



Right to Know Hazardous Substance Fact Sheet

**Emergency
Responders
Quick Reference**

Common Name: **HYDROGEN FLUORIDE**

Synonyms: Fluoric Acid; HFA

CAS No: 7664-39-3

Molecular Formula: HF

RTK Substance No: 3759

Description: Colorless, fuming liquid or gas

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health 0 - Fire 1 - Reactivity DOT#: UN 1052 ERG Guide #: 125 Hazard Class: 8 (Corrosive)	Hydrogen Fluoride is a noncombustible liquid or gas. Extinguish fire using an agent suitable for type of surrounding fire. POISONOUS GASES ARE PRODUCED IN FIRE , including <i>Fluorine</i> . Use water spray to keep fire exposed containers cool.	Hydrogen Fluoride reacts violently with STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE) and many other compounds. Hydrogen Fluoride reacts with WATER and STEAM to produce <i>toxic</i> and <i>corrosive gases</i> . Hydrogen Fluoride reacts with METALS (such as IRON and STEEL) to produce flammable and explosive <i>Hydrogen gas</i> . Hydrogen Fluoride is not compatible with OXIDIZING AGENTS (such as PERCHLORATES , PEROXIDE , PERMANGANATES , CHLORATES , NITRATES , CHLORINE , BROMINE and FLUORINE); STRONG ACIDS (such as HYDROCHLORIC , SULFURIC and NITRIC); AMINES ; METAL SALTS ; and SILICON COMPOUNDS .

SPILL/LEAKS

Isolation Distance:

Spill: 100 meters (330 feet)

Fire: 1,600 meters (1 mile)

If a gas leak, evacuate area and stop flow of gas. If source of leak is a cylinder and the leak cannot be stopped in place, remove the leaking cylinder to a safe place in the open air, and repair leak or allow cylinder to empty.

If a liquid spill, allow to vaporize and disperse, or cover with sodium carbonate or an equal mixture of soda ash and slaked lime.

Water spray can be used to absorb **Hydrogen Fluoride** vapors escaping from leaking containers of *anhydrous Hydrogen Fluoride*. Use water in flooding quantities.

PHYSICAL PROPERTIES

Odor Threshold: 0.04 ppm

Flash Point: Nonflammable

Vapor Density: 0.7 (air = 1)

Vapor Pressure: 760 mm Hg at 68°F (20°C)

Specific Gravity: 0.99 (water = 1)

Water Solubility: Miscible

Boiling Point: 67°F (19.4°C)

Freezing Point: -117.4°F (-83°C)

Ionization Potential: 15.98 eV

Molecular Weight: 20.1

EXPOSURE LIMITS

ACGIH: 0.5 ppm, 8-hr TWA; 2 ppm, Ceiling

IDLH: 30 ppm

The Protective Action Criteria values are:

PAC-1 = 1 ppm; PAC-2 = 24 ppm; PAC-3 = 44 ppm

PROTECTIVE EQUIPMENT

Gloves: Barrier® (>8-hr breakthrough)

Coveralls: Tychem® Responder® and TK; and Trelchem HPS (>8-hr breakthrough)

Respirator: SCBA

HEALTH EFFECTS

Eyes: Severe irritation, burns and possible eye damage

Skin: Irritation and severe burns

Inhalation: Nose, throat and lung irritation with coughing, and severe shortness of breath (pulmonary edema)

Headache, dizziness, weakness, and convulsions

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.

Immediately flush with large amounts of water. Apply 2.5% *Calcium Gluconate* gel to the affected skin. Seek medical assistance immediately.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.

Medical observation is recommended as symptoms may be delayed.