

Common Name: **SODIUM FLUORIDE**

Synonyms: Sodium Fluoride; Sodium Monofluoride

CAS No: 7681-49-4

Molecular Formula: NaF

RTK Substance No: 1699

Description: Colorless or white, odorless crystal or powder that also may be dyed blue or green when used as a pesticide

### HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>0 - Fire</b> <b>0 - Reactivity</b>  <b>DOT#:</b> UN 1690 <b>ERG Guide #:</b> 154 <b>Hazard Class:</b> 6.1 (Poison)	Extinguish fire using an agent suitable for type of surrounding fire. <b>Sodium Fluoride</b> itself does not burn.  POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Fluoride gas</i> .  Use water spray to keep fire-exposed containers cool.	<b>Sodium Fluoride</b> reacts with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) to form toxic <i>Hydrogen Fluoride gas</i> .  <b>Sodium Fluoride</b> is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); and METALS.

### SPILL/LEAKS

**Isolation Distance:**

Spill (solid): 25 meters (75 feet)

Spill (liquid): 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

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

For **Sodium Fluoride** in solution, cover with dry lime, sand or soda ash and place into sealed containers for disposal.

For water spills, neutralize with agricultural lime, crushed limestone or sodium bicarbonate.

DO NOT wash into sewer.

**Sodium Fluoride** is dangerous to aquatic life in high concentrations.

### PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	Odorless
<b>Flash Point:</b>	Nonflammable
<b>Vapor Pressure:</b>	0 mm Hg at 68°F (20°C) (approx)
<b>Specific Gravity:</b>	2.56 (water = 1)
<b>Water Solubility:</b>	Very slightly soluble
<b>Boiling Point:</b>	3,083°F (1,695°C)
<b>Melting Point:</b>	1,819°F (993°C)
<b>Molecular Weight:</b>	42

### EXPOSURE LIMITS

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

**NIOSH:** 2.5 mg/m<sup>3</sup>, 10-hr TWA

**ACGIH:** 2.5 mg/m<sup>3</sup>, 8-hr TWA

**IDLH:** 250 mg/m<sup>3</sup>

(All of the above are for *inorganic Fluoride*)

The Protective Action Criteria values are:

PAC-1 = 5.5 mg/m<sup>3</sup> PAC-2 = 5.5 mg/m<sup>3</sup> PAC-3 = 500 mg/m<sup>3</sup>

### PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Nitrile and Neoprene (>8-hr breakthrough for <i>inorganic salt solutions</i> )
<b>Coveralls:</b>	Tychem® Responder® (>8-hr breakthrough for <b>Sodium Fluoride</b> in <i>water solution</i> )
<b>Respirator:</b>	>2.5 mg/m <sup>3</sup> - full facepiece APR with <i>High efficiency filters</i> >25 mg/m <sup>3</sup> - SCBA

### HEALTH EFFECTS

**Eyes:** Severe irritation and burns

**Skin:** Severe irritation and burns

**Inhalation:** Nose, throat and lung irritation with coughing, wheezing and shortness of breath

### 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.

**Quickly** remove contaminated clothing and wash contaminated skin with large amounts of soap and water.

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

**Transfer** to a medical facility.