The unique properties of hydrofluoric acid (HF) make it a particularly dangerous inorganic acid, which should be handled with due consideration for safety. HF is similar to other acids ONLY in that the initial extent of a burn depends on the concentration, temperature, and duration of contact with the skin. **HF differs, however, from other acids because the fluoride ions readily penetrate the skin, causing destruction of deep tissue layers, including bone.** Unlike other acids, that are rapidly neutralized, this destructive process may continue for days. In addition, HF cannot be stored in glass containers since it “corrodes” glass.

**TOXICITY**

Exposure to HF and its vapors results in chemical burns and can occur via skin and eye contact, inhalation, and ingestion. Contact with concentrated forms of the acid result in immediate tissue destruction, while contact with dilute solutions can result in delayed reactions that do not generate symptoms for several hours. The destructive effect of exposure to HF can continue for extended periods of time. Consult the Safety Data Sheet (SDS) for an in-depth discussion of the toxicity of HF.

**FIRST AID**

*I F ASSISTING SOMEONE WHO HAS BEEN EXPOSED, DON PROTECTIVE GLOVES AND EYEWEAR TO MINIMIZE POTENTIAL CONTACT WITH THE ACID.*

**Skin Contact**

- Immediately flush exposed skin for a minimum of 10 minutes with large amounts of clean water (i.e. emergency shower).
- Remove all contaminated clothing while flushing exposed skin with water.
- **Apply calcium gluconate gel to the site of contact.** Use gloves while applying to prevent contact with uncontaminated skin.
- Seek medical attention as soon as possible. **All exposures to HF require medical follow-up.**

**Eye Contact**

- Immediately flush the eyes for at least 15 minutes with large amounts of gently flowing water (i.e. emergency eye wash). Hold the eyelids open and away from the eye during irrigation to allow thorough flushing of the eyes.
- **Do not apply calcium gluconate or other medicine.**
- **Seek medical attention immediately after flushing the eyes.**
- Apply ice water compresses and, if possible, continue irrigating the eyes until attended to by a physician.

Last reviewed by Cynthia Norton on December 14, 2015