



## HYDROGEN FLUORIDE / HYDROFLUORIC ACID

### I. Protocol Overview

Hydrogen fluoride is highly corrosive gas and can cause severe sometimes-delayed systemic health effects due to deep tissue penetration by the fluoride ion. Commercial use of hydrogen fluoride includes in a variety of organic syntheses, to cloud light bulbs, aerosol propellants, blowing agents, to clean metals, and to separate uranium isotopes. Exposure may result from inhalation of gas or dermal contact with liquid acid. Irritation of the skin, eyes, and mucous membranes may occur. Inhalation may cause respiratory irritation or hemorrhage. Systemic effects can occur from all routes of exposure and may include nausea, vomiting, gastric pain, cardiac arrhythmia, hypocalcemia, hyperkalemia, hypomagnesemia, or sudden death.

Use of calcium gluconate or benzalkonium chloride for initial first aid treatment is strongly recommended, and immediate monitored advanced treatment is required. Decontamination of patients may be needed prior to sample collection.

For all suspected chemical exposures, consult the Poison Control Center (800-222-1222) located at Children's Hospital of Philadelphia. Information and treatment advice is available to the public and healthcare professionals at no charge.

Hydrogen fluoride exposure may be determined in urine and bone through gas chromatography (GC) and ion selective electrode (ISE) analysis. Hydrogen fluoride can be indirectly determined in environmental and food samples through ion chromatography (IC) and ISE.

The Delaware Public Health Laboratory does not perform this testing. Contact the CDC or the Poison Control Center.

### II. Contact Information

24/7 CDC Emergency Contact Number: 1-888-295-5156

Poison Control Center: 215-386-2100

### III. CDC Website

<http://www.atsdr.cdc.gov/MMG/MMG.asp?id=1142&tid=250>

**24/7 Emergency Contact Number: 302-223-1520**

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