

Special First Aid Kits

Some workplaces have special chemicals or processes that may require special first aid materials. Examples of these are antidotes for specific unusual compounds used in the facility and special solutions to neutralize acids or caustics.

For example, hydrogen fluoride causes severe burns. It is common to use a calcium gluconate gel to treat the burns. Calcium gluconate gel, consisting of 2.5% USP calcium gluconate in a surgical water-soluble lubricant, is widely used for first aid and/or primary treatment of HF burns of the skin. The gel is convenient to carry and can be used to initially treat small burns that might occur away from medical care. (The gel is not recommended for burns with concentrated HF except as a first aid measure). The gel is used by massaging it promptly and repeatedly into the burned area, until pain is relieved. Surgical gloves should be worn during initial application of the gel, so the person providing treatment will not receive a secondary HF burn. This treatment can be started without waiting for medical direction. Several commercially available calcium gluconate gel formulations have been evaluated and found to give comparable outcomes.

Similarly, there are special kits that are used to treat cyanide poisoning. Some plating operations can produce hydrogen cyanide gas or cyanide salt crystals along the edge of the tank. A special kit to address potential cyanide poisoning in these cases should be stocked.

The following information is a case study where a worker had 94% sulphuric acid splash onto his hand. Most of the fingers were covered in the acid. The workplace had emergency showers close by but water alone was inadequate to prevent injuries.

94% Sulphuric Acid

- Splash to the hands and lower extremities
- Immediate and continued flushing with water
- 3 days in the burn centre
- 45 days of medical care at home
- More than 6 months of LTD's
- Cheloid scars and psychological difficulties





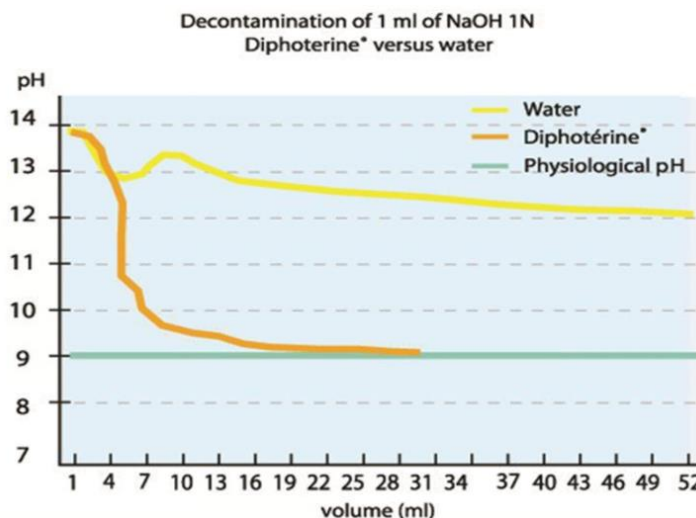
For some products or processes, a complementary first kit would be beneficial. For example, a burn kit provides different resources than a standard first aid kit. A burn kit can be developed for either thermal burns from contact with hot metal and/or surfaces or chemical burns from acid. The use of an acid burn first aid kits have been proven to reduce hospital stay times.

Products like Diphoterine® Solution are sterile, active washing solution used to treat skin and eye tissue that has come in contact with a corrosive chemical. While water is often thought of as the preferred treatment for chemical contact on skin and eyes, Diphoterine® solution is proven to deliver better outcomes compared to water alone.

How it Works:

- Provides the important mechanical flushing effect from skin and eye tissue
- Rapidly restores pH balance on skin and eye tissue after a corrosive splash
- Prevents further penetration of the chemical into tissue cells and begins to reverse the flow back to the surface
- Provides superior cooling effects (when compared to water) on the tissue following a chemical exposure
- Some products contain a numbing or pain-killing agent. This property allows the eyes to open naturally resulting in better flushing and less damage.

The figure below shows the difference of Diphoterine neutralizing a caustic compared to water simply diluting the caustic. As a general rule of thumb, a pH higher than 12 should be considered corrosive. This rapid neutralization equates to less tissue damage.



Diphoterine solution is a Health Canada Licensed Class 2 Medical Device that can help reduce chemical injuries caused by corrosive chemicals.

These are just examples of the types of products that are available to supplement standard first aid kits. Other products and kits are available and should be considered to supplement a standard first aid kit when high risk chemicals are used.