

# Material Safety Data Sheets: Road Map To Safety

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In 1988, the Occupational Health and Safety Administration's (OSHA) Hazard Communication Standard took effect. This standard requires any commercially used product containing hazardous ingredients to have a Material Safety Data Sheet (MSDS) upon entering a facility with one or more employees. Businesses must keep current, revised, and obsolete MSDSs on file at the facility for 30 years or as long as the facility remains in business - whichever is shorter.

Anyone who may come in contact with a product can find important safety information in an MSDS. This includes the chemical and common names of all the hazardous ingredients in a product. For any hazardous ingredients, the MSDS describes their physical and chemical characteristics. An MSDS also contains information on the chemicals' fire and explosion hazards, reactivity hazards, health hazards, precautions for safe handling and control measures. The name and telephone number of someone to contact for additional emergency procedure information are also included in an MSDS.

A good MSDS makes compliance easier by listing which environmental programs cover the various ingredients in the product.

## **The Parts of an MSDS**

OSHA requires manufacturers, importers and/or distributors to provide MSDSs. OSHA does not have a required format, but most follow OSHA Form 174.

**Section I** provides basic product information including trade name, synonym, and chemical name. The names on an MSDS are not always the same as how a plant's staff refer to the product. If the product has a different name in the plant, put that name on the MSDS so that your personnel can find the MSDS in an emergency. The manufacturer usually provides a 24-hour emergency telephone number and other contact information in **Section I**.

**Section II** provides the hazardous ingredient information, often in a table. It will include the chemical information and may list the regulatory programs that cover the ingredients. For example, a good MSDS will list if the ingredient is a volatile organic compound or hazardous air pollutant as defined by the Clean Air Act (CAA), or if the ingredient falls under the Superfund Amendments and Reauthorization Act (SARA), Sections 311, 312, and 313.

Suppliers will often list the content of a chemical in a range (5-10%) for proprietary reasons. If you need more specific information to comply with a regulation, call the supplier and ask them for it.

Physical data such as boiling point, vapor pressure, vapor density, solubility in water specific gravity and evaporation rate are found in **Section III**. It will also describe the chemical's appearance and odor.

**Section IV** provides fire and explosion information. It should also list the kinds of fire fighting media appropriate for the burning material, note special fire fighting procedures and describe any special hazards of the material.

Reactivity data appears in **Section V**. This describes a material's stability under various conditions such as storage, use or misuse. It also lists chemicals and compounds that will react negatively with the material, and describes any hazardous products created through heating, burning, or oxidizing.

The health hazard data found in **Section VI** tell how the material can enter the body and detail the material's health hazards from over exposure. This includes effects that will dissipate when moved away from the product and health affects that result from repeated, long-term exposure. This section discusses whether or not a product causes cancer, describes the symptoms of exposure, lists medical conditions aggravated by exposure and lists emergency and first aid procedures.

**Section VII** explains what to do if the material is released or spilled. This section may discuss the waste disposal method for the product. Do not rely on this information alone because it may vary in different states and local jurisdictions. This section also describes handling and storage precautions.

**Section VIII** describes control measures for the material such as what kind of respiratory protection, ventilation, protective equipment and work practices the material requires.

Manufacturers and suppliers do not always provide the information you need in an MSDS. Call and ask them for it. Often they will have a newer MSDS for the product with better information or a better product. To help their customers comply with environmental regulations, many manufacturers have reformulated their products such as inks, adhesives, solvents and paints several times over the past few years. If they do not have a better product or a more complete MSDS, often a competitor will have a similar product with a more complete MSDS.

The EPA cautions that some MSDSs may not include all of the information needed for local emergency response procedures. Many fire departments try to find at least three sources of information before they make an emergency response decision. In addition to MSDSs, they will look for Risk Management Program information and call various sources such as the National Response Center (800/424-8802), EPA Regional Office 24-hour Emergency Numbers (312/353-2318 for Region 5), CHEMTREC (800/424-9300), or the state 24-hour emergency number (in Minnesota 651/649-5451 or 800/422-0798).

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