

Chemical and Thermal Burns

- Burns are classified by degree according to the depth of the injury:
 - **First Degree Burns** are characterized by redness, heat and itching.
 - **Second Degree Burns** create more intense pain, as the penetration is deeper into the skin layer. Skin will be mottled red with blisters.
 - **Third Degree Burns** involve the loss of skin and deep, subcutaneous tissue destruction. Skin surface is dry and pearly-white or charred. At the onset there is very little pain because nerve endings are damaged or destroyed.
- Chemical burns can result in tissue irritation/destruction that is similar to that caused by thermal burns.
- The severity of a chemical burn will depend on the following “chemical” factors:
 - Corrosiveness
 - Concentration (strong vs. weak)
 - Temperature
 - Length of contact

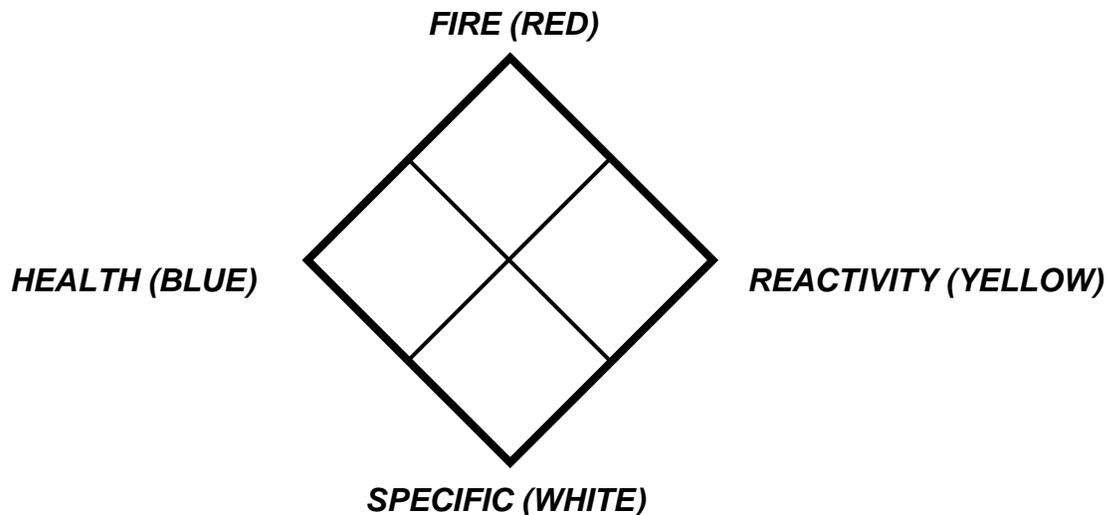
To Prevent Burns:

- Read and understand the labels *before* using chemicals
- Practice good personal hygiene
- Practice good housekeeping
- Review the job *before* performing to identify and eliminate hazards
- Know how to use a fire extinguisher
- Know where fire extinguishers are located
- Know where fire blankets, eye-wash and safety-shower are located
- Wear the correct personal protective equipment for the job

Safety Tips from the WorkSafe People

NFPA DIAMOND...What the Numbers Mean

The National Fire Protection Association uses a diamond-shaped warning symbol that has four color-coded sections. The **BLUE diamond is the *health*** rating; the **RED diamond is the *fire*** rating; the **YELLOW diamond is the *reactivity*** rating; and the **WHITE diamond is for *specific hazards*** other than those shown for the other diamonds.



HAZARD SEVERITY KEY

- 0 = Minimal
- 1 = Slight
- 2 = Moderate
- 3 = Serious
- 4 = Severe

Safety Tips from the WorkSafe People

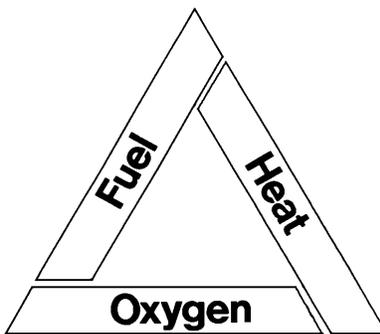
The NFPA Diamond is a means to ALERT you to the presence of hazards but does not substitute for your knowing the hazard information and protective measures provided in Material Safety Data Sheets (MSDS).

HEALTH HAZARD Descriptions:

- 4 Very short exposure could cause death or serious residual injury even though prompt medical attention was given.
- 3 Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- 2 Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- 1 Exposure could cause irritation but only minor residual injury even if no treatment is given.
- 0 Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

FLAMMABILITY HAZARD Descriptions:

- 4 Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
- 3 Liquids and solids that can be ignited under almost all ambient conditions.
- 2 Must be moderately heated or exposed to relatively high temperature before ignition can occur.
- 1 Must be preheated before ignition can occur.
- 0 Materials that will not burn.



Safety Tips from the WorkSafe People

INSTABILITY HAZARD Descriptions:

- 4 Readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures.
- 3 Capable of detonation or explosive reaction, but requires a strong initiating source or must be heated under confinement before initiation, or reacts explosively with water.
- 2 Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.
- 1 Normally stable, but can become unstable at elevated temperatures and pressures or may react with water and release energy, but not violently.
- 0 Normally stable, even under fire exposure conditions, and are not reactive with water.

SPECIAL HAZARDS Descriptions:

This section is used to denote special hazards, for which there are only two NFPA 704 approved symbols:

- OX** This denotes an oxidizer, a chemical which can greatly increase the rate of combustion (explosion or fire).
- ~~W~~** Reacts unusually with water. This indicates a potential hazard using water to fight a fire involving this material.

Other abbreviations/words, which are not specified in NFPA 704 but have value to denote special hazards, include:

- ACID** This indicates that the material is an acid, a corrosive material that has a pH lower than 7.0 (Note: pH = 7.0 is “neutral”).
- ALK** This denotes an alkaline material, also called a base. These caustic materials have a pH greater than 7.0.