Workers that handle chemicals or are in a work environment where chemicals are used, have a right to know the dangers of those chemicals. The more workers know about a hazardous material, the better equipped they are to work with that material safely.

- The main source of detailed information about hazardous materials is the **safety data sheet** (SDS).
- Even though it's called Safety Data *Sheet*, keep in mind, the SDS will likely be several pages long.

0003174

OSHA Standard 1910.1200(h)(1) *Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced into their work area.*

All employees should know where to find and have easy access to a list of chemical hazards that may be encountered on the job and the safety data sheet for each one of those substances.

- Companies that use, handle, or store hazardous materials should keep all safety data sheets in a central location for easy reference. **SDSs must be readily accessible to employees.**
- The information presented on a safety data sheet is written in clear, non-technical language with standard phrasing.
- The SDS format is the same as the ANSI standard format which is widely used in the U.S. and is already familiar to many employees.

Because all safety data sheets are written in the same manner, once employees are trained on how to read the document, they should be able to understand any SDS.

Important information that the safety data sheet will communicate:

- What exactly is the material
- What is this material's hazards
- What are the proper handling and storage procedures
- What to do in an emergency involving this material

OSHA Standard 1910.1200(g)(8) *The employer shall maintain in the workplace copies of the required safety data sheets for each hazardous chemical and shall ensure that they are readily accessible during each work shift to employees when they are in their work area(s).*

0003175

Safety data sheets organize hazardous material information into sixteen numbered sections, which always appear in the same order.

- Information that is most important, or will need to be referenced in an emergency, is always placed in the front, in the first six sections.
- Details on safe storage and handling is found in sections 7-10 in the middle of the SDS.
- More specialized, technical information is found toward the end of the SDS in sections 11-16.

SECTIONS OF THE SDS

0003176

SECTION 1 PRODUCT IDENTIFICATION

At the top of the SDS you will find the product name, manufacturer and supplier details, and emergency phone number. Other common names and recommended uses may also be in this section.

SECTION 2 HAZARDS

The next section lists the signal word (danger or warning), hazards, and safety precautions of the substance. Examples: *Causes severe skin burns and eye damage. Wash skin thoroughly after handling.*

SECTION 3 COMPOSITION

Next you will see technical details about a material's composition including information about any other chemicals included in the mixture, including impurities and stabilizing additives.

SECTION 4 FIRST AID MEASURES

The first aid section is organized according to exposure, so you may see guidance on inhalation, skin contact, swallowing, or if someone gets the chemical in their eyes.

SECTION 5 FIREFIGHTING MEASURES

In case of a fire in the area of the chemicals, you can find details here on suitable extinguishing agents, special hazards that may develop as a result of a fire, and advice for firefighters.

SECTION 6 ACCIDENTAL RELEASE MEASURES

This important section outlines how to contain and clean-up a spill, a leak, or a chemical release, including personal protective equipment (PPE) that should be used and environmental precautions.

SECTION 7 HANDLING AND STORAGE

It's important that workers know how to stay safe at work. This section provides safe handling and storage practices that can prevent hazardous material (HazMat) emergencies.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

To keep workers safe, engineering controls and personal protective equipment (PPE) that are required for handling and storage, as well as maximum exposure limits are found in this section.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SECTION 10 STABILITY AND REACTIVITY

SECTION 11 TOXICOLOGICAL INFORMATION

SECTION 12 ECOLOGICAL INFORMATION

SECTION 13 DISPOSAL CONSIDERATIONS

SECTION 14 TRANSPORT INFORMATION

SECTION 15 REGULATORY INFORMATION

SECTION 16 OTHER INFORMATION

0003177

PICTOGRAMS

Health Hazard	Flame	Exclamation Mark
		
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
• Gases Under Pressure	• Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle	**Environment** (Non-Mandatory)	**Skull and Crossbones**
		
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

Image: OSHA Quick Card 3491

Universal pictograms can be found on safety data sheets and are used as a tool to quickly alert workers to the hazards of the chemical.

- There are 9 pictograms that are used to identify hazardous product dangers.
- These pictograms can be seen on container labels and the safety data sheet.
- OSHA requires 8 of these pictograms on hazardous chemical labels. *The Environment pictogram is non-mandatory because environmental hazards are not within OSHA's jurisdiction.*
- Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard or set of hazards.
- Workers should become familiar with these images and the hazards they represent.
- Labels on hazardous chemical containers must remain legible and should not be defaced or removed.

COPYRIGHT AND DISCLAIMER

PHOTO ACKNOWLEDGMENTS

Unless specified below, all photos are the copyrighted property of Weeklysafety.com, LLC and may not be used in any other training materials or resold for any purpose.

- 0003174 – 0003177 Shutterstock License for Weeklysafety.com

For more information on this weekly safety topic, other topics that are available and the full list of FAQs please visit www.weeklysafety.com or email safety@weeklysafety.com.