

How to Read and Interpret an "MSDS"

(Based on U.S. Department of Labor, OSHA Form No. 1218.0072)

Production Identification

MSDS Number: A reference number assigned by the manufacturer.

Product Name: The commercial name of the product.

MSDS Date: The date of issuance.

24-Hour Emergency Phone Number: A number where a company representative can be reached at any time for information.

Manufacturer's Name and Address: The name and address of the manufacturer.

CAS Number: Chemical Abstract Service number.

Chemical Name: Lists the specific chemical name(s) of this product.

Synonyms/Common Names: Other names the product could be known by.

Chemical Formula: Actual chemical make-up of the product.

DOT Proper Shipping Name: A name assigned by the Department of Transportation (DOT) to this product and other similar products for storage and transportation purposes.

DOT Hazard Class: The group this chemical falls into determined by its hazardous properties, i.e., "Flammable", "Explosive", etc.

DOT I.D. Number: The identification number used by DOT for the chemical/product.

Hazardous Ingredients and Information

Hazardous Components: This section contains information regarding the Exposure Limits of this product. Exposure limits are the permissible exposure concentrations of the hazardous components of this manufacturer's product.

Physical and Chemical Characteristics

Boiling Point: The temperature at which a liquid changes to a vapor state.

Vapor Pressure: The pressure exerted by a vapor above a liquid in a closed container.

Vapor Density: The weight of a vapor or gas compared to the weight of an equal volume of air.

Solubility in Water: The percentage of the material that will dissolve in H₂O under normal conditions.

Specific Gravity: The weight of a material compared to the weight of an equal volume of H₂O under normal conditions.

Evaporation Rate: The rate at which a chemical will evaporate compared to the evaporation rate of butyl acetate.

Appearance and Odor: The odor, consistency, physical state at room temperature and other physical characteristics described in common terms.

Freezing (Melting) Point: The highest temperature at which a liquid becomes solid or a gas becomes liquid.

% Volatiles by Weight: The percent of a liquid that will evaporate at 70 degrees Fahrenheit.

pH: Expresses the acidity or alkalinity of the product. The pH scale runs from 0 - 14, with 0 being highly acidic and 14 being highly alkaline.

Fire and Explosion Hazard Data

Flashpoint: The minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with an ignition source present.

Auto-ignition Temperature: The lowest temperature at which a gas or vapor-air mixture will ignite without a spark or flame.

Flammable Limits: The range of a gas or vapor concentration in air that is needed for it to ignite and maintain/sustain combustion.

Extinguishing Media: The appropriate agent to use in extinguishing a fire involving this product.

Special Firefighting Procedures: Appropriate equipment and methods to be used in fire situations.

Unusual Fire and Explosion Hazards: Special hazards or conditions that may lead to fire or explosion of this product.

Reactivity Data

Incompatibility: Other chemicals that can cause dangerous or unwanted reactions if mixed with this product.

Hazardous Decomposition or By-products: A description of chemical changes that can occur on exposure to heat, change in temperature, aging, etc., and the hazardous byproducts that could be produced.

Hazardous Polymerization: Where two or more molecules (monomers) come together to form a larger molecule (polymer). Typically, this will result in the release of large amounts of energy.

Health Hazard Data

Health Hazard: The potential health hazards resulting from low, high, short-term and long-term exposure to this product.

Routes of Exposure or Entry

Inhalation: Breathing- in of the substance.

Skin Contact: Exposure by coming in contact with your skin.

Skin Absorption: Exposure by contact with the skin and absorbing the product into your bloodstream.

Eye Contact: Splashing into or otherwise bringing your eyes in contact with the product.

Ingestion: Taking the product by mouth, swallowing.

Effects of Overexposure

Acute: Immediate, severe, physiological effects of overexposure.

Chronic: Long-term physiological effects of overexposure.

Carcinogenicity: The potential of this product to cause cancer; NTP - National Toxicity Program, IARC - International Agency for Research on Cancer

Medical Conditions Aggravated by Exposure: A list of the conditions that can be worsened or changed by exposure to this product such as emphysema, dermatitis, asthma, etc.

Emergency Procedures: Treatment recommendations for immediate use after contact with this material based on routes of exposure and severity of symptoms.

Precautions for Safety Handling and Use

This section provides information needed in case of accidents, spills and leaks of this product. It gives specific procedures to follow for clean-up and protection of the environment.

This section also details the proper disposal and storage procedures for this product.

Single Word: A word used in labeling to warn of the hazardous nature of this product such as "Danger", "Poisonous", "Flammable", etc.

Statement of Hazards: A brief description of the hazardous characteristics of this product.

Precautionary Statements: Comments on Specific cautions to be used when working with or around this product. Specifies dangerous conditions to avoid.

Control Measures

This section provides details for specific ventilation requirements for areas where this product is used or stored.

This section also gives requirements for specific personal protective equipment to be used by all personnel when working with this product. Equipment specifications are based on the hazardous properties of this product and will include recommendations for respiratory protection, eye protection, gloves, protective clothing, and work procedures to ensure safe handling of this product.