

# Material Safety Data Sheet

## Sodium Fluoride

### Section 1: Identification of the Material and Company

**Product Name:** Sodium Fluoride

**Chemical Name:** Sodium Fluoride

**Chemical Formular:** NaF

**Molecular Weight:** 42

**CAS Number:** 7681-49-4

**EINECS Number:** 231-667-8

**Recommended use of the chemical and restriction on use:** Water fluoridation, steel degassing, wood and adhesive preservative, electroplating, glass manufacture, disinfectant.

**Supplier:** Zhuzhou Xinbo Chemical Co.,Ltd.

Shaoshan Road, Tianyuan District, zhuzhou City, Hunan Province, China.

**Telephone Number:** 86-731-28282508

**Website:** www.xinbo-chem.com    www.zzxbchem.com

**Email:** xinbochem@gmail.com

### Section 2: Hazards Identification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

**Signal Word:** Danger



### Hazard Statements

Toxic if swallowed

Causes skin irritation

Causes serious eye irritation

### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

### **Skin**

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

### **Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

### **Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

### **Storage**

Store locked up

### **Disposal**

Dispose of contents/container to an approved waste disposal plant

### **Hazards not otherwise classified (HNOC)**

Contact with acids liberates very toxic gas

## **Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>CAS Number</b>	<b>Proportion</b>	<b>EC number</b>	<b>UN number</b>
Sodium fluoride	7681-49-4	>=98%	231-667-8	1690

## **Section 4: FIRST AID MEASURES**

For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed.

### **Inhalation:**

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

### **Skin Contact:**

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

**Eye Contact:**

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

**Ingestion:**

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

**Indication of immediate medical attention and special treatment needed:**

Treat symptomatically. For large exposures, systemic effects (hypocalcemia and hypomagnesia) may occur.

**Section 5: FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media:**

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

**Specific Hazards Arising from the substance or mixture:**

Non-combustible. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Gaseous hydrogen fluoride (HF)

**Special protective equipment and precautions for fire-fighters:**

Decomposes on heating emitting toxic fumes, including those of hydrogen fluoride, and sodium oxide. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

**Section 6: Accidental Release Measures**

**Emergency procedures/Environmental precautions:**

Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

**Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:**

Wear protective equipment to prevent skin and eye contact. Avoid breathing in dust. Work up wind or increase ventilation. Collect and seal in properly labelled containers or drums for disposal. DO NOT allow material to get wet.

## **Section 7: HANDLING AND STORAGE**

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

### **Precautions for safe handling:**

Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation. Keep out of reach of children.

### **Conditions for safe storage, including any incompatibilities:**

Store in a cool, dry, well ventilated place. Protect from moisture. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

## **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control Parameters:** Workplace Exposure Standard(s) for constituent(s):

Fluorides (as F): 8hr TWA = 2.5 mg/m<sup>3</sup>

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### **Appropriate engineering controls:**

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### **Individual protection measures, such as Personal Protective Equipment (PPE):**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Powder or Crystals
<b>Colour:</b>	White or Colourless
<b>Odour:</b>	Odourless
<b>Molecular Formula:</b>	NaF
<b>Specific Gravity:</b>	2.76
<b>Relative Vapour Density (air=1):</b>	1.45
<b>Vapour Pressure (20 °C):</b>	Not available; 1 mm Hg @ 1077 °C.
<b>Flash Point ( °C):</b>	Not applicable
<b>Flammability Limits (%):</b>	Not applicable
<b>Autoignition Temperature ( °C):</b>	Not applicable
<b>Solubility in water (g/L):</b>	40 @ 15 °C
<b>Melting Point/Range ( °C):</b>	996
<b>Boiling Point/Range ( °C):</b>	1695
<b>PH:</b>	8-10.5(1% solution)

## Section 10: STABILITY AND REACTIVITY

<b>Reactivity:</b>	Reacts with acids.
<b>Chemical stability:</b>	Stable under normal conditions of use.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerisation will not occur.
<b>Conditions to avoid:</b>	Avoid dust generation. Avoid exposure to moisture.
<b>Incompatible materials:</b>	Incompatible with acids.
<b>Hazardous decomposition products:</b>	Hydrogen fluoride. Sodium oxide.

## Section 11: TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Ingestion:** Swallowing may result in nausea, vomiting, and abdominal pain. Swallowing large amounts may cause muscle spasms, coma and death from respiratory failure.

**Eye contact:** An eye irritant.

**Skin contact:** Contact with skin will result in irritation.

**Inhalation:** Breathing in dust may result in respiratory irritation. Effects can include those described for 'INGESTION'.

**Acute toxicity:**

Oral LD50 (rat): 31 mg/kg.

Oral LD50 (mice): 44 mg/kg.

**Respiratory or skin sensitisation:** Not a skin sensitiser (guinea pig).

**Chronic effects:** Chronic fluorine poisoning is possible. Intake of more than 1.5 mg/L of fluoride can cause dental fluorosis with amounts of greater than 4 mg/L possibly causing skeletal fluorosis. Symptoms include weight loss, brittle bones, anaemia, weakness, and stiffness of joints. Chronic exposure may result in adverse effects on the heart, central nervous system, circulatory system, kidneys, and skeleton.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Do not empty into drains.

**Persistence and Degradability:** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation:** No information available.

**Mobility:** Will likely be mobile in the environment due to its water solubility.

## Section 13: Disposal Considerations

**Disposal methods:**

Refer to Waste Management Authority. Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 14: Transport Information

**Road and Rail Transport**

Classified as Dangerous Goods by the criteria of U.S Department of Transportation for Transport by Road and Rail: DANGEROUS GOODS



**UN No:** 1690  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUORIDE, SOLID

### **Marine Transport**

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea: DANGEROUS GOODS.

**UN No:** 1690  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUORIDE, SOLID  
**IMDG EMS Fire:** F-A  
**IMDG EMS Spill:** S-A

### **Air Transport**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air: DANGEROUS GOODS.

**UN No:** 1690  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUORIDE, SOLID

## **Section 15: REGULATORY INFORMATION**

### **Federal and State Regulations (U.S.A) :**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. Connecticut hazardous material survey.: Sodium fluoride Illinois chemical safety act: Sodium fluoride New York release reporting list: Sodium fluoride Rhode Island RTK hazardous substances: Sodium fluoride Pennsylvania RTK: Sodium fluoride Massachusetts RTK: Sodium fluoride Massachusetts spill list: Sodium fluoride New Jersey: Sodium fluoride New Jersey spill list: Sodium fluoride Louisiana spill reporting: Sodium

fluoride California Director's List of Hazardous Substances: Sodium fluoride TSCA 8(b) inventory: Sodium fluoride TSCA 8(a) PAIR: Sodium fluoride CERCLA: Hazardous substances.: Sodium fluoride: 1000 lbs. (453.6 kg).

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):**

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects(TOXIC).

**DSCL (EEC):**

R25- Toxic if swallowed. R32- Contact with acids liberates very toxic gas. R36/38- Irritating to eyes and skin. S22- Do not breathe dust. S36- Wear suitable protective clothing. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**HMIS (U.S.A.):**

**Health Hazard: 2**

**Fire Hazard: 0**

**Reactivity: 0**

**Personal Protection: E**

**National Fire Protection Association (U.S.A.):**

**Health: 3**

**Flammability: 0**

**Reactivity: 0**

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/21/2009

**Last Updated:** 08/28/2014

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace.



Since Zhuzhou Xinbo Chemical Co., Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Xinbo representative or Xinbo Operations Pty Ltd at the contact details on page 1.

Zhuzhou Xinbo Chemical Co.,Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.