

# Material Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** **SODIUM FLUORIDE**

**Recommended Use:** Water fluoridation, steel degassing, wood and adhesive preservative, electroplating, glass manufacture, disinfectant.

**Supplier:** Orica Australia Pty Ltd  
**ABN:** 99 004 117 828  
**Street Address:** 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)**

## 2. HAZARDS IDENTIFICATION

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

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

**Risk Phrases:** Toxic if swallowed. Contact with acids liberates very toxic gas. Irritating to eyes and skin.

**Safety Phrases:** Do not breathe dust. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

**Poisons Schedule:** S6 Poison.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Risk Phrases
Sodium fluoride	7681-49-4	>=98%	R25, R32, R36/38

## 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. 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.

**Product Name:** SODIUM FLUORIDE  
**Substance No:** 000031020001

**Issued:** 17/10/2008  
**Version:** 4

# Material Safety Data Sheet

**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.

**Medical attention and special treatment:**

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

**Hazards from combustion products:**

Non-combustible material.

**Precautions for fire fighters and special protective equipment:**

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.

**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 Code:** 2Z

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency procedures:**

If contamination of sewers or waterways has occurred advise local emergency services.

**Methods and materials for containment and clean 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.

## 7. HANDLING AND STORAGE

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

**Conditions for safe storage:**

Store in a cool, dry, well ventilated place and out of direct sunlight. 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.

**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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Limits:** No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for constituent(s):

**Product Name:** SODIUM FLUORIDE  
**Substance No:** 000031020001

**Issued:** 17/10/2008  
**Version:** 4

# Material Safety Data Sheet



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

As published by the National Occupational Health and Safety Commission.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

These 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 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.

## Engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted 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.

## Personal Protective Equipment:

The selection of PPE is dependant 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.

Orica Personal Protection Guide No. 1, 1998: F - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear 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

Physical state:	Powder or Crystals
Colour:	White or Colourless
Odour:	Odourless
Molecular Formula:	NaF
Specific Gravity:	2.78 @ 20°C
Relative Vapour Density (air=1):	1.45
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Solubility in water (g/L):	40
Melting Point/Range (°C):	988
Boiling Point/Range (°C):	1695
pH:	7.4 (freshly prepared saturated solution)

Product Name: SODIUM FLUORIDE  
Substance No: 000031020001

Issued: 17/10/2008  
Version: 4

## 10. STABILITY AND REACTIVITY

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

## 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:

<b>Ingestion:</b>	Swallowing may result in nausea, vomiting, and abdominal pain. Swallowing large amounts may cause muscle spasms, coma and death from respiratory failure.
<b>Eye contact:</b>	An eye irritant.
<b>Skin contact:</b>	Contact with skin will result in irritation.
<b>Inhalation:</b>	Breathing in dust may result in respiratory irritation.

### Long Term 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.

### Toxicological Data:

Oral LD50 (rat): 31 mg/kg.  
Oral LD50 (mice): 44 mg/kg.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Avoid contaminating waterways.
--------------------	--------------------------------

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods:

Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.

## 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.

# Material Safety Data Sheet



**UN No:** 1690  
**Class-primary:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name:** SODIUM FLUORIDE  
**Hazchem Code:** 2Z

## Marine Transport

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

This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.

**UN No:** 1690  
**Class-primary:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name:** SODIUM FLUORIDE, SOLID

## 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  
**Class-primary:** 6.1 Toxic  
**Packing Group:** III  
**Proper Shipping Name:** SODIUM FLUORIDE

## 15. REGULATORY INFORMATION

**Classification:** This material is hazardous according to criteria of Safe Work Australia; HAZARDOUS SUBSTANCE.

**Hazard Category:** T : Toxic  
Xi: Irritant

**Risk Phrase(s):** R25: Toxic if swallowed.  
R32: Contact with acids liberates very toxic gas.  
R36/38: Irritating to eyes and skin.

**Safety Phrase(s):** S22: Do not breathe dust.  
S24/25: Avoid contact with skin and eyes.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.  
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

**Poisons Schedule:** S6 Poison.

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

**Product Name:** SODIUM FLUORIDE  
**Substance No:** 000031020001

**Issued:** 17/10/2008  
**Version:** 4

## 16. OTHER INFORMATION

'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2008.

This material safety data sheet has been prepared by SH&E Shared Services, Orica.

**Reason(s) for Issue:**

Revised Primary MSDS

Alignment to HSNO requirements

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 Orica Limited 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 Orica representative or Orica Limited at the contact details on page 1.

Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.