

Treatment of Hydrofluoric Acid (HF) Exposure

Quick Reference

NOTE: In addition to the usual medical history, the physician should obtain the following information: concentration of HF, date and time of exposure, duration of exposure, how exposure occurred, body parts exposed/affected, first aid measures instituted (what, when, how long). Injuries due to dilute HF solutions or low concentrations of vapors may result in delays in clinical presentation up to 24 hours following exposure.

SKIN BURNS		EYE EXPOSURE	INHALATION		INGESTION
FIRST AID					
CONCENTRATED HF Water Wash THEN Iced Benzalkonium Chloride* 0.13% Soaks OR Calcium Gluconate 2.5% Gel	DILUTE HF Water Wash THEN Iced Benzalkonium Chloride* 0.13% Soaks OR Calcium Gluconate 2.5% Gel	ALL HF Water Wash OR Saline Wash	CONCENTRATED HF Oxygen AND 2.5% Calcium Gluconate ⁴ by Nebulizer	(Mild Exposures) DILUTE HF Oxygen THEN Consider 2.5% Calcium Gluconate ⁴ by Nebulizer	ALL HF DO NOT INDUCE VOMITING Milk or Water THEN Milk of Magnesia OR Mylanta®+
MEDICAL TREATMENT					
CONCENTRATED HF Debride (if necessary) THEN Continue Soaks OR Calcium Gluconate 2.5% - 5% Injection ^{2,4} AND Observe for/Treat Systemic Effects ³ (especially if > 25 sq. in.)	DILUTE HF Debride (if necessary) THEN Continue Soaks OR Calcium Gluconate 2.5% Gel OR Calcium Gluconate 2.5% - 5% Injection ^{2,4} Systemic Effects ³ Unlikely	ALL HF Topical Tetracaine Hydrochloride THEN 1% Calcium Gluconate Irrigation ⁴ AND Consult Ophthalmologist	CONCENTRATED HF Continue Calcium Gluconate by Nebulizer Observe and Treat for Respiratory Distress, Bronchoconstriction, Pulmonary Edema, Systemic Effects ³ (Inhaled Steroids and/or Bronchodilators as Needed)	DILUTE HF Continue Calcium by Gluconate Nebulizer Observe Serious Effects Unlikely Inhalation of HF Fumes from Diluted Acid is Uncommon	ALL HF Lavage with Calcium Chloride or Calcium Gluconate AND Treat Systemic Effects ³

1. This is a brief summary of First Aid and Medical Treatment measures. The text of the brochure "RECOMMENDED MEDICAL TREATMENT FOR HYDROFLUORIC ACID EXPOSURE" must be consulted for more complete information.

2. 2.5% calcium gluconate injections must be used if the soaks or gel do not significantly relieve pain in 30-40 minutes. Injections may also be used as the primary treatment, especially for larger and/or deeper burns.

3. Systemic effects include hypocalcemia, hypomagnesemia, hyperkalemia, cardiac arrhythmias, and altered pulmonary hemodynamics. TREATMENT includes cardiac monitoring, monitoring serum calcium, fluoride, magnesium, and electrolytes; administration of IV calcium gluconate, correcting magnesium and electrolyte imbalance, and, in extreme cases, hemodialysis.

4. Calcium gluconate is normally supplied in ampules containing 10% calcium gluconate. Concentrations less than 10% are obtained by diluting with normal saline.

For additional reference charts or information on properties, storage and handling, or medical treatment for hydrofluoric acid, contact:

Honeywell Specialty Materials
 101 Columbia Road
 Morristown, NJ 07962

In the event of a medical emergency with this product, call the 24-hour Honeywell emergency telephone number:

800-498-5701

All statements, information, and data given herein are believed to be accurate and reliable but are presented without guaranty, warranty, or responsibility of any kind, express or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all medical and first aid measures are indicated or that other measures may not be required.

This foldout chart is also available as a laminated 15" x 23" wall poster.

* Benzalkonium chloride is a high molecular weight quaternary ammonium compound available as Zephiran® a Registered Trademark of Sanofi Pharmaceuticals, New York, NY 10016
 + Registered trademark, Johnson & Johnson - Merck, Fort Washington, PA 19034

Honeywell