



HYDROGEN FLUORIDE (HF)

Agent information:	Hydrogen fluoride (fluoric acid, hydrofluoride, hydrofluoric acid, and fluorine monohydride) is an industrial chemical with the potential to cause mass casualties. Hydrofluoric acid is a serious systemic poison that is highly corrosive. Its severe and sometimes delayed health effects are due to deep tissue penetration by the fluoride ion. The surface area of the burn is not predictive of its effects; a small visible burn may be lethal.
Transmission:	Inhalation of gas. Dermal contact with hydrofluoric acid can occur.
Signs and symptoms:	Hydrogen fluoride is irritating to the skin, eyes, and mucous membranes. It is a corrosive chemical that can cause immediate or delayed onset of deep, penetrating injury. Systemic effects can occur from all routes of exposure and include pulmonary edema, nausea, vomiting, gastric pain, and cardiac arrhythmia. Absorption of fluoride ions can cause hypocalcemia, hypomagnesemia, and hyperkalemia, which can result in cardiac arrest.
Evaluation:	No tests available in time to guide acute treatment. Lab tests, specifically serum electrolytes, may confirm exposure.
Protective measures:	Appropriate Personal protective Equipment (PPE) to avoid secondary contamination.
Treatment:	Rapid decontamination is critical due to hydrogen fluoride's rapid skin penetration and the serious toxicity of the fluoride ion. Calcium-containing gels, solutions, and medications can be used to neutralize the fluoride ion. The intense pain of hydrogen fluoride burns should not be suppressed with local anesthetics because the degree of pain is an indicator of treatment efficacy. Rapid decontamination is critical. Supportive care measures are required as well.
Reporting:	Report suspect cases immediately to the Division of Public Health, 1-888-295-5156 (24/7 coverage).
For more information:	Visit the Centers for Disease Control and Prevention website: https://emergency.cdc.gov/ .

Emergency Medical Services and Preparedness Section
24/7 Emergency Contact Number: 1-888-295-5156
Contact Number: 302-223-2999