Safety Data Sheets in the Globally Harmonized System – US

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) was created by the United Nations to help bring uniformity to hazardous materials labeling around the world. The United States is adopting the GHS in phases. The HazCom "MSDSs" (Material Safety Data Sheets) are being replaced by GHS-compliant "SDSs" (Safety Data Sheets). The general information required on the safety data sheet (SDS) will remain essentially the same as that in the current standard MSDS. However, there are three notable changes.

The first is that the new SDS includes new classification criteria, such as what chemicals need an MSDS and how they're classified. Additionally, the SDS requires more information and the new SDS has specified a 16-section format. These 16 sections are in strict order. The predictable layout should make interpretation of the SDS easier.

What's at Stake: When SDSs Are Used

An SDS must be used for substances and mixtures that meet the criteria for physical, health, or environmental hazards under the GHS. Safety Data Sheets are required for all mixtures which contain toxic or carcinogenic ingredients in concentrations exceeding the cut-off limits.

Sometimes SDSs are required for mixtures which do not meet the criteria, but do contain hazardous ingredients in certain concentrations. An MSDS/SDS is usually created by the company that manufactures or imports and distributes the product. The MSDS/SDS created by the company is then passed along to downstream employers who use it in their workplace.

SDS Content

The SDS should provide a clear and easily understandable description of the data used to identify hazards.

At a minimum, the SDSs cover 16 different data sections. These sections include: Identification of the substance and the supplier, the hazard identification with the appropriate GHS pictogram, cautionary phrase and other information, a composition of ingredients, first aid and firefighting measures, handling and storage, and physical and chemical properties, such as odor, pH and appearance.

Differences between MSDS and SDS

In the past, HazCom classification was mostly a “yes” or “no” activity. A chemical was a carcinogen or it was not a carcinogen. Under GHS, classification of chemicals includes the dividing of hazards into sub-categories. So, using the carcinogen example, a chemical classified as a carcinogen will be further categorized as a category 1A, category 1B, or category 2 carcinogen. (1A is for “known carcinogens,” 1B is for “probable carcinogens,” and 2 is for “suspected carcinogens.”)

Additionally, GHS classification brings substantive differences to some hazard classes, such as combustible liquids, which are now called flammable liquids.

OSHA created three new OSHA-defined hazards that must be addressed on labels and SDSs: pyrophoric gas, simple asphyxiants and combustible dust.

What Can Go Wrong

A worker does not take the time to familiarize himself with the new SDS supplied for the plastic packaging materials he works with every day. The old MSDS did not classify the plastic materials as a carcinogen. The new SDS, however, classifies the plastic as a “category 2 carcinogen”. A few years later, a doctor finds cancerous tissues in the worker’s lungs.

How to Protect Yourself

The new SDS format will be totally phased in on June 1, 2016. You need to know what structural differences exist between the old Material Safety Data Sheets and the new GHS compliant Safety Data Sheets. You also need to be able to fluently read and understand the new GHS compliant SDSs.

Final Word

Familiarize yourself with the new GHS SDSs before they are implemented in your workplace.