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## Material Safety Data Sheet

### Potassium fluorosilicate MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Potassium fluorosilicate

**Catalog Codes:** SLS4021

**CAS#:** 16871-90-2

**RTECS:** VV8410000

**TSCA:** TSCA 8(b) inventory: Potassium fluorosilicate

**CI#:** Not available.

**Synonym:** Potassium Silicofluoride; dipotassiumhexafluorosilicate(2-);hexafluoro-silicate(2-dipotassium); potassiumfluosilicate;Silicate(2-),hexafluoro-,dipotassium;POTASSIUM HEXAFLUOROSILICATE;POTASSIUM FLUOROSILICATE;POTASSIUM SILICOFLUORIDE;dipotassium hexafluorosilicat

**Chemical Formula:** F6K2Si

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#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	%By Weight
Potassium fluorosilicate	16893-85-9	100

**Toxicological Data on Ingredients:** Sodium silicofluoride: ORAL (LD50): Acute: 125 mg/kg [Rat]. 70 mg/kg [Mouse]

#### Section 3: Hazards Identification

**Potential Acute Health Effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death.

**Potential Chronic Health Effects:** CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

#### Section 4: First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:** Not available.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Serious Ingestion:** Not available.

#### Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available.

**Risks of explosion of the product in presence of static discharge:** Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** When heated to decomposition it emits toxic fumes of hydrogen fluoride. When heated to decomposition it emits highly corrosive fumes.

**Special Remarks on Explosion Hazards:** Not available

#### Section 6: Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:** Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:** Keep container dry. Do not ingest. Do not breathe dust. Avoid contact with eyes. Never add water to this product. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids, alkalis. May corrode glass. Store in an appropriate container.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** TWA: 2.5 (mg(F)/m) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Solid crystalline powder.)

**Odor:** Odorless.

**Taste:** Tasteless.

**Molecular Weight:** 220.27 g/mole

**Color:** White.

**pH (1% soln/water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** Decomposes.

**Critical Temperature:** Not available.

**Specific Gravity:** 2.665 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Partially soluble in cold water, hot water. Insoluble in ethanol. Soluble in 150 parts cold water, 40 parts boiling water. Solubility in water: 0.64 g/100 g at 20 deg. C.; 0.76 g/100 g at 25 deg. C; 1.27 g/100 g at 50 deg. C; 2.45 g/100 g at 100 deg. C.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials

**Incompatibility with various substances:** Reactive with acids, alkalis.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:** Incompatible with strong acids, alkaline materials, iron containing materials. It may react with strong mineral acids to liberate hydrogen fluoride or hydrofluoric acid which are highly toxic and corrosive.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 70 mg/kg [Mouse].

**Chronic Effects on Humans:** CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC.

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May cause cancer based on animal test data. No human data found.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Causes mild to moderate skin irritation. Symptoms may include redness, burning sensation (feeling), and sometimes ulcers. Eyes: Causes moderate to severe irritation. Inhalation: It can irritate the nose, throat, lungs causing coughing, wheezing and/or shortness of breath Ingestion: Harmful if swallowed. It is toxic by oral exposure route. Symptoms of acute ingestion include a salty or soapy taste in the mouth, excessive salivation, nausea, abdominal cramps, vomiting, diarrhea, thirst. It may also affect behavior/central nervous system (central nervous system depression, muscle weakness, tremors or spasms, ataxia, convulsions) and may also cause disturbed color vision, kidney damage, liver damage, bleeding from the stomach, shortness of breath, loss of consciousness or death. Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact may produce pustular rash. Inhalation or Ingestion: Prolonged or repeated exposure may cause excess respiratory, cardiac, and gastrointestinal disturbances, and chronic bronchitis. It may also cause liver and kidney damage, fluorosis and osteosclerosis. Fluorosis can cause mottling of teeth.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are as toxic as the original product.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Section 14: Transport Information

**DOT Classification:** CLASS 6.1: Poisonous material.

**Identification:** : Potassium fluorosilicate UNNA: 2655 PG: III

**Special Provisions for Transport:** Not available.

### Section 15: Other Regulatory Information

**Federal and State Regulations:** Massachusetts RTK: Sodium silicofluoride New Jersey: Sodium silicofluoride TSCA 8(b) inventory: Sodium silicofluoride

**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):** R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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: 2**

**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.

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