Let's talk about how to discern whether a product you use in your practice is considered hazardous. You can find this information on either the label of the container that the product is in, or on the SDS sheet provided to you by the company you purchased the product from. ***There will be at least one of three ways you can identify a hazardous product on the product's SDS sheet:***
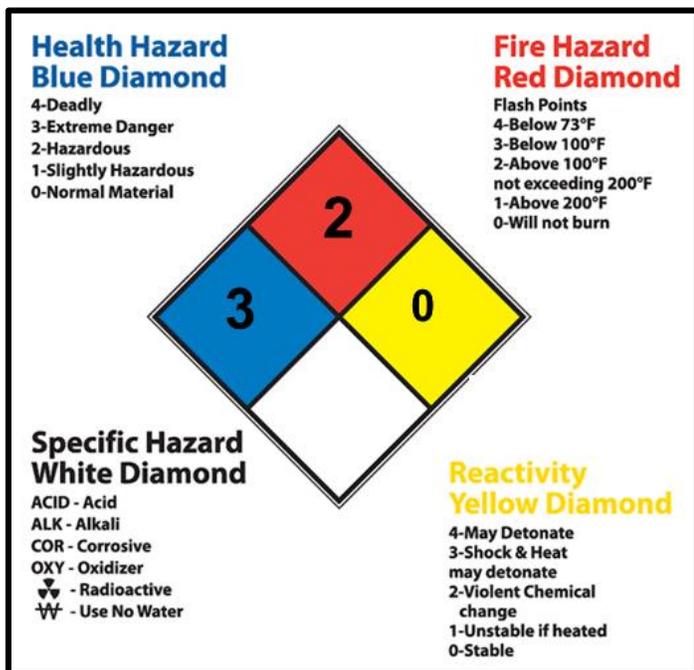
1. The presence of a GHS pictograph on the SDS sheet
2. The presence of an NFPA number greater than zero on the SDS sheet
3. The presence of an HMIS number greater than zero on the SDS sheet

Let's learn a little bit about each type of identification…….

The ***Globally Harmonized System (GHS)*** is an international system that the United Nations created for the unified classification and labeling of chemicals. It was officially adopted in the U.S. on March 26, 2012, by the Occupational Safety and Health Administration (OSHA). OSHA's adoption of the GHS is actually a revision of the Hazard Communication Standard designed to align with the GHS. It's called HazCom 2012.

There are nine different pictographs in the GHS system that identify particular hazards. If at least one of these pictographs is listed on a product's label or the SDS sheet for that product, it is considered hazardous.

GHS Labels

Oxidizers - Can burn without air, or can intensify fire in combustible materials.

Explosives - May explode if exposed to fire, heat, shock, friction.

Corrosives - May cause skin burns and permanent eye damage.

Gasses Under Pressure - Gas released may be very cold. Gas container may explode if heated.

Flammable if exposed to ignition sources, sparks, heat. Some substances may give off flammable gases.

Toxic to aquatic organisms and may cause long lasting effects in the environment.

Toxic material which may cause life threatening effects even in small amounts and with short exposure.

May cause serious and prolonged health effects on short or long term exposure.

Irritant - May cause irritation (redness, rash) or less serious toxicity

**Health Hazard
Blue Diamond**
4-Deadly
3-Extreme Danger
2-Hazardous
1-Slightly Hazardous
0-Normal Material

**Fire Hazard
Red Diamond**
Flash Points
4-Below 73°F
3-Below 100°F
2-Above 100°F
not exceeding 200°F
1-Above 200°F
0-Will not burn

**Specific Hazard
White Diamond**
ACID - Acid
ALK - Alkali
COR - Corrosive
OXY - Oxidizer
- Radioactive
- Use No Water

**Reactivity
Yellow Diamond**
4-May Detonate
3-Shock & Heat
may detonate
2-Violent Chemical
change
1-Unstable if heated
0-Stable

*NFPA Diamond - **NFPA 704:*** Is a standard maintained by the U.S.-based ***National Fire Protection Association.*** First "tentatively adopted as a guide" in 1960,[1] and revised several times since then, it defines the colloquial "**fire diamond**" used by emergency personnel to quickly and easily identify the risks posed by hazardous materials. This helps determine what, if any, special equipment should be used, procedures followed, or precautions taken during the initial stages of an emergency response. If there are any numbers in the NFPA diamond that are greater than zero, the product is considered hazardous.

On some SDS sheets, you will not find the NFPA diamond, but a single line of type that looks like this: **NFPA 1=0 2=0 3=2 4=0** In this example, the product would be considered hazardous, as one of the categories (category 3) has a numeric value greater than zero.

Chemical Name
HEALTH 0
FLAMMABILITY 0
PHYSICAL HAZARD 0
PERSONAL PROTECTION 0
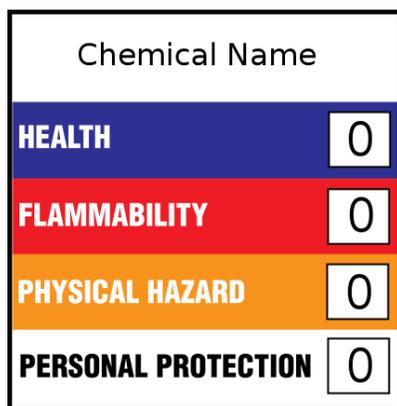
The Hazardous Materials Identification System (HMIS) is a numerical hazard rating that incorporates the use of labels with color developed by the American Coatings Association as a compliance aid for the OSHA Hazard Communication (HazCom) Standard.

It is similar to the fire diamond, created by the National Fire Protection Association (NFPA). Before 2002 the fire diamond and the color bar both had sections colored blue, red, white, and yellow. After April 2002, with the release of HMIS III, yellow in the color bar (which stood for reactivity) was replaced by orange, standing for physical hazard. The fire diamond is designed for emergencies when information about the effects of short, or acute, exposure is needed. The color bar is not for emergencies and is used to convey broader health warning information. Both systems were developed at a time when there was no mandated labeling system for communicating hazards of workplace chemicals (OSHA only required some system be used without specifying a format). In 2012, OSHA introduced an updated version of their HazCom standard known as HazCom 2012, which mandates GHS Labels on shipped containers, and updated requirements for workplace labels, which are compatible with GHS, although it does not mandate the use of GHS in the workplace. HMIS Color Bar is compliant with these new standards. Specifically, when using HMIS III, which accounts for the increased flammability hazard of aerosols.

On some SDS sheets, you will not find the HMIS color bar, but a single line of type that looks like this: **HMIS 1=0 2=0 3=2 4=0** In this example, the product would be considered hazardous, as one of the categories (category 3) has a numeric value greater than zero.