

## HAZARD COMMUNICATION (HAZ-COM) IS MORE THAN JUST A “MSDS” (part 1)

Let's first address the problem with the title of this article. The U.S. Department of Labor's Occupational Safety and Health Administration "OSHA" is now aligned with the Globally Harmonized System (GHS). In 2003 the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS) was implemented. On June 1, 2015, OSHA adapted GHS, so that Material Safety Data Sheets (MSDS's) were replaced with Safety Data Sheets (SDS) under the Global Harmonization System. There were several other changes that took place with the adaption of GHS, but we'll discuss those in later articles.

If you currently have MSDSs in your Right-to-Know Binders, they are at least 8 years out of date, and do not comply with the current OSHA Regulations. Please note, DO NOT simply discard old or obsolete MSDSs. OSHA has a retention standard

*Employers may discard a material safety data sheet "MSDS" for a chemical, if the new data sheet "SDS" includes the same hazardous chemical information as the original MSDS formulation. If the formulation on the SDS is different, employers must maintain both data sheets for at least 30 years. OSHA standard, 29 CFR 1910.1020.*

Any workplaces where workers are exposed to hazardous chemicals must have a written hazard communication program that describes how the Hazard Communication standard is implemented. When hazard communication is implemented effectively, it has significant benefits for both the employer and the workers.

Employers need the information in order to assess the safety and health aspects of their workplace appropriately, and to select needed control measures for the chemicals that are present.

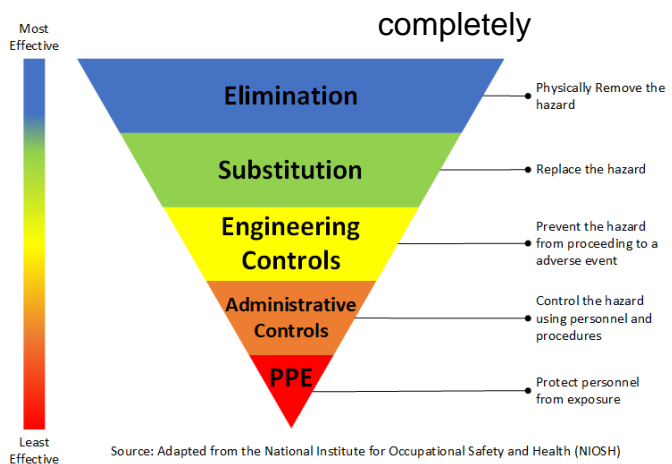
When selecting the correct controls measures, refer to the hierarchy of controls, don't fall into the trap of relying on PPE.

Can the hazardous chemical be Eliminated from your plant?

Can the hazardous chemical be replaced or substituted with a less hazardous chemical?

What Engineering Controls be installed to lessen the severity of exposure. A great example of engineering controls are ventilation, physical guards and protective barriers

Have you implemented Administrative Controls, such as training, warning signs and placards, and/or limited access areas?



The last and final option is PPE. Depending on the chemical, and the route by which it can enter your body, PPE can entail several safety policies and procedures.

GHS and OSHA adopted new hazardous chemical labeling requirements as a part of its recent revision of the Hazard Communication Standard, 29 CFR 1910.1200 (HCS), bringing OSHA into alignment with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals. As a result, workers have more information readily available on the safe handling and use of hazardous chemicals, allowing them to avoid exposures to hazardous chemicals.

<p><b>Health Hazard</b></p>  <ul style="list-style-type: none"> <li>• Carcinogen</li> <li>• Mutagenicity</li> <li>• Reproductive Toxicity</li> <li>• Respiratory Sensitizer</li> <li>• Target Organ Toxicity</li> <li>• Aspiration Toxicity</li> </ul>	<p><b>Flame</b></p>  <ul style="list-style-type: none"> <li>• Flammables</li> <li>• Pyrophorics</li> <li>• Self-Heating</li> <li>• Emits Flammable Gas</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>	<p><b>Exclamation Mark</b></p>  <ul style="list-style-type: none"> <li>• Irritant (skin and eye)</li> <li>• Skin Sensitizer</li> <li>• Acute Toxicity (Harmful)</li> <li>• Narcotic Effects</li> <li>• Respiratory Tract Irritant</li> <li>• Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<p><b>Gas Cylinder</b></p>  <ul style="list-style-type: none"> <li>• Gases Under Pressure</li> </ul>	<p><b>Corrosive</b></p>  <ul style="list-style-type: none"> <li>• Skin Corrosion/Burns</li> <li>• Eye Damage</li> <li>• Corrosive to Metals</li> </ul>	<p><b>Exploding Bomb</b></p>  <ul style="list-style-type: none"> <li>• Explosives</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>
<p><b>Flame Over Circle</b></p>  <ul style="list-style-type: none"> <li>• Oxidizers</li> </ul>	<p><b>Environment (Non-Mandatory)</b></p>  <ul style="list-style-type: none"> <li>• Aquatic Toxicity</li> </ul>	<p><b>Skull and Crossbones</b></p>  <ul style="list-style-type: none"> <li>• Acute Toxicity (Fatal or Toxic)</li> </ul>

Chemicals play an important part in our business and likewise are a necessary part of many workplace operations. Few workplaces exist where there is not some potential exposure to hazardous chemicals.

For all potentially hazardous chemicals used, handled, or stored, in your facility, you must attempt to determine whether a potential hazard exists. Based on this determination, or evaluation, appropriate precautionary measures can be implemented to protect employees.

Exposure to different types of chemicals carry different potential hazards. Your company's chemical evaluation is an important component of your HazCom Program used to identify hazardous chemicals and where they are used, stored and controlled. work area. SDSs are critical in determining what potential hazards are present, under what conditions, and what precautions should be taken in using or handling the materials. In general, potentially hazardous materials can be in several different forms:

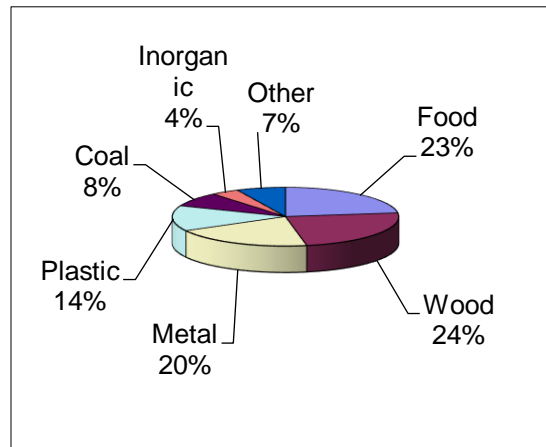
**Fumes:** Any operation which results in cutting or welding metal materials may create potential hazards fumes. To protect themselves, employees exposed to these operations should read and understand the appropriate SDS, check air-monitoring results for their work area and be alert for any unusual emissions or odors in the work area. Welding Stainless Steel is a good example, whereby employees can be exposed to Hexavalent Chromium.

**Dusts:** Potentially hazardous dust exposure can occur in certain operations. Employee overexposure to airborne dust could present possible health problems.

*Combustible Dust. Any finely divided solid material 420 microns or less in diameter (i.e., material passing through a U.S. No 40 Standard Sieve) that presents a fire or explosion hazard when dispersed. Combustible and Explosive Dusts may include fine particulate substances such as Flour, Sugar and many Spices can be potentially flammable and/or explosive. A combustible particulate solid that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape.*

**Vapor from Fuels and Fuel Gases:** Materials such as gasoline and diesel fuel are necessary for the operation of vehicles and other equipment. Likewise, fuel gases such as propane or acetylene are also used in the food industry. The most obvious danger from these materials is the potential for fire and explosion. Vapors and/or gases can travel long distances and possibly reach an ignition source (i.e., sparks and electricity) resulting in a severe fire or explosion. In addition, overexposure to these materials can cause skin or eye burns as well as other potential health problems. It is extremely important that employees are aware of and understand the information on labels and the SDS, and that they follow instructions whenever using these materials. Refer to the chemical's SDS / section #9 for Vapor Densities to determine if the vapor will rise in air or if is heavier than air and will settle in low areas. The Vapor Density of Air = 1. Any vapor with a density of less than 1 will rise whereas vapors with densities greater than 1 will settle.

## Types of Dust Involved in Dust Fires and/or Explosions



**Hybrid Mixtures.** Are a mixture of a flammable gas or vapors with either a combustible dust and/or a combustible mist.

There is much more to a Hazard Communication Program, than just SDSs. Your HazCom Program must be designed to ensure that the hazards of chemicals located in the workplace are evaluated and that the information is transmitted to employees.

The author, Joseph Baldwin is the President and Senior Safety Consultant at Baldwin Safety Solutions, Joe can be contacted at [Joe.Baldwin16@yahoo.com](mailto:Joe.Baldwin16@yahoo.com)

if you have questions or comments concerning this article  
Additional Information:

For more information on topics discussed in this article, contact your state or local health department, a non-profit agency such as:

**American Lung Association** - [www.lung.org](http://www.lung.org)

**National Institute for Occupational Safety and Health – NIOSH** - [www.cdc.gov/niosh/index.htm](http://www.cdc.gov/niosh/index.htm)

**US Department of Health and Human Services.** - [www.hhs.gov](http://www.hhs.gov)

**National Fire Protection Association - NFPA** - [www.nfpa.org](http://www.nfpa.org)  
The U.S. Chemical Safety Board (CSB) - [www.csb.gov](http://www.csb.gov)

**Occupational Safety & Health Administration – OSHA** - [www.osha.gov](http://www.osha.gov)

[Or contact your Safety Manager and/or your Safety Consultant.](#)

Stay tuned for Hazard Communication Parts #2 & #3

**Part #2 What You Do You Need To Know about GHS?**

We will explore the Global Harmonization System in further detail and talk about the changes that took place when OSHA adapted GHS in June 2015.

We've already learned that MSDS's are 8 years out of date. There are several other changes with Packaging and Labeling that took place that same day.

**Part #3 Hazard Communication at Home. What's Under Your Sink?**

Many household chemicals posse the same types of hazards you face at work.

However, at work, we receive a lot of training and great information about chemicals we are exposed to. Now, take this same information you learned at work, and bring it home with you.