

## Globally Harmonized System (GHS) Guide and Classification

In 2012, the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard was updated to fully align with the United Nations' Globally Harmonized System (GHS). GHS is intended to improve the quality and consistency of hazard information in the workplace by incorporating more globally recognized classification criteria.

The conversion to GHS impacts the type of information provided on the label and Safety Data Sheet (SDS) and also the manner in which it is conveyed.

The most recognizable changes are **1**: the system in which the hazards are determined and ranked, **2**: the use of pictograms to convey the hazard information and **3**: the inclusion of carcinogenicity, reproductive and/or organ toxicity hazards that were not required prior to GHS.

**1:** Under the previous OSHA standard, HMIS III (Hazardous Materials Identification System) and NFPA (National Fire Protection Association) rating systems were often used to communicate the degree and type of hazard. These systems are not applicable under the new GHS standard and no longer appear on the SDS. GHS hazard categories are used in a different manner than these more familiar hazard rating systems.

Comparative examples:

HMIS III / NFPA 704 RATINGS	GHS HAZARD CATEGORIES
0 = Minimal Hazard	1 = Severe Hazard
1 = Slight Hazard	2 = Serious Hazard
2 = Moderate Hazard	3 = Moderate Hazard
3 = Serious Hazard	4 = Slight Hazard
4 = Severe Hazard	5 = Minimal Hazard

Flammability Criteria	GHS Category	HMIS III Rating	NFPA 704 Rating
Flash point < 73°F (23°C) and initial boiling point < 100°F (37.8°C)	1 or 2	4	4
Flash point < 73°F (23°C) and initial boiling point > 100°F (37.8°C) Flash point > 73°F(23°C) and < 100°F (37.8°C)	2 or 3	3	3
Flash point ≥ 100°F (37.8°C) and < 200°F (93.4°C)	3 or 4	2	2
Flash point > 200°F (93.4°C) and will burn in air when exposed to a temperature of 1500°F (815.5°C) for a period of 5 min.	None	1	1

**2:** Hazard statements are now accompanied by pictograms that are indicative of the type and degree of hazard. The statements correlate to specific warnings associated with the classifications below.

Irritant (skin, eye, respiratory)	Flammable Liquid	Carcinogen	Skin Corrosion/Burns	Acute Toxicity	Gases Under Pressure	Aquatic Toxicity
Skin Sensitizer	Flammable Solid	Reproductive Toxicity	Eye Damage			
		Aspiration Toxicity				
		Target Organ Toxicity				
		Mutagenicity				
		Respiratory Sensitizer				

**3:** Carcinogen and reproductive toxicity hazards were not required communication elements under the previous OSHA standard, but are now required under GHS. Although these types of statements can be disconcerting, it is important to understand the criteria with which they are determined and the nature of the potential risks involved.

Some examples include:

- a) The statements are required for all applicable substances, even if present at only trace (0.1%) levels.
- b) The hazard may only be applicable if the offending substance is in particulate form and present in respirable (micron) size.
- c) The hazard posed by some substances is only applicable during extreme, isolated exposure scenarios.

Even though our products may not contain substances in the applicable form or present the exposure circumstance that trigger the hazard, the classification system will still communicate the risk potential in accordance with GHS guidelines.

Tremco is committed to providing comprehensive and thorough hazard communication and product safety guidelines in order to provide a higher degree of responsible care for our employees and customers.

If you have any questions or concerns regarding the new GHS system or its impact relative to our products, please contact our Environmental Health and Safety Department at 1-800-852-6013 x5173 or x5507.