



MATERIAL SAFETY DATA SHEET  
Potassium fluoride

### Section 1 - Chemical Product and Company Identification

<b>MSDS Name:</b>	Potassium fluoride
<b>Catalog Numbers:</b>	P/5000/53, P/5010/53
<b>Synonyms:</b>	None.
<b>Company Identification:</b>	Fisher Scientific UK Bishop Meadow Road, Loughborough Leics. LE11 5RG
<b>For information in Europe, call:</b>	(01509) 231166
<b>Emergency Number, Europe:</b>	01509 231166

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
7789-23-3	Potassium fluoride	99	232-151-5

**Hazard Symbols:** T



**Risk Phrases:** 23/24/25

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Toxic by inhalation, in contact with skin and if swallowed. Hygroscopic (absorbs moisture from the air).*

#### Potential Health Effects

- Eye:** Contact with eyes may cause severe irritation, and possible eye burns. Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities.
- Skin:** Harmful if absorbed through the skin. Causes severe skin irritation and possible burns.
- Ingestion:** Harmful if swallowed. Ingestion of large amounts of fluoride may cause salivation, nausea, vomiting, abdominal pain, fever, labored breathing. Inorganic fluorides can be harmful. Acute exposure to fluorine compounds can lead to digestive tract burns, and abdominal pain. Exposure to fluoride compounds can result in systemic toxic effects on the heart, liver, and kidneys. It may also deplete calcium levels in the body leading to hypocalcemia and death. Fluoride can reduce calcium levels leading to fatal hypocalcemia.
- Inhalation:** Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Causes respiratory tract irritation with possible burns.
- Chronic:** Chronic inhalation and ingestion may cause chronic fluoride poisoning (fluorosis) characterized by weight loss, weakness, anemia, brittle bones, and stiff joints. Chronic exposure to fluoride compounds may cause systemic toxicity. Skeletal effects may include bone brittleness, joint stiffness, teeth discoloration, tendon calcification, and osteosclerosis.

## Section 4 - First Aid Measures

- Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
- Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

### Notes to Physician:

## Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
- Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

## Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Use only in a chemical fume hood. Avoid breathing dust.
- Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

## Section 8 - Exposure Controls, Personal Protection

### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

CAS# 7789-23-3:

- United Kingdom, WEL - TWA: ( fluorides, inorganic): 2.5 mg/m<sup>3</sup> TWA (as F)
- United Kingdom, WEL - STEL: ( fluorides, inorganic): 6.25 mg/m<sup>3</sup> STEL (as F)
- United States OSHA: 2.5 mg/m<sup>3</sup> TWA (as F) (Fluorides).2.5 mg/m<sup>3</sup> TWA (as F) (Fluorides).
- Belgium - TWA: ( fluorides, inorganic): 2.5 mg/m<sup>3</sup> VLE (as F)
- France - VME: ( fluorides): 2.5 mg/m<sup>3</sup> VME (as F)
- Germany: ( fluorides): 2.5 mg/m<sup>3</sup> VME (as F)
- Malaysia: ( fluorides): 2.5 mg/m<sup>3</sup> TWA (as F)
- Netherlands: ( fluorides): 3.5 mg/m<sup>3</sup> STEL (as F)
- Russia: 0.2 mg/m<sup>3</sup> TWA (aerosol, as F) Russia: 1 mg/m<sup>3</sup> STEL (aerosol, as F)

Spain: ( fluorides, inorganic): 2.5 mg/m3 VLA-ED (except uranium hexafluoride, as F)

### Personal Protective Equipment

- Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- Skin:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9 - Physical and Chemical Properties

- Physical State:** Crystalline powder
- Color:** white - fine
- Odor:** odorless
- pH:** Not available
- Vapor Pressure:** Not available
- Viscosity:** Not available
- Boiling Point:** 1505 deg C @ 760 mmHg ( 2,741.00°F)
- Freezing/Melting Point:** 860 deg C ( 1,580.00°F)
- Autoignition Temperature:** Not applicable
- Flash Point:** Not applicable.
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- Decomposition Temperature:** Not available
- Solubility in water:** IN WATER: 92.3 G/100ML (18°C)
- Specific Gravity/Density:** 2.4800 g/cm3
- Molecular Formula:** FK
- Molecular Weight:** 58.09

### Section 10 - Stability and Reactivity

- Chemical Stability:** Hygroscopic: absorbs moisture or water from the air.
- Conditions to Avoid:** Dust generation, excess heat.
- Incompatibilities with Other Materials** Strong acids.
- Hazardous Decomposition Products** Hydrogen fluoride gas, oxides of potassium.
- Hazardous Polymerization** Has not been reported.

### Section 11 - Toxicological Information

- RTECS#:** CAS# 7789-23-3: TT0700000
- LD50/LC50:** RTECS:  
**CAS# 7789-23-3:** Oral, rat: LD50 = 245 mg/kg;
- Carcinogenicity:** Potassium fluoride - IARC: Group 3 (not classifiable) (Fluorides, inorganic).
- Other:** See actual entry in RTECS for complete information.

### Section 12 - Ecological Information

Not available

### Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

### Section 14 - Transport Information

	<b>IATA</b>	<b>IMO</b>	<b>RID/ADR</b>
<b>Shipping Name:</b>	POTASSIUM FLUORIDE	POTASSIUM FLUORIDE, SOLID	POTASSIUM FLUORIDE
<b>Hazard Class:</b>	6.1	6.1	6.1
<b>UN Number:</b>	1812	1812	1812
<b>Packing Group:</b>	III	III	III

### Section 15 - Regulatory Information

#### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7789-23-3: 1

Canada

CAS# 7789-23-3 is listed on Canada's DSL List

#### US Federal

TSCA

CAS# 7789-23-3 is listed on the TSCA Inventory.

### Section 16 - Other Information

**MSDS Creation Date:** 9/02/1997

**Revision #7 Date** 6/06/2006

**Revisions were made in Sections:** 9

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