



## **HYDROGEN FLUORIDE**

<b>Agent Information:</b>	Used for glass cleaning, polishing, etching, frosting; as a chrome cleaner rust removal, water treatment, petroleum refining, semiconductor production, aluminum production, Teflon production and uranium isotope separation and as a chemical warfare agents; HF. Synonyms include hydrogen fluoride, fluoric acid, hydrofluoride, hydrofluoric acid, and fluorine monohydride. Hydrofluoric acid is a serious systemic poison. It 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. Hydrogen Fluoride is toxicologically part of a group of compounds known as corrosives and cytotoxicants.
<b>Signs and Symptoms:</b>	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.
<b>Route of Exposure:</b>	Inhalation of gas; dermal contact with hydrofluoric acid.
<b>Protective Measures:</b>	Utilize appropriate Level PPE as identified by the Environmental Protection Agency and Hazmat protocols.  Victims exposed only to hydrogen fluoride vapor do not pose substantial risks of secondary contamination. However, victims whose clothing or skin is contaminated with hydrogen fluoride liquid, solution, or condensed vapor can secondarily contaminate response personnel by direct contact or through off-gassing vapor.
<b>Prophylaxis:</b>	N/A
<b>Treatment:</b>	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. Calcium-containing gels, solutions, and medications are used to neutralize the effects of hydrogen fluoride. Supportive care.
<b>Reporting:</b>	Any suspect cases should be reported immediately to the Division of Public Health, Epidemiology Branch: 1-888-295-5156 (24/7 coverage). For additional information, view the CDC website: <a href="http://www.bt.cdc.gov">www.bt.cdc.gov</a>

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

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