

Globally Harmonized System of Classification and Labeling of Chemicals

The Globally Harmonized System (GHS) is an international approach to what is commonly known as the Hazards Communication Standard (HCS) which has been in place in the United States since 1983. The GHS was authored by the United Nations (UN) with the goal of harmonizing workplace chemical hazard classification and labeling across the world.

The rationale for this harmonization is that the current country by country hazard classification and communication laws are dissimilar and result in inconsistent information for similar products. The UN determined the need to harmonize and improve safety information and facilitate international trade through a compatible classification system. The new GHS system will change how chemical hazard information is communicated by providing a new format for Material Safety Data Sheets (MSDS), which will now be called Safety Data Sheets, (SDS) and reformatting the information found on the label of hazardous substances and mixtures.

Safety Data Sheets (SDS)

The HCS contained specific requirements for the information to be conveyed on the MSDS, however, no specific format was mandated. Chemical manufacturers were allowed to develop their own formats, providing all required information was included. Information not required by the HCS was often incorporated into the MSDS. An example of this would be Volatile Organic Content (VOC's) which were often incorporated into the MSDS as a method of conveying the information to users of the products.

The GHS provides a standardized approach. The information required on an SDS follows detailed criteria for determining the hazards which are present and provides information as to the effects of each particular hazard. The goal is to provide better, more detailed information and eliminate confusion among users of these documents.

The SDS format incorporates the standard information from the old MSDS System. Sections 1 through 8 contain familiar information regarding chemical identification: hazards, composition, safe handling practices and emergency response information. Sections 9 through 11 contain expanded technical information regarding chemical properties, toxicological, properties and exposure information.

Sections 11 through 15 contain the information required to make the document consistent with the UN developed GHS. This includes ecological information, disposal considerations, transportation, and other regulatory information. This new approach to the development of these documents is quite different from the former standard. The specific information now required for physical hazards, along with the detailed instructions for hazard evaluation and determinations, is, in many cases, not currently available. A great deal of the information has only become available recently.

Cardinal is making every effort to provide users of our products with accurate documentation as quickly as it is available. You will find that the SDS's for our main product lines are currently available on our web site at www.cardinalpaint.com. For those customers that require a particular document, please contact your sales representative.

Labels

All hazardous chemicals shipped after June 1, 2015, must be labeled with specific elements including pictograms, signal words and hazard and precautionary statements. Labels for a hazardous chemical or mixture must contain:

- Product Identifier
- Signal Word
- Hazard Statements
- Pre-cautioning Statements
- Pictograms

With these requirements, the significant changes to product labels are:










Signal Words: Words used to indicate the severity of the hazard. There are only two signal words, "Danger" and "Warning". Danger is for the more severe hazard classification and Warning is for all lower hazards. Only one signal word shall appear on the label.

Hazard Statements: Words that accurately describe the nature of the particular hazard. These statements are specific to the hazard and should be specific to the hazard classification category. "Flammable" is a common hazard statement you may find on a Cardinal product.

Precautionary Statements: recommended mitigation measures that are to be taken to minimize and to prevent adverse effects resulting from exposure or improper storage or handling. There are four types of precautionary statements: **prevention**, (Do not breathe vapors); **response** (Do not induce vomiting, get medical attention); **Storage**, (Store at ambient temperature); **Disposal**, (Dispose in accordance with local, state, federal & international regulations).

Pictograms: Graphic symbols used to communicate specific information about the hazards of a chemical. The required pictograms consist of a red square, set at a point, with black hazard symbol on a white background. Below are the eight pictograms that are required in the United States and their meaning.

HCS Pictograms and Hazards

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

Beginning June 1, 2015, all Cardinal product labels for products manufactured after that date will have a GHS format label. Certain product labels have been developed to provide additional application and product information along with required GHS language. Cardinal's goal is to revise all product labels with this information.

It is important to note that not all Cardinal product labels will have red pictograms beginning June 1, 2015. Necessary equipment changes must be made to accommodate the red borders. Currently, many pictograms will appear with black borders; however, the warnings contained there are accurate. If you require additional information regarding product labeling, please contact your sales representative.

Employer Responsibilities

Employers must ensure that SDS's for the products used at their workplace, which contain hazardous chemicals, are readily accessible to all employees. All employees must be provided with immediate access to this information without having to leave their work area. Employers may want to designate specific personnel to be responsible for obtaining and maintaining current SDS's for the hazardous chemicals present at their work site.

For more detailed information on GHS please refer to the following:

<https://www.osha.gov/dsg/hazcom/ghs.html>