technical bulletin

NPCA

PAINT & COATINGS ASSOCIATION

1500 Rhode Island Avenue, N.W. Washington, D.C. 20005

ROUTE TO:
Department

Finance		
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NPCA 1-72, THE NEW "ESSENTIALLY SIMILAR" FORM FOR THE MATERIAL SAFETY DATA SHEET

Executive Synopsis

This Bulletin describes the new format for the Material Safety Data Sheet, designated NPCA 1-72, and provides guidance for completing it. At the publication date of this Bulletin, except for shipyards, regulations under THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 DO NOT REQUIRE THE USE OF A MATERIAL SAFETY DATA SHEET. However, the Act is law, and manufacturers are required to comply with presently published regulations. In order to demonstrate compliance, many manufacturers are requesting data and information on hazardous products, and many suppliers are using a Material Safety Data Sheet to provide this information. Therefore, NPCA 1-72 was designed to allow both the supplier and user to more easily communicate this information.

ACTION REQUIRED BY YOU: Forward this bulletin to the person or persons responsible for completing the Material Safety Data Sheet for your products.

ACTION TAKEN BY NPCA: Establishment of the Task Force on the Material Safety Data Sheet which developed NPCA 1-72. The Task Force will continue to develop information to assist NPCA members in properly completing the Material Safety Data Sheet.

OPERATIONS AFFECTED IN YOUR COMPANY: Primarily TECHNICAL SERVICE, however, this bulletin will also be of interest to your PLANT SAFETY OPERATIONS.

STAFF CONTACT AT NPCA: Richard W. Murry, Assistant Technical Director

The new form for the Material Safety Data Sheet (MSDS), designated NPCA 1-72, is approved by the Department of Labor as "Essentially Similar" to the Material Safety Data Sheet LSB-00S-4, now known as OSHA-20. The original Association form for the MSDS, designated NPVLA 6-70, is still an approved and valid form. Instructions for completing NPVLA 6-70 are found in Technical Bulletin No. 36 entitled "The Material Safety Data Sheet". However, we now recommend the use of NPCA 1-72 when an MSDS is needed.

At present, the only required uses of the Material Safety Data Sheet are the following:

1. The safety and health regulations under the Longshoremen's and Harbor Worker's Compensation Act require the use of the MSDS in shipyard operations. These regulations were adopted as safety and health standards under the Occupational Safety and Health Act (OSHA).

2. MIL-STD 1341A and FED-STD 313, which cover the use of the Material Safety Data Sheet for government purchases.

The existing OSHA regulations/standards, except for those relating to shipyards, do not require the use of a Material Safety Data Sheet. The Occupational Safety and Health Act and implementing regulations do however require that the user of paints, coatings, chemicals, etc., secure information which will provide for the safe use of any product (section 5 (a) of OSHA). Since the Material Safety Data Sheet is being used by many people to communicate this type of information, the NPCA Task Force on the MSDS designed NPCA 1-72 to make this reporting easier.

Recent conversations with Department of Labor officials indicate that the final form of a Material Safety Data Sheet, or method for reporting hazardous properties under OSHA, has not been determined. The original target date for the use of a Material Safety Data Sheet under OSHA, July 1972, no longer holds, and no new date has been established. In the meantime, you will be receiving requests from your customers for information. It will be in response to these requests that you will be supplying a Material Safety Data Sheet.

It should be noted also that, since NPCA 1-72 has been approved, it is valid in areas presently requiring the use of a Material Safety Data Sheet. Although the heading indicates the form is for "Coatings, Resins and Related Materials" there is no restriction on the usage. While NPCA 1-72 was designed primarily for products consisting of two or more dissimilar materials, it can be used equally as well for single chemical or material products.

Copies of NPCA 1-72 are available, prepaid, from NPCA Headquarters at a cost of $2.00 per hundred.

Guide for Filling Out NPCA 1-72

Generally, for most paint and coatings products the hazard as defined is going to be presented by the solvent portion, due to flashpoint and TLV. Some water thinned and solvent paints, and other specialized products may contain ingredients that will fall under the other definitions of a hazardous material. For single component materials or a mixture of similar materials, the hazard, if present, should be more easily identified and information entered under the proper heading.

Use N. A. (Not Applicable) under all headings that do not apply to the product.

The references given after the heading are intended to supplement information obtained from the raw material supplier. These references are keyed to the bibliography given in the back of this bulletin.

SECTION I

DATE OF PREPARATION: Enter the date that the sheet was prepared. This will allow both the supplier and user to assure that the latest information is being used.

MANUFACTURER'S NAME AND ADDRESS: Self-explanatory. Give the source, if other than the manufacturer, (e.g., warehouse, sales office, etc.).

EMERGENCY TELEPHONE NUMBER: To obtain further information in the event of an emergency. Your plant or office number is sufficient, but a 24-hour number is preferred. Include the Area Code.

PRODUCT CLASS: Give the general or generic identification for the product. For Paints and Coatings this would include the resin or binder generic name and product type or use.

Some examples are:

Alkyd Resin Semi-Gloss Enamel	Latex Masonry Paint
Alkyd Resin Metal Primer	Polysulfide Sealing Compound
Urea-Melamine Baking Enamel	Linseed Oil Putty
Latex Interior Flat Paint	Asphalt Roofing Compound

For Paint and Coating raw materials identify according to use in a product and generic type:

Additive-Drier	Solvent-Mixed (for proprietary mixtures)
Additive-Flow Control	Pigment-Organic
	or
Solvent-Aromatic Hydrocarbon	Pigment-Hansa Yellow

Alkyd Resin	Pigment-Inorganic or Pigment-Iron Oxide
Epoxy Resin	

For a single chemical compound identify as:

Pigment-Titanium Dioxide or Titanium Dioxide	Methyl Ethyl Ketone or Solvent-Methyl Ethyl Ketone

MANUFACTURER'S CODE IDENTIFICATION: Enter the code number or designation used for "in-house" identification. This would be your formulation number or other code numbers used in the manufacturing procedure, but not included in the Trade Name.

TRADE NAME: Enter the product marketing or brand name, such as "Staz-Brite White Enamel." If the product is marketed using only the designation given under Manufacturer's Code Identification, enter N. A.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT: If any of the raw materials used in the paint meet the following definition of a Hazardous Material AFTER having been incorporated into the paint system it should be entered here.

The following is the definition of a Hazardous Material as defined in the shipyard regulations promulgated under the Longshoremen's and Harbor Workers' Compensation Act:

> ".....the term hazardous material means a material which has one or more of the following characteristics:
>
> 1. has a flash point below 140°F., closed cup, or is subject to spontaneous heating.
>
> 2. has a threshold limit value below 500 ppm in the case of a gas or vapor, below 15 Mg/M^3 for fumes, and below 25 mppcf in case of a dust.
>
> 3. has a single dose oral LD_{50} below 500/mg/kg.
>
> 4. is subject to polymerization with the release of large amount of energy.
>
> 5. is a strong oxidizing or reducing agent.
>
> 6. causes first degree burns to skin in short time exposure, or is systematically toxic by skin contact.
>
> 7. in the course of normal operations, may produce dusts, gases, fumes, vapors, mists, or smokes which have one or more of the above characteristics."

You should determine if the raw material retains its Hazardous Property in the finished product, for example:

A pigment may have a Threshold Limit Value (TLV) defining it as a Hazardous Material due to the hazard presented as a dust. However, when it is wet down in a paint system it loses that hazardous property. If it can be reasonably assumed that the material will not regain this hazard in normal operations such as spraying, and it has no other defined hazardous properties, then the ingredient need not be listed. If doubt exists,listing the ingredient is recommended.

While LD_{50} is a criteria for a hazardous material, many materials possessing LD_{50} defined as hazardous also have other properties making them hazardous (TLV or Flash Point) and these would be listed. However, if LD_{50} is the only hazardous property, make note of the LD_{50} value following the listing under the ingredient heading. Give the percent. Also, list the LEL and Vapor Pressure, if applicable, and enter NA under TLV.

References for LD_{50} information are:

2, 15, 20

PERCENT: List the percent of the hazardous ingredient according to the following:

5 to 100% - List to the nearest 5%

0.5 to 5% - enter the notation "less than 5%"

0 to 0.5% - enter the notation "less than 0.5"

Weight or Volume percent may be used, enter under the heading which is used.

For a Generic approach for completing the Material Safety Data Sheet when it is used solely to communicate information for OSHA compliance, see Appendix A.

TLV; ppm, mg/M^3: Enter the threshold limit value for each hazardous ingredient, in either ppm - parts per million, or mg/M^3-- milligrams per cubic meter.

TLV's are found in:

3, 6, 7, 10

LEL: Enter the Lower Explosive Limit of the hazardous ingredient, where applicable.

Lower Explosive Limits are given in:

4b, 5, 6, 10

VAPOR PRESSURE: Enter the pressure of a saturated vapor of the solvent or mixture at 20°C. Express the figure in mm of Hg.

References for Vapor Pressure are:

5, 21

SECTION III - PHYSICAL DATA

The first three headings under Section II; BOILING RANGE, EVAPORATION RATE and VAPOR DENSITY should be reported on the solvent portion. PERCENT VOLATILE BY VOLUME, and WEIGHT PER GALLON should be reported on the total product.

References for the solvent information to supplement that from the raw material supplier are:

3, 4b, 5, 6, 11

BOILING RANGE: The range, given in degrees F at which the solvent portion could be expected to boil at 760 mm Hg. For mixed solvent systems an approximation may be made using the single lowest and single highest boiling point of the solvents present. In many cases this approximation will not be technically accurate, but under OSHA regulations (storage of flammable liquids) it is only important to know whether the "boiling point" of the mixture is above or below 100°F.

EVAPORATION RATE: Check the appropriate box to indicate whether the evaporation rate can be considered faster or slower than ether. For most coating products the rate will be slower than ether.

VAPOR DENSITY: Check the appropriate box to indicate whether the Vapor Density of the solvent system will be heavier or lighter than air. For most solvents used in paint and related products this density will be heavier than air, an obvious exception being water.

PERCENT VOLATILE BY VOLUME: The percent of the paint, by volume, that will evaporate at 70°F. One method of calculation is: for a given batch size, in gallons, compute the total volatile in gallons from the solvent, the volatile portion of the resin or emulsion, and any additive that will evaporate from the paint film. Divide this figure by the total gallonage of the batch to obtain the percent volatile by volume.

$$\frac{\text{Total Volatile (gallons)}}{\text{Total Paint (gallons)}} = \text{\% Volatile by Volume}$$

WEIGHT PER GALLON: Enter the weight per gallon of the product, in pounds, at 77°F (25°C).

NOTE: Appendix B contains some sample statements for Sectionv IV, V, VII, VIII and IX. These can be of assistance in completing these sections.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY: The Department of Transportation category should be entered here according to the following breakdown:

Tag Open Cup	Enter
Less than 20°F	Red Label,Extremely Flammable - less than 20°F.
20 - 80°F	Red Label,Flammable - less than 80°F
80°F and over	Not Regulated *Combustible - greater than 80°F

FLASH POINT: The temperature, in degrees F. at which a liquid will give off enough vapor to ignite if an ignition source is present. While the closed cup value is preferred, in the absence of closed cup values open cup may be used. Indicate the method used. The figure may be given on the lowest flashing component and so noted. It should be mentioned here that caution should be used in reporting the lowest flashing component, as it may cause your customer to take unnecessary storage precautions. In addition to the solvent supplier, references are:

3 4a, 4b, 5, 6, 11

LEL: Use this heading to highlight the most representative lower explosive limit from Section II, or make reference to Section II.

EXTINGUISHING MEDIA: List the type of fire fighting media to be used on the burning product. For a listing of suitable materials to use on burning liquids, specific recommendations and limitations, see:

4b, 4c

For water-thinned or non-flammable products, enter N. A.

* Although combustible is not presently a DOT category, it should be entered for MSDS purposes.

UNUSUAL FIRE AND EXPLOSION HAZARDS: In closed containers containing liquid, mention the possibility of pressure build-up due to heat exposure. Note that water may be used to cool the container. If solvent-based or flammable, caution against application to hot surfaces, and use in areas where electric sparks may be present or where static may be generated. A specific fire hazard, not covered by other sections of the sheet, should be explained here. For information on hazards of some raw materials, see:

4c

SPECIAL FIREFIGHTING PROCEDURES: If water is unsuitable on the burning liquid, note the fact. Recommend protective appartus or clothing needed to protect firefighters for any toxic combustion products. References for this information are:

4b, 4c, 12

For water-thinned or non-flammable products, enter N. A.

SECTION V - HEALTH HAZARDS

In completing this section, you should refer to information on raw materials which retain hazardous or toxic properties in the paint system. This would include both the effects of over-exposure and first aid treatment. Data should be available from the raw material supplier.

THRESHOLD LIMIT VALUE: Refers to data for a single element or compound only. Enter N. A., or make reference to Section II for a multi-component system or mixture. A single component, such as a compound, may be highlighted in this section by giving its TLV.

EFFECT OF OVEREXPOSURE: Appropriate information on the effects of inhalation, and skin or eye exposure should be entered here. The information should be in the form of simple symptomatic statements such as "pale and nauseous, dizzy feeling, weak, irritation, etc.". To supplement the information obtained from the supplier, some health hazards of generic hazardous materials may be found in:

3, 4c, 6, 15

EMERGENCY FIRST AID PROCEDURES: Only the areas of inhalation and eye and skin contact should be considered here. The first aid information given is only of an emergency nature. First aid statements should be given in the same order as the statements on overexposure. They should be simple and direct, such as "remove to fresh air, lay patient down, cover with blanket, flush eyes with clean water for 15 minutes, flush skin areas with large amounts of water, remove saturated clothing, etc.". Include the statement, "consult or take to a physician". First aid information to supplement that obtained from the raw material supplier is found in:

3, 15

SECTION VI - REACTIVITY DATA

STABILITY: Indicate by a check or "X" whether the product can be considered stable or unstable under foreseeable conditions of use, storage, or misuse such as dropping or sudden shock. If unstable, list the conditions under which it would be considered unstable.

INCOMPATIBILITY: List any materials or contaminants the product could reasonable come in contact with to produce a reaction with the release of large amounts of energy. An example of this is a strong oxidizing agent such as MEK Peroxide for monomer thinner Unsaturated Polyesters. The references for this are:

4d, 16

If no materials are known, enter "NONE" or "UNKNOWN".

HAZARDOUS DECOMPOSITION PRODUCTS: List all predictable hazardous decomposition products generated by fire, oxidation, burning and welding. This information can be used in determining respiratory protection required under Section IV and Section IX.

HAZARDOUS POLYMERIZATION: Indicate by a check or "X" whether hazardous polymerization can occur with a large release of energy. List the storage conditions that could cause hazardous polymerization, if not covered under "Stability" or "Incompatibility". For products containing an inhibitor, indicate the time period for which it can be considered effective.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE THE MATERIAL IS RELEASED OR SPILLED: Indicate all reasonable precautions to be taken in the event of spillage of the product. List suitable material and equipment to be used in cleaning up and precautions to be taken in the event of spillage of the product, such as removal of sparks, flames, and hot surfaces if the material is flammable. Other considerations would be use of non-sparking tools, adequate ventilation, avoiding the breathing of vapors, and use of respiratory protective devices. Reference may be made here to use of protective measures outlined in Section VIII. Precautions for handling spills of certain generic hazardous chemicals, some of which would be raw materials for paint are found in:

4c

WASTE DISPOSAL METHOD: Outline the method to be used in disposing of the material, the usual methods being either sanitary landfill or incineration. Caution against incinerating closed containers. Make note to guard against conditions that would cause spontaneous ignition. Specify that disposal be done in accordance with local, state, and federal regulations.

RESPIRATORY PROTECTION: Recommend that for confined areas a Bureau of Mines approved respiratory device be used. If you wish to assist your customer by suggesting references, they are:

3, 12

VENTILATION: Enter here that adequate ventilation in volume and pattern should be provided to keep the vapor concentration below the LEL and to keep the TLV's listed in Section II below acceptable limits. Indicate that general dilution type ventilation should be used. Note that heavy solvent vapors should be removed from the lower levels of the work spaces, and that in spaces laden with flammable air mixtures all ignition sources, such as non-explosion-proof motors, should be eliminated.

To assist your customer in determining ventilation requirements for his particular installation, you may refer him to the following:

3, 6

PROTECTIVE GLOVES: If the material is hazardous, either systemically or by causing skin irritation, specify that protective gloves should be worn if contact is likely.

EYE PROTECTION: Recommend the use of safety eyewear to guard against eye irritation or damage from spray and liquid splashes if this is a hazard.

OTHER PROTECTIVE EQUIPMENT: Recommend the use of protective outerwear such as coveralls or aprons to protect against clothing contamination and skin contact where contact may cause systemic poisoning or skin irritation.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Mention any flammability of the product and avoidance of storage in high temperature areas. Also note avoidance of fire or open flame. If water-based, keep the material from freezing. Refer to other Sections that would be of concern here, such as the storage life of products containing inhibitors. Reference may be made to storage information in Section VI. Storage information for hazardous materials, some of which would be used as paint raw materials, is found in:

3, 4c

OTHER PRECAUTIONS: Indicate any general precautions usually given with the product such as "Do not take internally, avoid prolonged contact with skin, etc". If solvent-based, recommend grounding of containers when pouring and warn that the free fall of the liquid should not be over a few inches to avoid generation of static charges which may produce sparks. Include personal protective equipment for protection against decomposition products listed in Section VI. Information on protection against dust or particles from sanding, blasting, or abrading of the dry coating may also be entered here. Precautions as given on the label may also be listed here.

Use of the Material Safety Data Sheet for Non-Hazardous Products

If your product does not meet any of the current definitions of a Hazardous Material, and your customer requests a written statement to that effect, the Material Safety Data Sheet may be used to convey that information.

Fill out the following headings under Section I:

MANUFACTURER'S NAME

STREET ADDRESS

CITY, STATE, AND ZIP CODE

EMERGENCY TELEPHONE NUMBER

PRODUCT CLASS, MANUFACTURER'S CODE IDENTIFICATION

TRADE NAME

Under Section II - HAZARDOUS INGREDIENTS, use the heading Ingredient enter a statement that the product is not a Hazardous Material under current Department of Labor definitions. If you wish, a line may be drawn through the heading to avoid confusion.

DO NOT fill out any other sections of the sheet.

INFORMATION SOURCES FOR THE MATERIAL SAFETY DATA SHEET

The following are considered prime references for completing the information required on the Material Safety Data Sheet:

1. ANSI Z87.1-1968, Practice for Occupational and Educational Eye and Fire Protection

   American National Standards Institute
   1430 Broadway
   New York, New York 10018 $ 4.50

2. Annual List of Toxic Substances - 1971

   Superintendent of Documents
   U. S. Government Printing Office
   Washington, D. C. 20402 $ 3.50

3. Dangerous Properties of Industrial Materials by N. Irving Sax

   Reinhold Publishing Corporation
   450 West 33rd Street
   New York, New York 10001 $ 27.50

4. Fire Protection Guide on Hazardous Materials

   National Fire Protection Association, International
   60 Batterymarch Street
   Boston, Massachusetts 02110 $ 5.50

   This contains the following 5 texts which are available separately:

   a) No. 325A Flash Point Index of Trade Name Liquids $ 2.50

   b) No. 325M Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids $ 3.00

   c) No. 49 Hazardous Chemical Data $ 2.50

   d) No. 491M Manual of Hazardous Chemical Reactions $ 2.50

   e) No. 704M Recommended Systems for the Identification of the Fire Hazards of Materials $ 0.75

5 Handbook of Chemistry and Physics

Chemical Rubber Company
18901 Cranwood Parkway
Cleveland, Ohio 44128 $ 24.95

6. Handbook of Organic Industrial Solvents (Technical Guide #6)

American Mutual Insurance Alliance
20 North Wacker Drive
Chicago, Illinois 60606 $ 0.30

7. Latest List of Threshold Limit Values for Airbourne Contaminants

American Conference of Governmental Industrial Hygienists
1014 Broadway
Cincinnati, Ohio 45202 $ 0.50

8. Material Safety Data Sheet Instruction Booklet

U. S. Department of Labor
Bureau of Labor Standards
Washington, D. C. 20210 No charge
(Also available from Department of Labor regional offices.)

9. MIL-STD-1341A, Symbols for Packages and Containers for Hazardous Industrial Chemicals and Materials

Naval Supply Depot
5801 Tabor Avenue
Philadelphia, Pennsylvania 19120 No charge on a single copy.

10. Occupational Safety and Health Standards
Federal Register, Saturday, May 29, 1971
Volume 36, Number 105, Part II

Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20402 $ 0.20

11. Raw Materials Index
Solvent Section

National Paint & Coatings Association, Inc.
1500 Rhode Island Avenue, N. W.
Washington, D. C. 20005 $ 5.00 per Subscription (members)
$10.00 per Subscription (non-members not eligible for membership)

12. Respiratory Protective Devices Approved by the Bureau of Mines IC 8436

Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20402 $ 0.40

13. U. S. Department of Army Pamphlet 385-3, Protective Clothing and Equipment - August 1968

U. S. Army Publication Agency
Nassif Building, Room 524
5611 Columbia Pike
Washington, D. C. 20315 No charge on a single copy.

14. THE SUPPLIERS OF THE RAW MATERIALS USED IN THE FINISHED PRODUCT

The following reference contains information which is considered very helpful in completing the Material Safety Data Sheet; however, since a large portion of the book is devoted to commercial finished products we are not listing it as a prime reference.

15. Clinical Toxicology of Commercial Products

The Williams and Wilkins Company
428 E. Preston Street
Baltimore, Maryland 21202 $ 24.50

The following, although not considered prime sources of information, contain data useful in specific instances to complete the Material Safety Data Sheet:

16. Chemical Safety Data Sheets - $ 0.50 per set (95 sheets)

Manufacturing Chemists Association
1825 Connecticut Avenue, N. W.
Washington, D. C. 20009 $ 47.50

17. Chemical Safety References, Data Sheet 486, Revised $ 0.50

Chemical Safety Slide Rule, Stock #129.91 $ 3.00

National Safety News
425 N. Michigan Avenue
Chicago, Illinois 60611

18. Condensed Chemical Dictionary by Arthur and Elizabeth Rose

Reinhold Publishing Corporation
450 West 33rd Street
New York, New York 10001 $ 22.50

19. Handbook of Laboratory Safety by Norman V. Steere

Chemical Rubber Company
18901 Cranwood Parkway
Cleveland, Ohio 44128 $ 22.50

20. The Merck Index

Merck and Company, Inc.
126 E. Lincoln Avenue
Rahway, New Jersey 07065 $ 15.00

21. Perry's Chemical Engineers Handbook

McGraw-Hill Book Company
Distribution Center
Princeton Road
Hightstown, New Jersey 08520 $ 29.50

22. Trademark Directory 1969-70

National Paint & Coatings Association, Inc.
1500 Rhode Island Avenue, N. W.
Washington, D. C. 20005 $9.00 (Non-members $17.00)

APPENDIX A

GENERIC APPROACH FOR THE MATERIAL SAFETY DATA SHEET

The following is a method for grouping products by generic properties and completing a single Material Safety Data Sheet for the group. This should be used only when supplying information for OSHA compliance. Current instructions for other uses of the Data Sheet where it is required by the Longshoremen's Act and the Government Standards do not presently allow this flexibility.

To determine if this method can be used on a group of products, the following criteria must be met:

1. With the exception of Percent Volatile by Volume and Weight per Gallon in Section III, the information and instructions entered in Sections III through IX should be the same.

2. The Product Class Identification for all products should be the same.

3. The Hazardous Ingredients listed in Section II are to be the same for all products. A $\pm$ 5% tolerance may be used.

To complete a Material Safety Data Sheet using this approach, the following special instructions should be used.

SECTION II - HAZARDOUS INGREDIENTS

PERCENT: List the percent of hazardous ingredient according to the following:

5 to 100% - report the range of the ingredient present in the product group using a + 5% tolerance. Two methods may be used according to the following examples:

a) 27+ 5%
b) 22 $\pm$ 32%

0.5 to 5% - enter the notation less than 5%

0 to 0.5% - enter the notation less than 0.5%

On most products a larger range can be gained by reporting volume rather than weight percent

SECTION III - PHYSICAL DATA

PERCENT VOLATILE BY VOLUME: List the range of values to cover the products in the group. As long as the criteria given above are met there is no restriction on this range.

WEIGHT PER GALLON: List the range of values to cover the products in the group. As with PERCENT VOLATILE BY VOLUME as long as the criteria are met there is no restriction on the range.

Complete all other sections and headings according to the general instructions.

APPENDIX B

SAMPLE STATEMENTS TO USE ON THE MATERIAL SAFETY DATA SHEET

The following are some sample statements for the Material Safety Data Sheet.

These statements are issued as a guide and caution is advised if they are used, to assure that all hazards presented by the product are covered.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media -

(For flammable liquids - non water soluble)

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or foam) designed to extinguish NFPA _____ liquid fires.

(For flammable liquids - water soluble)

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or alcohol foam) designed to extinguish NFPA _____ liquid fires.

The blank should be filled in with "Combustible" or "Class _____ flammable" according to the following NFPA classifications:

FLAMMABLE LIQUIDS
Flammable liquids shall mean any liquid having a flash point below 140°F and a vapor pressure not exceeding 40 psia at 100°F. Flammable liquids shall be divided into two classes of liquids as follows:

Class I liquids shall include those having flash points below 100°F (37.8°C) and may be subdivided as follows:

Class IA shall include those having flash points below 100°F (22.8°C) and having a boiling point below 100°F (37.8°C).

Class IB shall include those having flash points below 73°F (22.8°C) and having a boiling point at or above 100°F (37.8°C).

Class IC shall include those having flash points at or above 73°F (22.8°C) and below 100°F (37.8°C).

Class II liquids shall include those having flash points at or above 100°F (37.8°C) and below 140°F (60°C).

COMBUSTIBLE LIQUIDS
Liquids wi th a flash point at or above 140°F (60°C) are referred to as combustible liquids. When a combustible liquid is heated to or above its flash point, it may have some of the hazards of a flammable liquid.

Special Fire Fighting Procedures -

Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable.

Unusual Fire and Explosion Hazards -

(For solvent containing coatings)

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Do not apply to hot surfaces.

(For water base or latex paints)

Closed containers may explode (due to the build-up of steam pressure) when exposed to extreme heat.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value -

See SECTION II.

Effects of Overexposure -

(paint with irritant solvent or vehicle)

Inhalation: Anesthetic. Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.
Skin or Eye Contact: primary irritation.

(paint with sensitizer solvent or vehicle)

Inhalation: Anesthetic. Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.
Skin or Eye Contact: Sensitizer.

(paint with irritant solvent or vehicle and containing lead)

Inhalation: Anesthetic. Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma. Lead poisoning is characterized by metallic taste in mouth, loss of appetite, indigestion, nausea, vomiting, constipation, abdominal cramps, disturbance of rest, sleep and weakness.
Skin or Eye Contact: Primary irritation.

(latex paint)

Inhalation: Never experienced.
Skin Contact: Possible primary irritation.
(material is slightly alkaline)
Eye Contact: Primary irritation.

Emergency and First Aid Procedures -

(for solvent containing coatings)

Fumes: Remove from exposure. Restore breathing. Keep warm and quiet. Notify a physician.
Splash (eyes): Flush immediately with copious quantities of running water for at least 15 minutes. Take to a physician for definitive medical treatment.
Splash (skin): Wash affected areas with water. Remove contaminated clothing. Consult a physician.

(for water base or latex paint)

Inhalation: Never experienced.
Splash (eyes): Flush immediately with copious quantities of running water for at least 15 minutes. Take to a physician for definitive medical treatment.
Splash (skin): Remove with soap and water. Remove contaminated clothing.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released Or Spilled -

(for flammable liquids)

Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks.) Avoid breathing vapors. Ventilate area. Remove with inert absorbent and non-sparking tools.

(for water base or latex paints)

Return material to container.

Waste Disposal Method -

Dispose in accordance with local, state, and federal regulations. Incinerate in approved facility. Do not incinerate closed containers.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection -

In outdoor or open areas use Bureau of Mines approved mechanical filter respirator to remove solid air borne particles of overspray during spray application. In restricted ventilation areas use Bureau of Mines approved chemical-mechanical filters designed to remove a combination of particulate and gas and vapor. In confined areas use Bureau of Mines approved air line type respirators or hoods.

Ventilation -

Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of most hazardous ingredient in SECTION II below acceptable limit, LEL in SECTION IV below stated limit, and to remove decomposition products during welding or flame cutting on surfaces coated with this product.

Protective Gloves -

Required for prolonged or repeated contact.

Eye Protection -

Use safety eyewear designed to protect against splash of liquids.

Other Protective Equipment -

Prevent prolonged skin contact to contaminated clothing.

SECTION IX - SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling And Storage -

Do not store above 120°F. Store large quantities in buildings designed and protected for storage of NFPA Class _____ flammable (or combustible) liquids.

Other Precautions -

Do not take internally. Containers should be grounded when pouring. Avoid free fall of liquid in excess of a few inches. Do not flame cut, braze, or weld without U.S. Bureau of Mines approved respirator or appropriate ventilation. Add label warning.

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☐ STABLE CONDITIONS TO AVOID

INCOMPATABILITY (*Materials to avoid*)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☐ WILL NOT OCCUR

CONDITIONS TO AVOID

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

WASTE DISPOSAL METHOD

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

VENTILATION

PROTECTIVE GLOVES

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

OTHER PRECAUTIONS

MATERIAL SAFETY DATA SHEET

NPCA 1-72

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor "Essentially Similar" to Form OSHA-20)

DATE OF PREP.

Section I

MANUFACTURER'S NAME

STREET ADDRESS *CITY, STATE, AND ZIP CODE*

EMERGENCY TELEPHONE NO.

PRODUCT CLASS MANUFACTURERS CODE IDENTIFICATION

TRADE NAME

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	LEL	VAPOR PRESSURE

Section III — PHYSICAL DATA

BOILING RANGE VAPOR DENSITY ☐ HEAVIER ☐ LIGHTER THAN AIR

EVAPORATION RATE ☐ FASTER ☐ SLOWER THAN ETHER PERCENT VOLATILE BY VOLUME WEIGHT PER GALLON

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY FLASH POINT LEL

EXTINGUISHING MEDIA

UNUSUAL FIRE AND EXPLOSION HAZARDS

SPECIAL FIRE FIGHTING PROCEDURES

GLD001703