

## 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

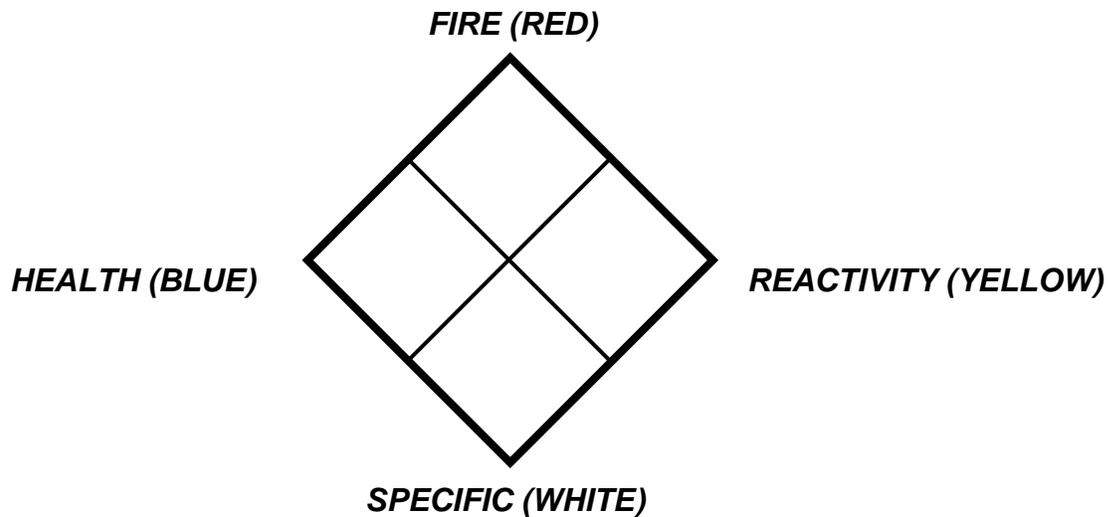
### To Prevent Burns:

- 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

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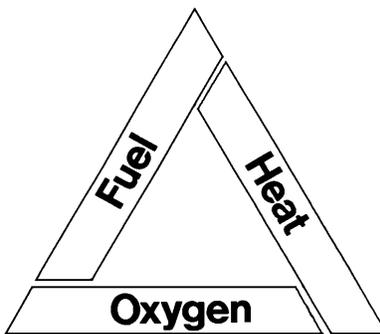
The NFPA Diamond is a means to ALERT you to the presence of hazards but does not substitute for your knowing the hazard information and protective measures provided in Material Safety Data Sheets (MSDS).

## 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

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## 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.