

Common Name: **SODIUM HYDROGEN FLUORIDE**

Synonyms: Sodium Bifluoride; Sodium Difluoride

CAS No: 1333-83-1

Molecular Formula: Na(HF<sub>2</sub>)

RTK Substance No: 1703

Description: Colorless to white, crystalline powder

### HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>0 - Fire</b> <b>1 - Reactivity</b> <b>DOT#:</b> UN 2439 <b>ERG Guide #:</b> 154 <b>Hazard Class:</b> 8 (Corrosive)	<p>Extinguish fire using an agent suitable for type of surrounding fire. <b>Sodium Hydrogen Fluoride</b> itself does not burn.</p> <p><b>Sodium Hydrogen Fluoride</b> may react with WATER to form flammable and corrosive gases. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Fluoride</i> and <i>Sodium Fluoride</i>. CONTAINERS MAY EXPLODE IN FIRE.</p> <p>Use water spray to keep fire-exposed containers cool.</p>	<p><b>Sodium Hydrogen Fluoride</b> will react with WATER and MOIST AIR to form flammable and corrosive gases.</p> <p><b>Sodium Hydrogen Fluoride</b> is not compatible with METALS; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); and COMBUSTIBLE MATERIALS.</p> <p><i>Water-based solutions</i> of <b>Sodium Hydrogen Fluoride</b> can corrode GLASS, CONCRETE and certain METALS, and will attack RUBBER, LEATHER and many ORGANIC MATERIALS.</p>

### SPILL/LEAKS

**Isolation Distance:**

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Collect powdered material in the most convenient and safe manner and place into sealed containers for disposal.

DO NOT wash into sewer.

**Sodium Hydrogen Fluoride** is harmful to fish and other aquatic organisms.

### PHYSICAL PROPERTIES

<b>Flash Point:</b>	Nonflammable
<b>Vapor Pressure:</b>	<0.01 mm Hg at 68°F (20°C)
<b>Specific Gravity:</b>	2.08 (water = 1)
<b>Water Solubility:</b>	Soluble
<b>Boiling Point:</b>	Decomposes
<b>Molecular Weight:</b>	61.99

### EXPOSURE LIMITS

**OSHA:** 2.5 mg/m<sup>3</sup>, 8-hr TWA (as *Fluorides*)

**ACGIH:** 2.5 mg/m<sup>3</sup>, 8-hr TWA (as *Fluorides*);  
0.5 ppm, 8-hr TWA (as *Hydrogen Fluoride*)

**IDLH:** 250 mg/m<sup>3</sup> (as *Fluorine*)

The Protective Action Criteria values are:

PAC-1 = 2.5 mg/m<sup>3</sup>

PAC-2 = 2.5 mg/m<sup>3</sup>

PAC-3 = 250 mg/m<sup>3</sup>

### PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Nitrile or Natural Rubber
<b>Coveralls:</b>	Tyvek®
<b>Respirator:</b>	<2.5 mg/m <sup>3</sup> - full facepiece APR with High efficiency filters >2.5 mg/m <sup>3</sup> (as <i>Fluorides</i> ) - SCBA >0.5 ppm (as <i>Hydrogen Fluoride</i> ) - SCBA

### HEALTH EFFECTS

<b>Eyes:</b>	Irritation, severe burns and possible eye damage
<b>Skin:</b>	Irritation, severe burns
<b>Inhalation:</b>	Nose, throat and lung irritation, with coughing, and severe shortness of breath (pulmonary edema) Headache, dizziness, and nausea

### 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.