

Laboratory Safety Fact Sheet Hydrofluoric Acid

Health Hazards

Hydrofluoric acid is a strongly corrosive chemical. It is one of the strongest inorganic acids in common use. HF readily penetrates the skin and mucous membranes, and can cause deep tissue destruction. Severity and timing of effects depends on the concentration, duration of exposure, and penetrability of the exposed tissue. Symptoms may start immediately or **pain may be delayed**. Life threatening systemic toxicity may follow dermal exposure with minimal external tissue damage. A seemingly minimal exposure can lead to severe medical consequences including death.

All exposures to hydrofluoric acid require immediate first aid response and prompt medical treatment.

First Aid

- Quickly remove all contaminated clothing while using the safety shower or other available source of water.
- Immediately flood the affected body area in cold water for at least 15 minutes..
- Apply calcium gluconate to affected areas (available in HF first aid kit).
- Call 511 for emergency transport to the HUP emergency room.
- Any exposure to hydrofluoric acid requires medical treatment. Immediately proceed to the ER or call 511 for an ambulance

Work Practices

Extreme care must be taken to avoid conditions that would lead to spills or splashes of hydrofluoric acid. All work must be conducted in a fume hood. Workers must wear, at a minimum, [N Dex 8005 8 mil nitrile gloves](#), cotton lab coat, [apron](#), and [safety glasses](#). When strong concentrations, large quantities or splashes are possible workers must also wear a face shield, [Best Ultraflex Neoprene glove](#) (or an equivalent chemical protective glove selected using the manufacturer's data) and chemically protective [arm sleeves](#).

Emergency Equipment

Verify that your laboratory has an eye wash and that it properly functions. Identify the location of an emergency shower either inside your lab or close by in the hallway or equipment corridor. Do not test the shower. Check the inspection tag on the tag and confirm that it was inspected within the last year. Contact EHRS if shower inspections are not current.

A **Hydrofluoric Acid First Aid Kit** must be available in every lab that handles this acid. The HF first aid kit contains calcium gluconate gel, disposable jump suit (to wear if clothing is contaminated) an MSDS sheet and emergency medical treatment instructions. [HF First Aid Kits are available from EHRS](#).