

FILE NAME: US Government Contractor Regulations Including  
Shipyard Regulations (GCR)

DATE: 1969 June 20

DOC#: GCR020

DOCUMENT DESCRIPTION: Military Standard - Symbols for Packages  
and Containers for Hazardous Industrial Chemicals and Materials

MIL-STD-1341(SA)  
20 June 1969

**MILITARY STANDARD**

**SYMBOLS FOR PACKAGES  
AND CONTAINERS FOR HAZARDOUS  
INDUSTRIAL CHEMICALS AND MATERIALS**



**THIS DOCUMENT CONTAINS 24 PAGES**

**FSC PACK**

1413

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20 June 1969

DEPARTMENT OF DEFENSE  
NAVAL SUPPLY SYSTEMS COMMAND  
WASHINGTON, D. C. 20390

Symbols for Packages and Containers for  
Hazardous Industrial Chemical and Materials

MIL-STD-1341(SA)

1. This standard has been approved by the Naval Supply Systems Command.

2. Recommended corrections, additions, or deletions should be addressed to the Naval Supply Systems Command (SUP 0442), Washington, D. C. 20390.

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## FOREWORD

The purpose of this standard is to establish a uniform symbol to warn users of the potential dangers involved with the use of the material in containers.

The materials to be marked are those having one or more hazardous characteristics defined herein. This standard prescribes marking of unit, intermediate and shipping containers, unit loads and containers that are components of kits or sets. It also provides criteria for application of symbols and for submission of data.

Exceptions. The symbols of this standard are not intended to cover or conflict with the following conditions, regulations or categories of material:

1. Chemicals or drugs used or dispensed by medical department pharmacies.
2. Chemicals used by clinical or chemical laboratories. (The exempted laboratories will be those designated by the departments, bureaus, offices and the Marine Corps.)
3. Explosives, fuels and compressed gases adequately covered by statute, regulation or current instructions.
4. Magnetic materials requiring shielding or marking or both for air shipment.
5. Items and containers which require marking to conform to Department of Transportation or Shipping Regulations.

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## 1. SCOPE

1.1 Scope. This standard covers design, colors, sizes and requirements for warning symbols to be affixed to packages and containers containing hazardous industrial chemicals and materials.

## 2. REFERENCED DOCUMENTS

2.1 The issues of the following documents in effect on the date of invitations for bids form a part of this standard to the extent specified herein.

## SPECIFICATIONS

Military

MIL-M-19590

Marking of Commodities and Containers  
to indicate **Radioactive Material**

## STANDARDS

Federal

FED-STD-595

Colors (Requirements for individual color chips) (3 X 5 supplements) should be submitted to the Naval Supply Depot, Philadelphia, Citing FED-STD-595 together with appropriate chip number as shown therein

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.)

## OTHER PUBLICATIONS

Recommended System for the Identification of Fire Hazards of Materials, NFPA No. 704M:  
Fire Protection Guide on Hazardous Materials (contains NFPA 325A, 325M, 49, 491M and 704M)

(Copies may be purchased from the National Fire Protection Association, 60 Battery March Street, Boston, Massachusetts 02110.)

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### 3. DEFINITIONS

3.1 Fire Hazard. The definition of Fire Hazard, which includes Flammability Hazard, Reactivity and Health Hazard, of the National Fire Protection Association, NFPA No. 704M, shall apply.

3.2 Radiation Hazard. Any commodity that must be labeled in accordance with requirements and criteria of MIL-M-19590.

3.3 Reactivity. The definition of reactivity of NFPA No. 704M shall apply.

3.4 Health Hazard. The definition of health hazard of NFPA No. 704M shall apply.

3.5 Oxidizing Material. A substance such as chlorate, permanganate, peroxide, nitro carbo nitrate, or a nitrate that yields oxygen to stimulate the combustion of organic material.

3.6 Corrosive Material. Acids, alkali or other material that will cause severe damage to living tissue or to other material it contacts.

### 4. GENERAL REQUIREMENTS

4.1 Symbols covered by this standard shall be applied to each unit, intermediate, and shipping container, unit loads and individual components within kits and sets. Symbols shall be in accordance with Figures 1 through 5, and may be applied by stencilling, painting, printing, lithographing or labelling with water resistant materials. Marking of commodities containing radioactive material shall be in accordance with MIL-M-19590.

### 5. DETAILED REQUIREMENTS

5.1 Size of Symbols. Symbols shall be the sizes designated in NFPA No. 704M summarized in Figures 1 through 4 of this standard. Smaller size symbols commensurate with surface available may be used on containers having two or more dimensions less than 6 inches, such as small cans, bottles, tubes, or individual components of kits or sets. (See Figure 5.)

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5.2 Color. The colors indicated for the symbols in Figures 1 through 6 shall acceptably match in shade the applicable color of FED-STD-595, as follows:

| <u>Color</u> | <u>Class</u> |
|--------------|--------------|
| Black        | 17038        |
| Red          | 11105        |
| White        | 17875        |
| Yellow       | 13538        |
| Blue         | 15102        |

5.3 Marking and Design. Each symbol shall conform to the applicable markings and design, as indicated in Figures 1 through 5.

5.4 Posters and Signs. Posters and signs illustrating the hazard shall be prepared in accordance with Figure 6. Activities requiring posters should state the size required, weight and quality of paper or other material required, and surface finish required. Posters and signs are intended for display in work and storage areas.

5.5 Criteria for Application of Symbols. Symbols shall be applied to containers whenever the contents has hazardous characteristics defined in this standard. Specifically, any material listed as hazardous in National Fire Protection Association publications, or having similar characteristics shall be so labeled. Application criteria for Federal Supply Groups and Classes are given in Appendix A.

5.5.1 Application. These requirements shall apply to all material supplied to the Navy directly or indirectly through the Defense Supply Agency, General Services Administration, jobbers, dealers and contractors, sub-contractors and other channels.

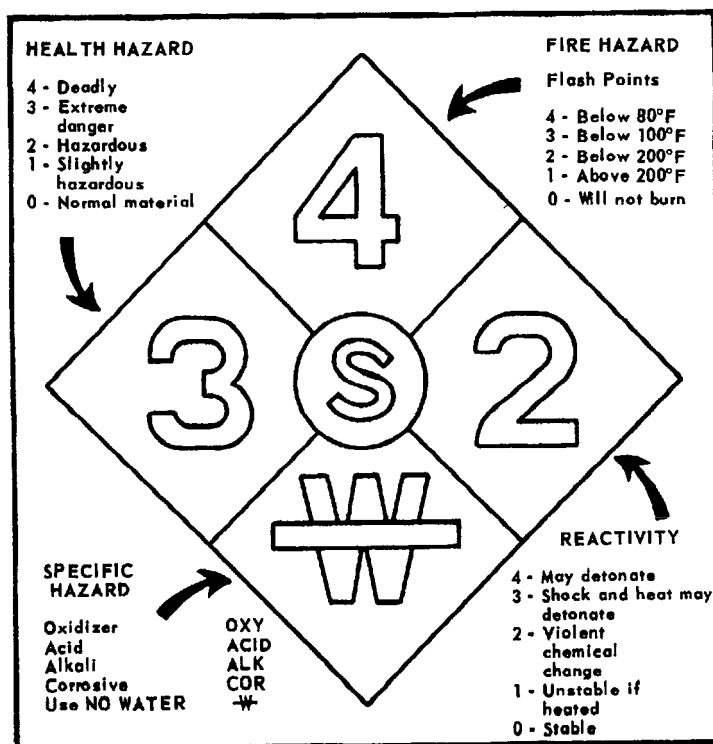
5.6 Data Submission. Contractors shall provide data described in the U. S. Department of Labor Material Safety Data Sheet (Form LSB 00S-4) as required in the contract or order. Once data has been submitted for a particular commodity, no change in formulation affecting its hazardous characteristics is permitted without prior approval by the contracting officer. Instructions are provided in Appendix B. Suppliers are encouraged to submit the same information to the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110.

Preparing Activity

Navy - SA

Project No. PACK N016

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Symbol arrangement and text shall be as above.

Color formats are provided in Figures 2 and 3.

Dimensions are shown in Figure 4.

The following specific hazard symbols shall be used:

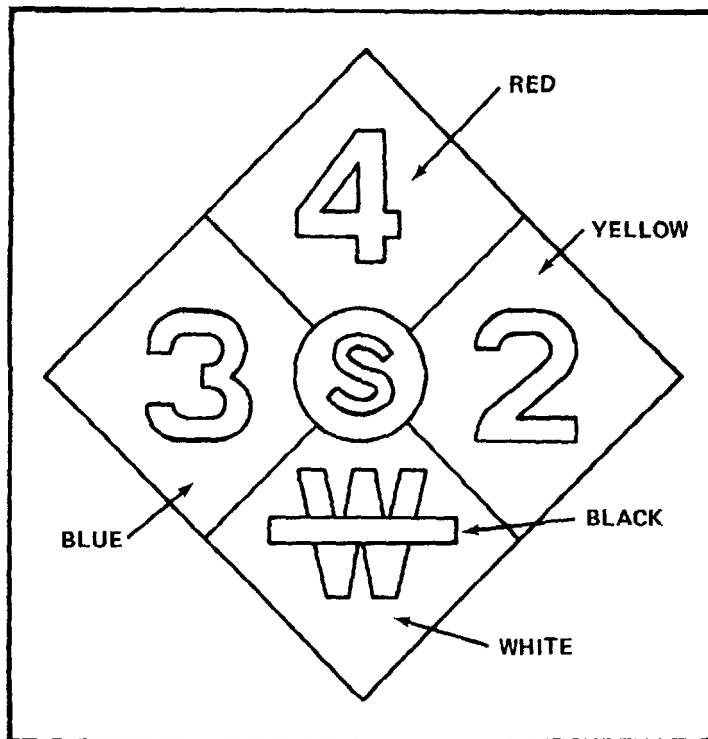
| <u>TERM</u>          | <u>SYMBOL</u> | <u>REFERENCE</u> |
|----------------------|---------------|------------------|
| Oxidizer             | OXY           | 3.5              |
| Acid                 | ACID          | 3.6              |
| Alkali               | ALK           | 3.6              |
| Corrosive            | COR           | 3.6              |
| Fire Fighting Hazard | -W-           | NFPA No. 704M    |
| Use No Water         | -W-           |                  |

Combinations of specific hazard symbols shall be as follows:

|      |     |     |     |      |      |
|------|-----|-----|-----|------|------|
| OXY  | OXY | OXY | OXY | ACID | ACID |
| ACID | ALK | COR | -W- | COR  | -W-  |
| ALK  | ALK | COR |     |      |      |
| COR  | -W- | -W- |     |      |      |

Figure 1. Hazard Identification System

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Numerals shall be white and may have a black border.

Letters G L S or combinations thereof may be used in the center circle to show that the contents are a gas liquid or solid at the proper condition of storage.

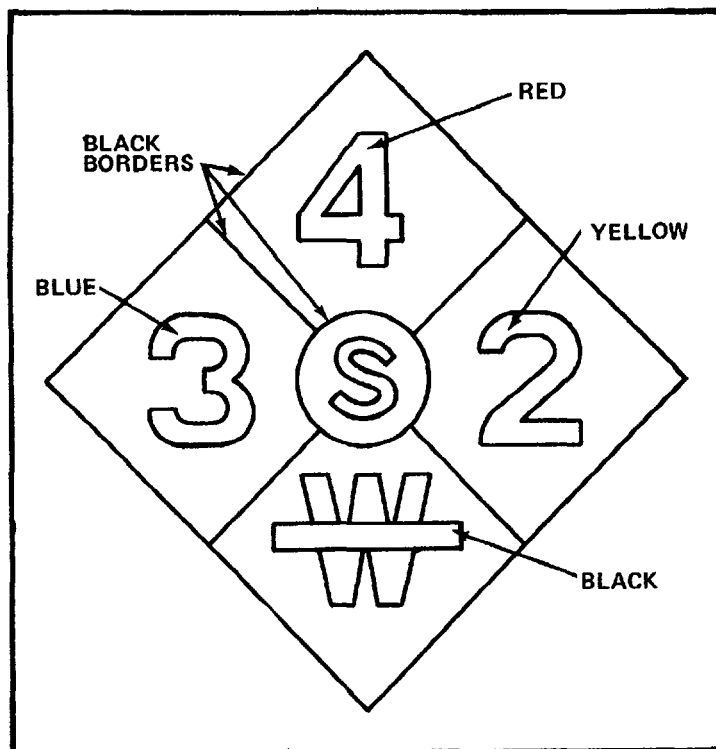
The letters may be white with black border or all black.

The letter W in the "Use No Water" symbol ~~W~~ shall be white with a black border.

All other printing shall be black on a white background (see Figure 1).

Figure 2. Color Format

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Backgrounds shall be white.

Borders shall be black.

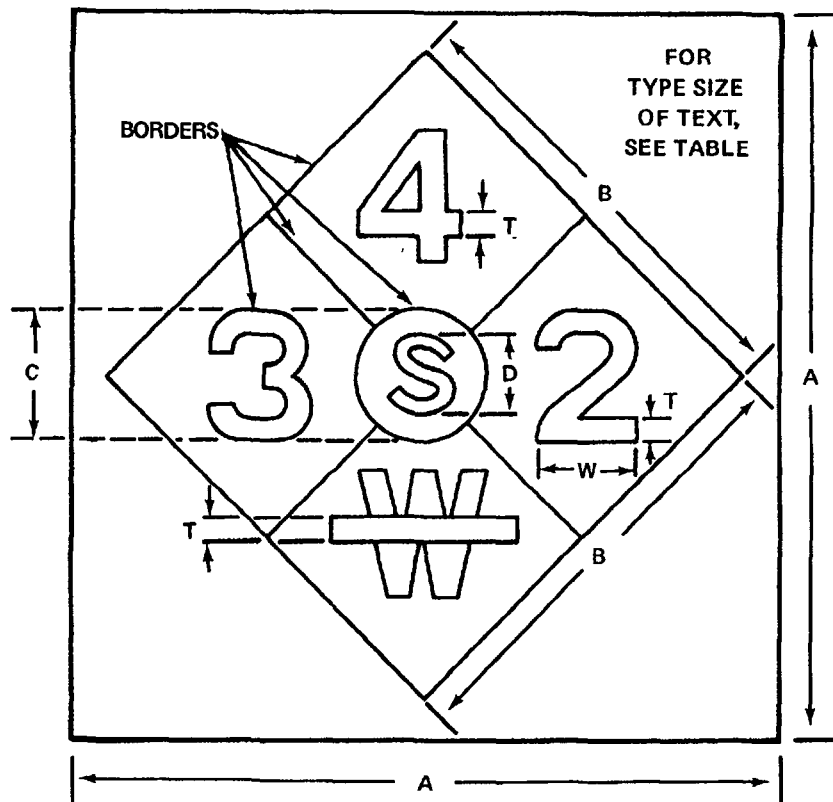
Numerals shall be the color indicated and may have a black border.

The letter W in the "Use No Water" symbol ~~W~~ shall be black with a black border.

All other printing shall be black on white (see Figure 1).

Figure 3. Alternate Color Format

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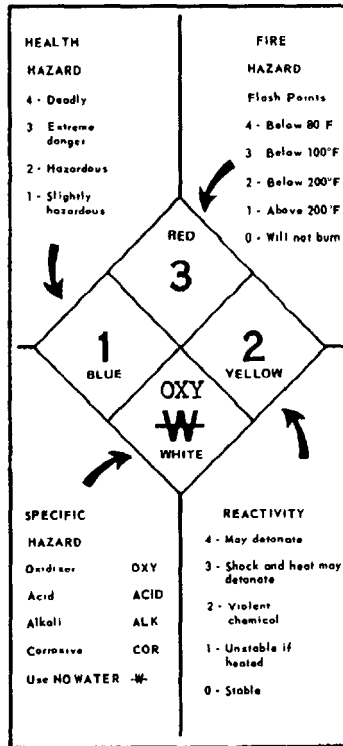
| A | B     | C     | D   | W     | T    | BORDER                     | TYPE SIZE POINTS |     |
|---|-------|-------|-----|-------|------|----------------------------|------------------|-----|
|   |       |       |     |       |      |                            | MIN              | MAX |
| 4 | 2-1/2 | 3/4   | 3/8 | 5/8   | 5/32 | All borders shall be 1/64" | 7                | 8   |
| 4 | 2-1/2 | 1     | 1/2 | 3/4   | 5/32 |                            | 7                | 8   |
| 6 | 3-3/4 | 1-1/2 | 3/4 | 1     | 7/32 |                            | 10               | 12  |
| 8 | 5     | 2     | 1   | 1-1/2 | 5/16 |                            | 14               | 16  |

Dimensions are in inches.

Tolerance 1/32 in unless otherwise note.

Figure 4. Dimensions

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This illustration shows acceptable application for containers too small for symbols having dimensions specified in Figure 4. Further reduction is permissible, providing printed information is legible.

Figure 5. Small Size Marking

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| Identification of Health Hazard<br>Color Code: BLUE |                                                                                                                                                             | Identification of Flammability<br>Color Code: RED |                                                                                                                                                                                | Identification of Reactivity<br>(Stability) Color Code: YELLOW |                                                                                                                                                                                                                         |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of Possible Injury                             |                                                                                                                                                             | Susceptibility of Materials to Burning            |                                                                                                                                                                                | Susceptibility to Release of Energy                            |                                                                                                                                                                                                                         |
| Signal                                              |                                                                                                                                                             | Signal                                            |                                                                                                                                                                                | Signal                                                         |                                                                                                                                                                                                                         |
| 4                                                   | Materials which on very short exposure could cause death or major residual injury even though prompt medical treatment were given.                          | 4                                                 | 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. | 4                                                              | Materials which are readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures.                                                                                       |
| 3                                                   | Materials which on short exposure could cause serious temporary or residual injury even though prompt medical treatment were given.                         | 3                                                 | Liquids and solids that can be ignited under almost all ambient temperature conditions.                                                                                        | 3                                                              | Materials which are capable of detonation or explosive reaction but require a strong initiating source or which must be heated under confinement before initiation or which react explosively with water.               |
| 2                                                   | Materials which on intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given. | 2                                                 | Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.                                                         | 2                                                              | Materials which are normally unstable and readily undergo violent chemical change but do not detonate. Also materials which may react violently with water or which may form potentially explosive mixtures with water. |
| 1                                                   | Materials which on exposure would cause irritation but only minor residual injury even if no treatment is given.                                            | 1                                                 | Materials that must be preheated before ignition can occur.                                                                                                                    | 1                                                              | Materials which are normally stable, but which can become unstable at elevated temperatures and pressures or which may react with water with some release of energy but not violently.                                  |
| 0                                                   | Materials which on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material.                                       | 0                                                 | Materials that will not burn.                                                                                                                                                  | 0                                                              | Materials which are normally stable, even under fire exposure conditions, and which are not reactive with water.                                                                                                        |

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Reproduced with permission.

Posters in color (16" X 4") may be purchased from the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110.

Decals in color (6" X 4") are also available.

Figure 6. Poster for use with Hazardous Material Symbols

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## APPENDIX A

HAZARDOUS MATERIAL SYMBOL  
APPLICATION CRITERIA

The Application Criteria of this Appendix are mandatory for all material supplied to the Navy.

## 10. HAZARDOUS MATERIAL IDENTIFICATION APPLICATION GUIDE

10.1 Hazardous Identification Symbols shall be applied to containers of material in the following Federal Supply Groups and Classes:

| <u>FEDERAL SUPPLY GROUP</u> | <u>FEDERAL SUPPLY CLASS</u>                                |
|-----------------------------|------------------------------------------------------------|
| 34                          | 3439 Welding and Brazing Supplies                          |
| 68                          | 6810 Chemicals                                             |
|                             | 6820 Dyes                                                  |
|                             | 6830 Gases; Compressed and Liquified                       |
|                             | 6840 Pest Control Agents and Disinfectants                 |
|                             | 6850 Miscellaneous Chemical Specialties                    |
| 79                          | 7930 Cleaning and Polishing Compounds and Preparations     |
| 80                          | 8010 Paints, Dopes, Varnishes, and Related Products        |
|                             | 8030 Preservative and Sealing Compounds                    |
|                             | 8040 Adhesives                                             |
| 85                          | 8510 Perfumes, Toilet Preparations, and Powders            |
|                             | 8520 Toilet Soap, Shaving Preparations, and Dentifrices    |
| 87                          | 8720 Fertilizers                                           |
| 91                          | 9110 Fuels, Solid                                          |
| (Packaged Products Only)    | 9130 Liquid Propellants and Fuels, Petroleum Base          |
|                             | 9135 Liquid Propellant Fuels and Oxidizers, Chemical Base  |
|                             | 9140 Fuel Oils                                             |
|                             | 9150 Oils and Greases: Cutting, Lubricating, and Hydraulic |
|                             | 9160 Miscellaneous Waxes, Oils, and Fats                   |
| 99                          | 9920 Smokers' Articles and Matches                         |
|                             | Lighter Fuel Only                                          |

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10.2 Symbols shall be required for items that would ordinarily be cataloged under one of the above classes, but are stocked numbered in another class because of their specific use.

10.3 Symbols shall be required for all items listed in National Fire Protection Association NFPA No. 325A, 325M and 49 and for items having similar characteristics.

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## APPENDIX B

INSTRUCTIONS FOR PREPARING  
DEPARTMENT OF LABOR  
MATERIAL SAFETY DATA SHEET  
FORM LSB 008-4

Instructions in this appendix are mandatory to the extent specified elsewhere in this standard, or as specified in contracts or orders.

## 20. INSTRUCTIONS

20.1 Material Safety Data Explanation of Terms and Instructions. Form LSB 008-4, or one essentially similar, approved by the Bureau of Labor Standards, is required to be filled out only on materials which, when not provided with special attention or controls, will constitute a hazard. If information is inapplicable to the material under consideration, the initials "n.a." (not applicable) shall be inserted.

20.1.1 Definition of an Essentially Similar Form. An essentially similar form is interpreted as being one in which Section II is modified to indicate only the product or group of products which it is intended to cover. The remaining sections of the form will list the items of information in the sequence shown on Form 008-4, but the space given to those entire sections which are inapplicable may be reduced to that necessary to enter the initials "n.a." (not applicable).

20.1.2 Definition of a Hazardous Material. A hazardous material has one or more of the following characteristics: (a) has a flashpoint, or is subject to spontaneous heating; (b) has a threshold limit value below 500 ppm for gases and vapors, and below 25 mppcf for dusts; (c) a single dose oral LD<sub>50</sub> below 500 mg/kg; (d) is subject to polymerization with the release of large amounts of energy; (e) is a strong oxidizing or reducing agent; (f) causes first degree burns to skin in short time exposure, or is systemically toxic by skin contact; or (g) in the course of normal operations, may produce dusts, gases, fumes, vapors, mists, or smokes which have one or more of the above characteristics.

20.2 Instructions for Section I.

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20.2.1 Manufacturer's Name and Address. Mailing address, including ZIP code, the Federal Supply Code for Manufacturers (FSCM), and name of certifying company official.

20.2.2 Emergency Telephone Number. Show area code, telephone number(s) and extension(s), and hours of operation at which further information may be obtained in the event of an emergency involving the material.

20.2.3 Chemical Name and Synonyms. Applies only to products consisting of a single element or compound, such as oxygen, or methyl-ethyl Ketone.

20.2.4 Trade Name and Synonyms. Include formula number or other definite designation of the product.

20.2.5 Chemical Family. State generic name of single elements and compounds, such as acid or ketone.

20.2.6 Formula. Refers only to the chemical formula for single elements or compounds, not to the formulation of a mixture. Example:  $O_2$  and  $C_2H_5 COCH_3$ .

### 20.3 Instructions for Section II-Hazardous Ingredients.

20.3.1 Ingredients. A hazardous ingredient is a hazardous material in a mixture in sufficient concentration to produce enough flammable vapor or gas to ignite, or to produce acute or chronic adverse effects in doses which could result from normal use or predictable misuse of the mixture containing it. Ingredients of a hazardous nature shall be noted by chemical name in one of the three divisions of Section II, viz., Paints, Preservatives, and Solvents; Alloys and Metallic Coatings; and Hazardous Mixtures of other liquids, solids, or gases. The listing of ingredients in the first division is self-explanatory. Metallic coatings listed in the second division refer to coatings such as plating, cladding, and metalizing; and filler metal is any metal added in making a brazed, soldered, or welded joint. Filler metals shall be considered with the ingredients of rod coatings and core fluxes as single mixtures. The third division refers to other hazardous mixtures, such as abrasive blasting materials.

20.3.2 Composition. The approximate percentage of each hazardous ingredient by weight or volume shall be shown to the nearest 5 percent. The percentages of any substance constituting less than 5 percent may be indicated as such. For mixtures, such as filler metals and their coatings and core fluxes, in which the hazardous ingredients constitute very small proportions of the mixture, the hazardous ingredients shall be stated to the nearest 0.5 percent, and ingredients constituting less than 0.5 percent may be indicated as such.

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20.3.3 Threshold Limit Value. The threshold limit value (**TLV**) for each hazardous ingredient in a mixture will be entered in the column provided, in accordance with instructions given in Section V.

20.3.4 Additional Information. If more space is needed in the first or second division, use the lines provided in the third division. Normally this space will be used for mixtures not falling in the other two divisions. In addition, addenda sheets may be added to the form.

20.4 Instructions for Section III-Physical Data.

20.4.1 Boiling Point. State the temperature at which the liquid boils, in degrees F., at a pressure of 760 mm Hg. For mixtures, a boiling range is acceptable.

20.4.2 Vapor Pressure. State the pressure of saturated vapor above the liquid in mm of Hg, at 20°C.

20.4.3 Vapor Density. State the relative density or weight of a vapor or gas (with no air present) compared with an equal volume of air. Values should be given in the ambient temperature range of 60° - 90°F. to facilitate field usage.

20.4.4 Solubility in Water. Use the following terms to describe the solubility of the product by weight in distilled water at 50°F:

Negligible.....less than 0.1 percent  
Slight.....0.1 - 1 percent  
Moderate.....1 - 10 percent  
Appreciable.....more than 10 percent  
Complete.....in all proportions

20.4.5 Specific Gravity. State the ratio of the weight of a volume of material to the weight of an equal volume of water at 39.2°F. This determines whether the material floats or sinks in water.

20.4.6 Percentage Volatile by Volume. State the percentage of the liquid or solid by volume that evaporates at the ambient temperature of 70°F. This applies to solids such as Napthalene.

20.4.7 Evaporation Rate. State the ratio of the evaporation rate to that of either Butyl Acetate or Diethyl Ether. Insert the name of whichever is used.

20.4.8 Appearance and Odor. Give a brief description, e.g., viscous, colorless liquid with aromatic odor.

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## 20.5 Instructions for Section IV-Fire and Explosion Hazard Data.

20.5.1 Flash Point. State the temperature in degrees F., at which a liquid will give off enough flammable vapor to ignite when tested by the open cup method. When multi-component paint systems are used and mixed in the field, the flash point of the individual components shall be noted.

20.5.2 Flammable or Explosive Limits. State the range of gas or vapor concentrations (percent by volume in air) which will burn or explode if an ignition source is present. LEL means the lower explosive limit, and UEL means the upper explosive limit. Knowledge of the LEL will aid in determining the volume of ventilation needed for an enclosed space to prevent fires and explosions.

20.5.3 Extinguishing Media. List the firefighting media suitable for use on the burning material. For certain specific chemicals, special formulations, in addition to the standard agents, are available for extinguishing fires. These should be indicated by generic name. The standard firefighting agents are water fog, foam, alcohol foam, CO<sub>2</sub>, and dry chemical.

20.5.4 Special Firefighting Procedures. If water is unsuitable, specify the firefighting media to be used. Also list any necessary personal protective equipment.

20.5.5 Unusual Fire and Explosion Hazards. Specify such hazards and/or any special conditions that govern them.

## 20.6 Instructions for Section V-Health Hazard Data.

20.6.1 Threshold Limit Value. Threshold limit value (TLV) refers to current figures of the American Conference of Governmental Industrial Hygienists. The TLV for single elements and compounds shall be entered here. For mixtures, the threshold limit value for each significant ingredient shall be noted in the column provided in Section II of the form. (See Section II above for explanation.) Express these value in millions of particles per cubic foot of air (mppcf), or in milligrams of particulate per cubic meter of air (Mg/M<sup>3</sup>) for dust; and in milligrams of particulate per cubic meter of air (Mg/M<sup>3</sup>), or in parts per million parts of air by volume (ppm) for gases, vapors, mists, fumes, and all other contaminants except dusts. State the units in which the TLV is expressed.

20.6.2 Effects of Overexposure. Describe most common sensations that exposed person will feel, and his appearance.

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20.6.3 Emergency and First-Aid Procedures. State emergency procedures to be used. Only inhalation and skin or eye contact should be considered in recommending first-aid measures. The victim should be examined by a doctor as soon as possible after exposure.

20.7 Instructions for Section VI-Reactivity Data.

20.7.1 Stability. Indicate, by cross or check, whether stable or unstable under reasonably foreseeable conditions of storage, use, or misuse. If unstable, list those conditions which may cause a dangerous reaction. Examples: Shock from dropping; temperature above 150°F.

20.7.2 Incompatibility. Provide information on such common materials and contaminants with which the product may reasonably come into contact, producing a reaction which would release large amounts of energy. If none, so state. State whether oxidizing material, acid, caustic alkali or corrosive.

20.7.3 Hazardous Decomposition Products. List hazardous materials produced in dangerous amounts by burning, oxidation, or by heating in welding or burning. Thermal decomposition products, such as CO, CO<sub>2</sub>, and hydrochloric acid from vinyl chloride plastics are examples.

20.7.4 Hazardous Polymerization. Hazardous polymerization is that which takes place at a rate which releases large amounts of energy. Indicate by check or cross whether or not hazardous polymerization can occur. If so, list those reasonably foreseeable storage conditions which would start polymerization. Include the expected time period in which the inhibitors may be used up.

20.8 Instructions for Section VII-Spill or Leak Procedures. Indicate any applicable precautions as: avoiding breathing gases and vapors; contact with liquids and solids; removing sources of ignition; any special equipment used for cleaning up, such as glass or plastic scoops; and disposal of spilled solids or liquids, such as flushing with water, returning material to container, burning, etc.

20.9 Instructions for Section VIII-Special Protection Information. Indicate the type of personal protective equipment, ventilation, and such precautions to be taken when using the product for its intended purpose, as elimination of ignition sources.

20.10 Instructions for Section IX-Special Precautions. Indicate any special precautions to be taken, such as in handling or storing, to avoid reaction hazards. When applicable, indicate safe storage life of product in relation to reactivity. Also indicate any other general precautions to be taken.

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20.11 Federal Stock Number, and Package Dimensions and Weight. Indicate the Federal Stock Number (FSN) at the bottom of page 1. Also indicate the outside dimensions of the unit package in inches and tenths thereof.

Example: For a container  $4\frac{1}{2}$ " in diameter and  $6\frac{3}{8}$ " high, enter: Package Dimensions 4.5 X 4.5 X 6.4. The gross weight of the unit package shall be indicated in pounds and tenths. Example: For a container weighing 44 pounds 12 ounces, enter: 44.8 lbs. gross.

20.12 Submission of Data. Mail completed form as directed in the contract or order. In the absence of specific mailing instructions, mark the contract or order number under the FSN and mail to the Commanding Officer, Navy Fleet Material Support Office, Mechanicsburg, Pennsylvania 17055.

Form Approved  
Budget Bureau No. 44-R1387  
Approval Expires April 30, 1971

**U.S. DEPARTMENT OF LABOR**  
**WAGE AND LABOR STANDARDS ADMINISTRATION**  
Bureau of Labor Standards

Form No. L58-OOS-4  
May 1969  
**MIL-STD-1341(8A)**  
**Figure 7**

# MATERIAL SAFETY DATA SHEET

| SECTION I                                           |                         |
|-----------------------------------------------------|-------------------------|
| MANUFACTURER'S NAME                                 | EMERGENCY TELEPHONE NO. |
| ADDRESS (Number, Street, City, State, and ZIP Code) |                         |
| CHEMICAL NAME AND SYNONYMS                          | TRADE NAME AND SYNONYMS |
| CHEMICAL FAMILY                                     | FORMULA                 |

| PAINTS, PRESERVATIVES, & SOLVENTS                     | % | TLV<br>(Units) | ALLOYS AND METALLIC COATINGS              | % | TLV<br>(Units) |
|-------------------------------------------------------|---|----------------|-------------------------------------------|---|----------------|
| PIGMENTS                                              |   |                | BASE METAL                                |   |                |
| CATALYST                                              |   |                | ALLOYS                                    |   |                |
| VEHICLE                                               |   |                | METALLIC COATINGS                         |   |                |
| SOLVENTS                                              |   |                | FILLER METAL<br>PLUS COATING OR CORE FLUX |   |                |
| ADDITIVES                                             |   |                | OTHERS                                    |   |                |
| OTHERS                                                |   |                |                                           |   |                |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES |   |                |                                           | % | TLV<br>(Units) |
|                                                       |   |                |                                           |   |                |
|                                                       |   |                |                                           |   |                |
|                                                       |   |                |                                           |   |                |
|                                                       |   |                |                                           |   |                |

|                         |  |                                       |  |
|-------------------------|--|---------------------------------------|--|
| BOILING POINT (°F.)     |  | SPECIFIC GRAVITY (H <sub>2</sub> O=1) |  |
| VAPOR PRESSURE (mm Hg.) |  | PERCENT VOLATILE<br>BY VOLUME (%)     |  |
| VAPOR DENSITY (AIR=1)   |  | EVAPORATION RATE<br>(_____ =1)        |  |
| SOLUBILITY IN WATER     |  |                                       |  |
| APPEARANCE AND ODOR     |  |                                       |  |

|                                    |                  |     |     |
|------------------------------------|------------------|-----|-----|
| FLASH POINT (Method used)          | FLAMMABLE LIMITS | LeI | UeI |
| EXTINGUISHING MEDIA                |                  |     |     |
| SPECIAL FIRE FIGHTING PROCEDURES   |                  |     |     |
|                                    |                  |     |     |
| UNUSUAL FIRE AND EXPLOSION HAZARDS |                  |     |     |
|                                    |                  |     |     |

PSN:

Pkg. Dim. (OD): 18

Gross Wgt.:

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|                                    |  |
|------------------------------------|--|
| SECTION VI HEALTH HAZARD DATA      |  |
| THRESHOLD LIMIT VALUE              |  |
| EFFECTS OF OVEREXPOSURE            |  |
| EMERGENCY AND FIRST AID PROCEDURES |  |

|                                      |                |  |                     |
|--------------------------------------|----------------|--|---------------------|
| SECTION VII REACTIVITY DATA          |                |  |                     |
| STABILITY                            | UNSTABLE       |  | CONDITIONS TO AVOID |
|                                      | STABLE         |  |                     |
| INCOMPATIBILITY (Materials to avoid) |                |  |                     |
| HAZARDOUS DECOMPOSITION PRODUCTS     |                |  |                     |
| HAZARDOUS<br>POLYMERIZATION          | MAY OCCUR      |  | CONDITIONS TO AVOID |
|                                      | WILL NOT OCCUR |  |                     |

|                                                           |  |
|-----------------------------------------------------------|--|
| SECTION VIII SPECIAL PRECAUTIONS                          |  |
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED |  |
| WASTE DISPOSAL METHOD                                     |  |

|                                                  |                      |                |
|--------------------------------------------------|----------------------|----------------|
| SECTION IX RESPIRATORY PROTECTION (Specify type) |                      |                |
| VENTILATION                                      | LOCAL EXHAUST        | SPECIAL        |
|                                                  | MECHANICAL (General) | OTHER          |
| PROTECTIVE GLOVES                                |                      | EYE PROTECTION |
| OTHER PROTECTIVE EQUIPMENT                       |                      |                |

|                                                 |  |
|-------------------------------------------------|--|
| SECTION X SPECIAL PRECAUTIONS                   |  |
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING |  |
| OTHER PRECAUTIONS                               |  |

Figure 7 (Continued)

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