

Hazard Identification for new MSDS (SDS)

There are new OSHA regulations addressing the Hazard Identification sections of MSDS (or, Safety Data Sheets, SDS, as they are now called.) The changes were made to reflect the Globally Harmonized System (GHS), which is designed to unify the hazard warnings throughout the world. This sheet is designed to help you understand the changes and the two different systems currently in use.

CONFUSION ALERT!

The two systems now found on MSDS are the NFPA System, which we are all familiar with, and the new GHS system, which is, unfortunately, just the opposite of the NFPA! Stick with us and we will guide you through!



THE NFPA SYSTEM:

The NFPA system has hazard numbers ranging from 0 to 4, with 4 being the most hazardous and 0 being the least hazardous

THE GHS SYSTEM:

The GHS system has hazard numbers ranging from 1 to 4, with 1 being the most hazardous and 4 being the least hazardous

GHS

If there is something good out of all this confusion, it is that the two differing systems are *clearly and separately* indicated on most MSDS/SDS.

Details of the new GHS Terms

The new GHS System also is more detailed than the NFPA system, with ratings in many more categories. We have prepared a chart should help you understand these new categories, what they mean and the various levels which may appear in each. We know this is quite confusing and not at all what you have been used to in the past. It is, though, now a regulation that affects us all! Contact EH&S with any confusion you may have regarding the new system.

Please retain this fact sheet and refer to the chart on the back side whenever you review a MSDS/SDS

Our Mission:

Environmental Health & Safety (EH&S) is committed to providing health and safety services that protect the University community and the environment.

There are ten **HEALTH** hazard classes identified in the GHS system, any of which MAY appear in the MSDS/SDS. Not all of them have ratings ranging completely from 1 (the highest hazard) to 4 (the lowest hazard rating). Here are the things you might see...

Hazard	What this means	Ratings possible
Acute Toxicity	Quickly dangerous to humans	1 to 4
Skin corrosion/Irritation	Will damage skin	1 or 2
Serious Eye Damage/Eye Irritation	Serious damage to eyes is possible	1 or 2
Respiratory or Skin Sensitization	May affect skin or breathing, or make them susceptible to further damage	1
Germ Cell Mutagenicity	Cause undesirable changes at the cellular level	1 or 2
Carcinogenicity	Cancer-causing	1 or 2
Reproductive Toxicity	May affect the reproductive systems	1 or 2
Specific Target Organ toxicity, single exposure	Materials known to damage specific organs with one "dose"	1 to 3
Specific Target Organ toxicity, repeated exposure	Materials known to damage specific organs with multiple or long-term "doses"	1 or 2
Aspiration Hazard	Dangerous if droplets or mist is inhaled	1

There are sixteen **PHYSICAL** hazard classes identified in the GHS system, any of which MAY appear in the MSDS/SDS. Not all of them have ratings ranging completely from 1 (the highest hazard) to 4 (the lowest hazard rating). Here are the things you might see...

Hazard	What this means	Ratings possible
Explosive	Well, "explosive" says it all!	1
Flammable gases	Gases that may catch fire	1 and 2
Flammable aerosols	Aerosol cans with flammable gases present	1 and 2
Oxidizing gases	Gases which will supply oxygen to a fire (not desirable!)	1
Gases under pressure	Compressed gases	n/a
Flammable liquids	Liquids where the vapors may ignite	1 to 4
Flammable solids	Solid that ignite on contact with air or moisture	1 and 2
Self-reactive chemicals	Materials which may ignite spontaneously	A-G
Pyrophoric Liquids	Liquids that may ignite on exposure to air	1
Pyrophoric solids	Solids that may ignite on exposure to air	1
Self-heating chemicals	Materials that may give off heat	1 and 2
Water reactives	Materials that have a strong reaction to water	1 to 3
Oxidizing liquids	Liquids which will supply oxygen to a fire (not desirable!)	1 to 3
Oxidizing solids	Solids which will supply oxygen to a fire (not desirable!)	1 to 3
Organic Peroxides	Materials which may form flammable material over time	A-G
Corrosive to metals	Materials which can damage metals	1