

Weekly Safety Meeting

The NFPA's Hazard Rating Diamond

The National Fire Protection Association has developed a rating system to identify and rank hazards of a material. You've probably seen the colorful labels used to communicate these hazards. The label is diamond-shaped, made up of four smaller diamonds, one each blue, red, yellow, and white. A number or special symbol is placed on the four diamonds. This week's Safety Topic takes a look at the meaning of the colors, number, and symbols used on the NFPA diamond.

Many people take one look at the NFPA diamond and give up learning what those colors, numbers, and symbols mean. It's unfortunate, because the system is easy to learn and really useful. One glance at a NFPA diamond label and you have a wealth of information about the material. Sometimes, too, people think the diamond only gives useful information if the material is on fire. This is not true. The diamond's hazard information is valid for the material under normal circumstances.

So what do those colors mean? The blue diamond, appearing on the left side of the label, conveys Health Hazard information for persons exposed to the material. A number from 0 to 4 is written in the blue diamond. The higher the number the higher the hazard, as follows:

- 0-No hazard.
- 1-Can cause irritation if not treated.
- 2-Can cause injury. Requires prompt treatment.
- 3-Can cause serious injury despite medical treatment.
- 4-Can cause death or major injury despite medical treatment.

The red diamond, appearing at the top of the label, conveys Flammability Hazard information. Again, the numbers 0 to 4 are used to rate the flammability hazard, as follows:

- 0-Will not burn.
- 1-Ignites after considerable preheating.
- 2-Ignites if moderately heated.
- 3-Can be ignited at all normal temperatures.
- 4-Very flammable gases or very volatile flammable liquids.

The yellow diamond, appearing at the right side of the label, conveys Reactivity (or Stability) information. The numbers 0 to 4 are also used to rank reactivity hazards, as follows:

- 0-Normally stable. Not reactive with water.
- 1-Normally stable. Unstable at high temperature and pressure. Reacts with water.
- 2-Normally unstable but will not detonate.
- 3-Can detonate or explode but requires strong initiating force or heating under confinement.
- 4-Readily detonates or explodes.

The white diamond, appearing at the bottom of the label, conveys Special Hazard information. This information is conveyed by use of symbols which represent the special hazard. Two of the common symbols are shown here:

- W** denotes the material is water reactive
- OX** denotes an oxidizing agent

Some facilities use the white diamond to convey personal protective equipment requirements when using the material. You may see a picture of gloves, safety glasses, or a respirator in the white diamond. To determine the NFPA Hazard Ratings for a material which does not have the label affixed, check the Material Safety Data Sheet. NFPA Hazard Ratings are commonly displayed there. Guidebooks are also available from safety supply vendors to assist with this task. Taking a quick glance at the NFPA label provides a wealth of information. This information is useful to learn the hazards of a particular material and what you should do to use it safely. Follow the warnings on the NFPA label or any label affixed to a container of material. Remember, when you're working with hazardous materials, your safety depends on you.