

## HOW TO USE A MATERIAL SAFETY DATA SHEET

The MSDS for each hazardous chemical in your work area tells you how to use, handle and store the chemical safely. Each MSDS may look a little different, but all give you the same basic information. Below are explanations of the different sections of a general MSDS. If you have any specific questions after reading an MSDS, you should check with your supervisor.

<p><b>SECTION I - CHEMICAL PRODUCT &amp; COMPANY IDENTIFICATION</b></p> <p>This first section of the MSDS helps you identify the chemical. It lists the name of the chemical, any trade names and the chemical manufacturer's name and address. This section may also list an emergency number.</p>	<p><b>SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS</b></p> <p>This section describes the chemical's appearance, odor, and other characteristics. Percent volatile, for instance, is how much of the chemical evaporates at room temperature. Sulfuric acid for example, has a low percent volatile, but it can be harmful if inhaled. Respiratory protection or extra ventilation may be needed.</p>
<p><b>SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS</b></p> <p>This section lists what's in the chemical and what the components by percentage is in the chemical which may potentially cause harm.</p>	<p><b>SECTION X - STABILITY AND REACTIVITY</b></p> <p>Here you'll find whether the chemical "reacts" with material or conditions. Incompatibility lists the materials, such as water or other chemicals, that cause the chemical to burn, explode, or release dangerous gases. Instability lists the environmental conditions, such as heat or direct sunlight that causes a dangerous reaction.</p>
<p><b>SECTION III - HAZARDS IDENTIFICATION</b></p> <p>This section describes the chemicals appearance and odor.</p> <p>This section also lists hazards, how the chemical can enter your system and symptoms of overexposure, such as skin rash, burn, headache, or dizziness. It may also list any medical conditions that can be aggravated by exposure to the chemical, the presence of any carcinogenic compounds and any known long term (chronic) effects of exposure.</p>	<p><b>SECTION XI - TOXICOLOGICAL INFORMATION</b></p> <p>This section lists the concentration of the chemical to which you can safely be exposed, often listed as the permissible exposure limit (PEL) or the threshold limit value (TLV). These safe exposure limits are usually figured for average exposures over a typical work shift. It also lists any information available on oral toxicity (LD50) and toxicity (LC50) under certain situations such as in water or air. Note that not all chemical compounds have this information available.</p>
<p><b>SECTION IV - FIRST AID MEASURES</b></p> <p>This section lists what to do in the event of overexposure, such as flushing exposed skin with water or seeking immediate medical attention.</p>	<p><b>SECTION XII - ECOLOGICAL INFORMATION</b></p> <p>This section provides information on the effects of the chemical to the environment.</p>
<p><b>SECTION V - FIRE FIGHTING MEASURES</b></p> <p>Here you can find at what temperature the chemical ignites, called flashpoint. If a chemical is flammable, it ignites below 100°F. If it's combustible, it ignites at 100°F or above. This section also lists extinguishing media - what will put out the fire safely - such as water spray, foam or other types of fire extinguisher.</p>	<p><b>SECTION XIII - DISPOSAL CONSIDERATIONS</b></p> <p>This section includes notes on how to dispose of the chemical safely and any hazard classifications required for disposal purposes.</p>
<p><b>SECTION VI - ACCIDENTAL RELEASE MEASURES</b></p> <p>This section tells you what to use to clean up an accidental spill or leak. No matter what the chemical is, always notify your supervisor right away. Before cleaning up a chemical spill, you may need to wear respiratory protection, gloves, safety goggles, or protective clothing.</p>	<p><b>SECTION XIV - TRANSPORT INFORMATION</b></p> <p>This section identifies information for shipping the chemical conforming to international shipping regulations.</p>
<p><b>SECTION VII - HANDLING AND STORAGE</b></p> <p>This section describes how to properly store the chemical.</p>	<p><b>SECTION XV - PREPARATION DATA</b></p> <p>Identifies the person who prepared the Material Safety Data Sheet and relevant date and phone number where the preparer can be reached.</p>
<p><b>SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION</b></p> <p>Here you'll find a listing of any personal protective equipment (respiratory protection, gloves, eye protection) you need to work safely with the chemical. If protective equipment is needed, this section may list the specific types that are recommended, such as a full-face mask respirator, rubber gloves and chemical safety goggles.</p>	<p><b>SECTION XVI - REGULATORY INFORMATION</b></p> <p>Identifies any regulations that pertain to the chemical.</p>
	<p><b>SECTION XVII - OTHER INFORMATION</b></p> <p>Other relevant information.</p>

### NFPA SYSTEM

\_\_\_ A. Health Hazard      \_\_\_ A. Fire Hazard      \_\_\_ A. Reactivity Hazard

The NFPA rating system identifies relative hazard of chemicals on a 0 - 4 scale (0 = Non-hazardous, 4 = Extremely hazardous). This system of ratings is identical to the HMIS system.