

45. Hazardous Polymerization - You will usually see the word “none” at this time. We do not sell any materials that polymerize. In polymerization, a single chemical condenses into multiples of itself; an example is polyvinyl chloride polymer.

SECTION XI. Toxicological Information

- 46. Toxicological Information on the product** - We do not usually have toxicological data on the product; toxicity data is usually stated for individual components contained in the product.
- 47. Toxicity Test Data** - Toxicity data for a given substance may be presented here. It will be expressed as an LD50, which is the amount of substance that upon ingestion will kill 50% of the test animals.

SECTION XII. Ecological Information

- 48. Ecotoxicity Data** - Ecological toxicity information for the product based on its components toxicity to aquatic species of fish, invertebrates and plants.
- 49. Ecotoxicity Test Data** - Toxicity data for a given substance expressed as LC50, which is the amount of substance that upon ingestion through water in an aquatic species will kill 50% of the test species.
- 50. Environmental Fate** - General determination of what will happen to the product if it is released into the environment. It will be stated if it may or may not be degraded by various natural processes. It will also usually be noted whether the product will bioaccumulate in aquatic species.

Prepared by JohnsonDiversey as a service to our customers.
For further information please contact

JohnsonDiversey
Food Group
800 233 1000
DuBois Group
800 438 2647

SECTION XIII. Disposal Consideration

- 51. RCRA Regulated** - This tells you if the product is Resource Conservation Recovery Act (RCRA) regulated, if the product is determined to be a waste product.
- 52. Waste Disposal Considerations** - Tells what specific disposal methods are recommended for both the product and the container.

SECTION XIV. Transport Information

- 53. DOT Transportation Information** - This section will state the proper Department of Transportation (DOT) shipping information for the product, including necessary emergency response guide information.

SECTION XV. Regulatory Information

- 54. TSCA Information** - All raw materials used in the product are on the Toxic Substances Control Act (TSCA) inventory.
- 55. HAPS Information** - This area will state whether any of the materials in the product are on the Section 112 - National Emission Standards for Hazardous Air Pollutants.
- 56. VOC Content** - This will state the percentage of Volatile Organic Compounds (VOC) in the product as determined using EPA definition of VOC's (40 CFR Parts).
- 57. SARA Section 313 Toxic Chemicals** - SARA stands for “Superfund Amendments and Reauthorization Act of 1986.” It may also be known as the “Emergency Planning and Community ‘Right to Know’ Act of 1986”. This section pertains only to those customers who are manufacturers (SIC Codes 20 through 39) and have 10 or more full-time employees. Manufacturers who use a Section 313 listed chemical may be required to report its use. Only Section 313 chemicals appear in this area. You may have other reporting requirements under this law. If you are unsure about your obligations, you may wish to call the EPA SARA Hotline at 1-800-535-0202.

- 58. SARA Section 311/312** - This area will report on certain aspects, both as health hazards and physical hazards as required under the Superfund Amendment and Reauthorization Act (SARA) Section 311/312 requirements. This includes: acute, chronic, fire, reactivity, and sudden release of pressure.
- 59. Listed Carcinogen** - Three agencies that list carcinogenic chemicals are the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) and the Occupational Safety and Health Administration (OSHA). Any carcinogens present at a greater than 0.1% concentration in the product that are listed by these organizations must be reported here. Most of our Material Safety Data Sheets report “none” in this section.
- 60. HMIS Ratings** - Many of our customers have adopted the Hazardous Materials Identification System (HMIS) in their company's hazard communication program. This information is provided as a service for those customers. The system employs a numbering system (0 through 4, with higher numbers representing increasing hazard) for the health, flammability, and reactivity sections. A letter (A through X) represents the suggested protective equipment. Only those customers whose employees are trained in this system should use this section.
- 61. NFPA Ratings** - This system is adopted from the National Fire Protection Association (NFPA). This system is similar to the HMIS system. It uses the same 0 to 4 rating system with slightly different parameters for the ratings. Instead of a personal protection rating, the additional section lists special hazards that are associated with fire fighting activities.
- 62. State Right to Know Information** - Some states’ “Right to Know” Laws require slightly different information than the Federal government. Any information of this type will be presented in this section.
- 63. California Proposition 65** - Any ingredients that are on the California Proposition 65 list will be listed here.

SECTION XVI. Other Information

- 64. Other Information** - This section contains the Company disclaimer and any other information that may be put into the MSDS and not covered by any other section.



MSDS Reference Guide

Definition and explanation of terms and information as included on the Material Safety Data Sheet



- MSDS ID:** This 5 or 8 digit code identifies the Material Safety Data Sheet (MSDS) for a particular product.
- Revised** - Date of latest version of the MSDS.
- Replaces** - Prior version of MSDS.
- Printed** - Date MSDS was printed.

SECTION I. Chemical Product and Company Identification

- Product Name** - Name of the product.
- Product Descriptor** - Short general description of the product.
- Manufacturer** - Manufacturer's name and address.
- Emergency Phone Numbers** - Medical, Transportation, and Company emergency phone numbers. Company phone number is manned 24 hours a day.

SECTION II. Hazardous Components
(Only items listed are hazardous by title 29 CFR 1910.1200)

Title 29CFR 1910.1200 - This refers to the Federal Hazard Communications Standard, also known and referred to as: Haz Com, HCA and “Right To Know” law.

- Principal Hazardous Component(s)** - Any component of the product which is found in the four reference lists of hazardous materials of the 29CFR 1910.1200 law must be reported here. Also components listed in the American Conference of Governmental Industrial Hygienists (ACGIH) book of Threshold Limit Values (TLV's) will also be listed.
- CAS Number** - Identifies a particular chemical by the Chemical Abstract Service, a service of the American Chemical Society that indexes and compiles abstracts of worldwide chemical literature called Chemical Abstracts.
- Approximate %** - Refers to the percentage of hazardous chemical(s) in the product.
- Exposure Limits** (TWA 8 Hr. unless otherwise specified) - The TLV is a safe airborne concentration limit value for environmental exposure established by ACGIH. It is usually listed for a given substance as a Time Weighted Average (TWA) for an 8-hour period daily but it may also be shown as a Ceiling value (in which case the value will be preceded by a “C”). This is the maximum exposure concentration that should not be exceeded even instantaneously.

Another concentration limit that may be shown is the Short Term Exposure Limit (STEL). This is an exposure based on a 15 minute exposure and should not be exceeded.

- Units** - Values are expressed in units of milligrams per cubic meter (mg/m3) or parts per million parts of air (ppm).

SECTION III. Hazards Identification

- Emergency Overview** - Short general overview of potential acute health effects and possible environmental damage that may be caused by the product.
- Possible Routes of Entry** - Indicates the type(s) of contact which may pose a health hazard by allowing the substance(s) to enter the body via inhalation, skin contact, and/or ingestion.
- Signs and Symptoms of Overexposure (Acute & Chronic)** - This reports the most common sensations experienced with overexposure - that is, how the person will look and feel. It could include relevant signs, symptoms, and diseases that could occur from acute and chronic exposure to the hazardous agent. Example: May irritate eyes. Acute refers to short-term exposure; chronic refers to long-term exposure.
- Medical Conditions Generally Aggravated by Exposure** - Lung conditions such as asthma or conditions such as dermatitis are two examples of conditions that could be aggravated by exposure.

- Target Organ(s) of Chemical Hazard(s)** - Organs of the body that may be affected by acute or chronic overexposure to the product.

SECTION IV. First Aid Measures

- First Aid Measures for Each Route** - This is first aid treatment that could be provided by para-medical personnel or individuals trained in first aid.

SECTION V. Fire Fighting Measures

- Flash Point** - Refers to the temperature at which a liquid will give off enough flammable vapor to ignite.
- LEL** - Refers to the lower range of gas or vapor concentrations (percent by volume in air) which will burn or explode if an ignition source is present.
- UEL** - Refers to the upper range of gas or vapor concentrations (percent by volume in air) which will burn or explode if an ignition source is present.
- Autoignition Temperature** - The temperatures at which materials will burn without an outside source of ignition. We will usually report this as not applicable (N/A) or not determined (ND).
- Unusual Fire or Explosive Hazards** - This reports any such hazards and/or any special conditions that may occur in conditions of high heat or fire. Aerosols, for example, will explode in the presence of high heat. Certain products will decompose at high heat or react with metal.

- Extinguishing Media** - The fire fighting agent suitable for use on the burning material is reported here. The agent could be either water, foam, CO₂, or dry chemicals.
- Fire Fighting Instructions** - Standard fire fighting procedures are reported here.
- Special Instructions** - This reports any additional information needed by the fire fighter. For example: Spilled product may cause slippery surface and fall hazard.

SECTION VI. Accidental Release Measures

- If Material is Released or Spilled** - Gives procedures for cleanup and disposal, with emphasis on precautions to be taken to protect workers assigned to the cleanup detail. For example: “Avoid inhalation of gases and vapors or contact with liquids or solids; remove sources of ignition.” Indicate what special equipment is needed for cleanup and how the spilled material is to be disposed of (flush with water, return to container, or burn).
- Reportable Quantity (RQ)** - reports on whether a material has Reportable Quantity (RQ) under the Comprehensive Environmental Response, Compensation Liability Act (CERCLA).

SECTION VII. Handling and Storage

- Handling and Storage Precautions** - Reports any special precautions that are to be taken in handling and storing, and the safe storage temperature of the product.

SECTION VIII. Exposure Controls/Personal Protection

- Personal Protection Equipment and Ventilation Needs** - This section is used to inform end users of the types of personal protective equipment and/or ventilation to be used. The way a product is used will vary significantly, therefore, recommendations in this section will cover the worst case scenario.

SECTION IX. Physical and Chemical Properties

- Appearance and Odor** - The appearance can be describes as viscous, semi-solid, slurry, etc. We report color and distinctive, identifiable chemical odor such as ammoniated, chlorinated solvent, acidic, or a perfumed odor such as wild cherry. If a product has no identifiable odor, we report no odor or mild odor.
- Boiling Point** - The temperature at which the product will boil. This is not applicable (N/A) to a powder or aerosol.
- Freezing Point** - Approximate point that the product freezes.

- Specific Gravity/Bulk Density:** Specific Gravity - Refers to the ratio of a volume of the product to the weight of an equal volume of water. This tells you whether the material is heavier or lighter than water, which as a specific gravity of 1. Bulk Density - Refers to the weight of the product in a specific volume of space, usually expressed as pounds per cubic foot (lb/cu.ft.).
- pH** - Refers to the pH of the product which may range from 1 (very acidic, such as sulfuric or nitric acid) to 14 (very alkali, such as sodium or potassium hydroxide). Neutral pH is 7 (neither acidic or base). Products with a pH of less than 2 or greater than 12.5 are considered corrosive.
- pH 1% Solution** - Refers to a 1% solution of the product.
- Volatile by Volume** - Refers to the percent of the product by volume that will volatilize (pass off in vapor) under standard conditions of temperature and pressure, including water content.
- Solubility in Water** - This is reported as Soluble, Insoluble, Miscible, or Emulsifiable.
- Vapor Pressure (mmHg) at** - This is applicable only to liquids, not powders or aerosols. It refers to the pressure of saturated vapor above the liquid and is reported in mm of Hg (mercury) at a specified temperature.
- Vapor Density** - This is the relative weight of a vapor or gas compared to an equal volume of air. This is reported as heavier or lighter than air.

SECTION X. Stability and Reactivity

- Chemical Stability** - This refers to the stability of the product under reasonable, foreseeable conditions of storage, use or misuse. We usually fill in the word “stable” here.
- Incompatibility with Other Materials** - This reports what common materials and contaminants could reasonably come into contact with the product and produce a reaction which could release large amounts of energy or undesirable products. For example, an acid in contact with one of our chlorine-containing products could release chlorine vapors.
- Hazardous Decomposition Products** - Refers to oxides that are formed when the product is exposed to a decomposition temperature (1500° to 2000° F). The oxides are not contained in the product, but only created at decomposition temperatures. Oxides of carbon, hydrogen, nitrogen, halogens, and/or sulfur.

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MANUFACTURER: 7		
8 EMERGENCY PHONE NUMBERS:		
DUBOIS CHEMICALS MEDICAL (COLLECT): (303) 592-1024		
255 E. 5TH ST. CHEMTREC: (800) 424-9300		
CINCINNATI, OH 45202 DUBOIS (24 Hours) (800) 543-4906		
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NTP: IARD: OSHA: REACTIVITY:		
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62 NFPA RATING: HEALTH: FIRE: REACTIVITY: SPECIAL:		
STATE RIGHT-TO-KNOW INFORMATION:		
63 CALIFORNIA PROPOSITION 65: None of the ingredients are on the California proposition 65 list.		
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