bodily contact. This degree should include:</p> <ul style="list-style-type: none"> <li>• Materials giving off highly toxic combustion products;</li> <li>• Materials corrosive to living tissue or toxic by skin absorption.</li> </ul>
2	<p>Materials which on intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given, including those requiring use of respiratory protective equipment with independent air supply. This degree should include:</p> <ul style="list-style-type: none"> <li>• Materials giving off toxic combustion products;</li> <li>• Materials giving off highly irritating combustion products;</li> <li>• Materials which either under normal conditions or under fire conditions give off toxic vapors lacking warning properties.</li> </ul>
1	<p>Materials which on exposure would cause irritation but only minor residual injury even if no treatment is given, including those which require use of an approved canister type gas mask. This degree should include:</p> <ul style="list-style-type: none"> <li>• Materials which under fire conditions would give off irritating combustion products</li> <li>• Materials which on the skin could cause irritation without destruction of tissue.</li> </ul>
0	<p>Materials which on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material.</p>

### Hazard Rating Index: Flammability

The greatest volume of one code determines the marking. The only exception is if a more severe code has a volume of 3 gallons or greater, then that code is used instead of a lower code of greater volume. If the laboratory total volume of flammables or combustibles is less than one pint for all, then the rating for the laboratory for this area shall be zero

4	<p>Materials which will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or which are readily dispersed in air, and which will burn readily. This degree should include:</p> <ul style="list-style-type: none"> <li>• Gases;</li> <li>• Cryogenic materials;</li> <li>• Any liquid or gaseous material which is a liquid while under pressure and have a flash point below 73°F (22.8°C) and having a boiling point below 100°F(37.8°C). (Class IA flammable liquids.)</li> <li>• Materials which on account of their physical form or environmental conditions can form explosive mixtures with air and which are readily dispersed in air, such as dusts of combustible solids and mists of flammable or combustible liquid droplets.</li> </ul>
3	<p>Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. This degree should include:</p> <ul style="list-style-type: none"> <li>• Liquids having a flash point below 73°F (22.8°C) and having a boiling point at or above 100°F (37.8°C) and those liquids having a flash point at or above 73°F (22.8°C) and below 100°F (37.8°C). (Class IB and Class IC flammable liquids);</li> <li>• Solid materials in the form of coarse dusts which may burn rapidly but which are generally do not form explosive atmospheres with air;</li> <li>• Solid materials in a fibrous or shredded form which may burn rapidly and create flash fire hazards, such as cotton, sisal and hemp;</li> <li>• Materials which burn with extreme rapidity, usually by reason of self-contained oxygen (e.g., dry nitrocellulose and <i>many organic peroxides</i>);</li> <li>• Materials which ignite spontaneously when exposed to air.</li> </ul>
2	Materials that must be moderately heated or exposed to relatively

	<p>high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This degree should include:</p> <ul style="list-style-type: none"> <li>• Liquids having a flash point above 100°F (37.8°C), but not exceeding 200°F (93.4°C);</li> <li>• Solids and semisolids which readily give off flammable vapors.</li> </ul>
1	<p>Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature condition, before ignition and combustion can occur. This degree should include:</p> <ul style="list-style-type: none"> <li>• Materials which will burn in air when exposed to a temperature of 1500°F (815.5°C) for a period of 5 minutes or less;</li> <li>• Liquids, solids, and semisolids having a flash point above 200°F (93.4°C);</li> <li>• This degree includes most ordinary combustible materials.</li> </ul>
0	<p>Materials that will not burn. This degree should include any material which will not burn in air when exposed to a temperature of 1500°F (815.5°C) for a period of 5 minutes.</p>

### Hazard Rating Index: Reactivity

Use the most severe rating code regardless of volume.

4	<p>Materials which in themselves are readily capable of detonation or of explosive decomposition or explosive reaction at normal temperatures and pressures. This degree should include materials which are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.</p>
3	<p>Materials which in themselves are capable of detonation or of explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This degree should include materials which are sensitive to thermal or mechanical shock at elevated temperatures and pressures or which react explosively with water without requiring heat or confinement.</p>
2	<p>Materials which in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This degree should include materials which can undergo chemical change with rapid release of energy at normal temperatures and pressures or which can undergo violent chemical change at elevated temperatures and pressures. It should also include those materials which may react</p>

	violently with water or which may form potentially explosive mixtures with water.
1	Materials which in themselves are normally stable, but which can become unstable at elevated temperatures and pressures or which may react with wtaer with some release of energy but not violently.
0	Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

**Hazard Rating Index: Special Notice**

OXY	Denotes material that are oxidizing agents. These compounds give up oxygen easily, remove hydrogen from other compounds, or attract negative electrons.
ACID	Denote material is acidic in nature.
ALK	Denote material is alkaline in nature.
COR	Denote material is corrosive in nature.
W	Denotes materials that are water-reactive. These compounds undergo rapid energy releases on contact with water.
RAD	Denote material is radioactive in nature.