



Hydrofluoric acid used by graffiti artists can cause severe burns

An emergency responder attempts to give first aid to a youth in severe pain from burns to his hip and leg. An object in the victim's pocket bursts open and splashes hydrofluoric acid on the responder's hands. The responder suffers severe burns as a result.

The above scenario hasn't happened yet; but, it could occur at any time! Graffiti artists have been using Hydrofluoric Acid (HF) to burn their "tags" into glass surfaces, including windows, car windshields, mailboxes, and anything else the acid will etch. The HF is poured into bingo "dabbers" that are then used as "paint brushes" (the ink is emptied out, and the tubes are filled with acid). These tubes may leak acid during use, or if they are cracked or broken. Individuals at risk include the artists themselves (tubes may burst in a pocket), or others in contact with them, including police, emergency personnel, parents, and siblings. The damage to property can be considerable, and the artists and anyone who tries to clean off the glass could get severe HF burns.



Typical bingo dabber

What is hydrofluoric acid?

Hydrofluoric acid is a chemical agent used by workers in many industrial situations. It is used in the dry-cleaning industry as a cleaning agent. It is used as a descaler product, a rust remover, a metal cleaner, as an etching and metal plating compound, and for many other applications. It is often used as part of a mix with other chemicals. Workers who use agents that contain HF are often not aware of the potential hazards associated with this acid. These hazards can range from burns to major respiratory problems. HF solutions can cause chemical burns to the skin and eyes on contact. Inhalation of HF gas or a mist containing HF can cause severe respiratory irritation or, sometimes, permanent lung damage. If HF is absorbed into the skin, the results can be serious, even fatal. The HF exposure signs may not be immediate; if HF is diluted with other substances the onset of the symptoms may be delayed.

Why is hydrofluoric acid different from other acids?

Like other acids, hydrofluoric acid is very corrosive and can burn skin, eyes, and mucous membranes. HF differs because the fluoride ion will easily penetrate the skin and destroy deep tissue layers. This process of destruction can continue for many days until the fluoride ion is used up. Remember, you can get burned by the acid or the acid vapours!

How do you clean glass damaged by hydrofluoric acid

Hydrofluoric acid actually etches the glass and the damage is permanent. The only repair option is to replace the glass. Do not attempt to wipe off the damage, as residual HF may still be present! HF will continue to etch the glass or metal until all of the fluoride is used up. Before the glass is touched or removed, the damaged area should be washed with copious amounts of water.

What do I do if I get burned with hydrofluoric acid?

Initial first aid treatment for hydrofluoric acid skin burns is similar to that used for other acids – rinse with copious amounts of water, as quickly as possible. However, HF burns must also be treated by applying Calcium Gluconate (2.5%) gel, which can help neutralize the fluoride ions. You should see a doctor as soon as possible, if burned with HF.

Remember, HF will continue to burn into your skin, even if you think you have washed it off!

If you get HF in your eyes, immediately rinse with copious amounts of water or saline solution. Consult a physician and an ophthalmologist as soon as possible.

Serious burns may require significant medical treatment. If the burned area is large, the victim should be transported to hospital, immediately! Emergency response personnel (fire fighters or paramedics) should be told that the burns were caused by HF.

Where can I get more information on hydrofluoric acid and treating HF burns?

Honeywell International Inc. has a number of HF documents on their web site, including “Recommended Medical Treatment for Hydrofluoric Acid Exposure.”

The site address is

http://www.honeywell.com/sites/sm/chemicals/hfacid/technical_documents.htm.



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