



Guidelines for Working with Hydrofluoric Acid

Exposure to hydrofluoric acid can cause damage with delayed symptoms that can result in serious deep tissue injury. Its use to dissolve silicate is widespread across the University. Damage can occur through all routes of exposure, which are: 1) skin contact, 2) inhalation, 3) accidental ingestion.

- **Skin contact** Skin exposure covering an area as little as 25 cm² can be fatal. Use protective clothing such as splash goggles, lab coat, apron, and gloves of natural rubber, nitrile or neoprene. Wash gloves and hands after each use to remove any residue.
- **Inhalation** Use a chemical fume hood with operations that can produce aerosols or fumes. Special gas cabinets should be used for fluorine gas.
- **Ingestion** Never eat or drink in a laboratory, wash hands prior to eating or drinking.

Other steps to minimize exposure potential are also useful:

- A trial run with a compound other than HF to identify any experimental, procedural or handling shortfalls.
- Never store HF in glass containers, they will be dissolved.
- Use the smallest quantities of HF possible to reduce exposure potential.

If you are exposed or think you have been exposed:

- Rinse affected area with running water until benzalkonium chloride concentrate (17% solution) from the laboratory refrigerator can be applied.
- As quickly as possible, apply 17% benzalkonium chloride soaks (using thoroughly soaked sterile gauze pads) at the site of exposure. Apply additional "iced" 17% benzalkonium chloride (after immersion of the solution container in an ice bath) to the gauze pad every 3 minutes.
- Seek medical attention immediately at University Health Services or Mount Nittany Medical Center.
- For a respiratory exposure, remove individual to fresh air, call 911 and seek medical attention immediately.

As with any chemical that you are using, familiarize yourself with the hazards and safe handling practices by reading the Material Data Safety Sheet. The sheets are available 24 hours a day on the EHS website, www.ehs.psu.edu or by calling the Office of Environmental Health and Safety at 865-6391.