

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** **SODIUM FLUOROSILICATE**

**Other name(s):** Disodium hexafluorosilicate; Sodium silicon fluoride; Sodium silicofluoride.

**Recommended use of the chemical and restrictions on use:** Water fluoridation, wood and leather preservative, etchant for opalescent glass.

**Supplier:** Ixom Operations Pty Ltd  
**ABN:** 51 600 546 512  
**Street Address:** Level 8, 1 Nicholson Street  
Melbourne 3000  
Australia

**Telephone Number:** +61 3 9665 7111  
**Facsimile:** +61 3 9665 7937  
**Emergency Telephone:** **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

**Classification of the substance or mixture:**

Acute Oral Toxicity - Category 3  
Acute Dermal Toxicity - Category 3  
Acute Inhalation Toxicity - Category 3

**SIGNAL WORD:** DANGER



**Hazard Statement(s):**

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

**Precautionary Statement(s):**

**Prevention:**

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / protective clothing / eye protection / face protection.

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## Response:

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P361 Take off immediately all contaminated clothing.  
P363 Wash contaminated clothing before re-use.  
P322 Specific measures (see First Aid Measures on Safety Data Sheet).  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).  
P311 Call a POISON CENTER or doctor/physician.

## Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

## Disposal:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Poisons Schedule (SUSMP):** S6 Poison.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Sodium fluorosilicate	16893-85-9	>=95%	H331 H311 H301

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) 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. If patient finds breathing difficult and develops a bluish discoloration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

### Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. This material can be absorbed through the skin with resultant toxic effects. Seek immediate 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. Get to a doctor or hospital quickly.

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

A calcic depletion may occur. A supervision of the acid-base balance and the calcium rate in the serum of the blood is necessary.

## 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).

**Hazchem or Emergency Action Code:** 2X

**Specific hazards arising from the substance or mixture:**

In the presence of water, contact with metals may produce hydrogen which may form explosive mixtures with air.

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

Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

## 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 and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal.

## 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. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters:** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

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

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As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

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. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

## 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Powder
<b>Colour:</b>	White
<b>Odour:</b>	Odourless
<b>Molecular Formula:</b>	Na <sub>2</sub> SiF <sub>6</sub>
<b>Solubility:</b>	Slightly soluble in water.
<b>Specific Gravity:</b>	ca. 2.7
<b>Relative Vapour Density (air=1):</b>	Not applicable
<b>Vapour Pressure (20 °C):</b>	Not applicable
<b>Flash Point (°C):</b>	Not applicable
<b>Flammability Limits (%):</b>	Not applicable
<b>Autoignition Temperature (°C):</b>	Not applicable
<b>Melting Point/Range (°C):</b>	375
<b>pH:</b>	Not available

## 10. STABILITY AND REACTIVITY

**Reactivity:** Reacts with acids liberating very toxic gas.

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<b>Chemical stability:</b>	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions:</b>	In the presence of water, contact with metals may produce hydrogen which may form explosive mixtures with air.
<b>Conditions to avoid:</b>	Avoid dust generation. Avoid exposure to moisture. Avoid exposure to heat.
<b>Incompatible materials:</b>	Incompatible with acids , aluminium , magnesium , cyanides .
<b>Hazardous decomposition products:</b>	Fluoric acid.

## 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 can result in nausea, vomiting, diarrhoea, and abdominal pain. Larger exposures may result in muscular weakness, shock, convulsions and spasms. Can be fatal due to respiratory and cardiac failure.

**Eye contact:** An eye irritant.

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

**Inhalation:** Breathing in dust may result in respiratory irritation. Breathing in high concentrations may result in the same symptoms described for 'INGESTION'.

**Acute toxicity:**

Oral LD50 (rat): >25-<2000 mg/kg  
Inhalation LC50 (rat): ca. 1814 mg/L/4hr

**Skin corrosion/irritation:** Non-irritant (rabbit).  
**Respiratory or skin sensitisation:** No information available.

**Chronic effects:** Repeated or prolonged exposure may result in fluorosis.

**Mutagenicity:** No evidence of mutagenic effects.

**Carcinogenicity:** Not listed as carcinogenic according to IARC.

Fluorosis in humans can result with the repeated ingestion of >6mg of fluorine per day. The fluoride accumulates in bone and can lead to the development of osteosclerosis and other bone changes. Teeth may also be affected.

Symptoms of fluorosis may include weight loss, brittle bones, anaemia, weakness and stiffness of joints.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Avoid contaminating waterways.

**Terrestrial toxicity:** Ecotoxic to terrestrial vertebrates.

## 13. DISPOSAL CONSIDERATIONS

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## Disposal methods:

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

## 14. TRANSPORT INFORMATION

### Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



**UN No:** 2674  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUOROSILICATE  
**Hazchem or Emergency Action Code:** 2X

### 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:** 2674  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUOROSILICATE

**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:** 2674  
**Transport Hazard Class:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SODIUM FLUOROSILICATE

## 15. REGULATORY INFORMATION

### Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

### Classification of the substance or mixture:

Acute Oral Toxicity - Category 3  
Acute Dermal Toxicity - Category 3  
Acute Inhalation Toxicity - Category 3

Product Name: SODIUM FLUOROSILICATE  
Substance No: 000031020201

Issued: 09/04/2013  
Version: 3

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**Hazard Statement(s):**

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

**Poisons Schedule (SUSMP):** S6 Poison.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

Supplier Safety Data Sheet; 06/ 2011.

In: 'The Dictionary of Substances and their Effects'. Ed.Gangolli S. Royal Society of Chemistry, 1999.

**Reason(s) for Issue:**

5 Yearly Revised Primary SDS

This SDS 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 Ixom Operations Pty 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 Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty 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.