

# MATERIAL SAFETY DATA SHEET (MSDS)

POTASSIUM FLUORIDE LR (ANHYDROUS)

#### 1. Product Identification

Synonyms: None CAS No.: 7789-23-3

Product Coad: P0166805000

Molecular Weight: 58.10 Chemical Formula: KF

### 2. Composition/Information on Ingredients

Ingredient CAS No Percent Hazardous

Potassium Fluoride 7789-23-3 90 - 100% Yes

#### 3. Hazards Identification

Emergency Overview DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CORROSIVE. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

Inhalation: May cause irritation and burns to the respiratory tract, symptoms may include coughing, sore throat, and labored breathing. May be absorbed through inhalation of dust; symptoms may parallel those from ingestion exposure. Irritation and burning effects may not appear immediately. Ingestion: May cause salivation, nausea, vomiting, diarrhea, and abdominal pain, followed by weakness, tremors, shallow respiration, cardopedal spasm, convulsions, and coma. May cause brain and kidney damage. Death may be caused by respiratory paralysis. Affects heart and circulatory system.

**Śkin Contact:** Causes severe irritation and possibly burns to the skin. May be absorbed through the skin. Effects may not appear immediately. **Eye Contact:** Causes irritation. May be extremely irritating with possible burns to eye tissue and permanent eye damage may result. **Chronic Exposure:** Chronic exposure may cause mottling of teeth and bone damage (osteosclerosis) and fluorosis. Symptoms of fluorisis include brittle bones, weight loss, anemia, calcified ligaments, general ill health and joint stiffness.

Aggravation of Pre-existing Conditions: Populations that appear to be at increased risk from the effects of fluoride are individuals that suffer from diabetes insipidus or some forms of renal impairment.

### 4. First Aid Measures

First aid procedures should be pre-planned for fluoride compound emergencies.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. CALL A PHYSICIAN IMMEDIATELY.

**Ingestion:** Administer milk, chewable calcium carbonate tablets or milk of magnesia. Never give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.

Skin Contact: Wipe off any excess material from skin and then immediately flush skin with large amounts of soapy water. Remove contaminated clothing and shoes. Wash clothing before re-use. Apply bandages soaked in magnesium sulfate. CALL A PHYSICIAN IMMEDIATELY.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately

Note to Physician: For large exposures, systemic effects (hypocalcemia and hypomagnesia) may occur.

### 5. Fire Fighting Measures

Fire: Not considered to be a fire hazard. Explosion: Not considered to be an explosion hazard.

**Fire Extinguishing Media:** Use any means suitable for extinguishing surrounding fire. Water spray will also reduce fumes and irritant gases. **Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

<u>6. Accidental Release Measures</u>Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from acids and alkalis. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

## 8. Exposure Controls/Personal Protection



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#### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):2.5 mg (F)/m3 (TWA)

- ACGIH Threshold Limit Value (TLV):2.5 mg (F)/m3 (TWA) A4 - not classifiable as a human carcinogen.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

#### 9. Physical and Chemical Properties

Appearance: White powder.

Odor: Odorless.

Solubility: Appreciable in water.

Specific Gravity: 2.48 pH: No information found.

% Volatiles by volume @ 21C (70F): 0

Boiling Point: 1505C (2741F) Melting Point: 860C (1580F)

Vapor Density (Air=1): 2.0

Vapor Pressure (mm Hg): 1 @ 885C (1625F)

### 10. Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage. Attracts moisture from the air. **Hazardous Decomposition Products:** Burning may produce hydrogen fluoride vapors.

Hazardous Polymerization: Will not occur.

Incompatibilities: Platinum plus bromine trifluoride; reacts with strong acids to form hydrogen fluoride. Corrodes glass and porcelain.

Conditions to Avoid: Moisture and incompatibles.

### 11. Toxicological Information

KF: Oral rat LD50: 245 mg/kg. Investigated as a mutagen, reproductive effector.

---NTP Carcinogen---

Ingredient Known Anticipated IARC Category

Potassium Fluoride (7789-23-3) No No None

## 12. Ecological Information

**Environmental Fate:** No information found. **Environmental Toxicity:** No information found.

### 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.



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### 14. Transport Information

Proper Shipping Name: POTASSIUM FLUORIDE, SOLID

Hazard Class: 6.1 UN/NA: UN1812 Packing Group: III

#### 15. Regulatory Information

\Chemical Inventory Status - Part 1\	
Ingredient	TSCA EC Japan Australia
Potassium Fluoride (7789-23-3)	Yes Yes Yes Yes
\Chemical Inventory Status - Part 2\	
	Canada
Ingredient	Korea DSL NDSL Phil.
Potassium Fluoride (7789-23-3)	Yes Yes No Yes
\Federal, State & International Regulations - Part 1\	
-SAR	A 302SARA 313
Ingredient R	Q TPQ List Chemical Catg.
Potassium Fluoride (7789-23-3) No No No No	
\Federal, State & International Regulations - Part 2\	
	-RCRATSCA-
Ingredient C	ERCLA 261.33 8(d)
Potassium Fluoride (7789-23-3)	No No No
Chemical Weapons Convention: No TSCA 12(b): No CDTA: No	
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No	
Reactivity: No (Pure / Solid)	

Australian Hazchem Code: 2Z Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning: DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CORROSIVE. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

Label Precautions: Do not get in eyes, on skin, or on clothing.Do not breathe dust.Keep container closed.Use only with adequate ventilation.Wash thoroughly after handling.

Label First Aid: In all cases call a physician immediately. First Aid procedures should be pre-planned for fluoride compound emergencies. If swallowed, administer milk, chewable calcium carbonate tablets or milk of magnesia. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. In case of skin contact wipe off any excess material then



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immediately flush skin with large amounts of soapy water. Remove contaminated clothing and shoes. Wash clothing before re-use. Apply bandages soaked in magnesium sulfate. In case of eye contact, immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting upper and lower eyelids occasionally.

Product Use: Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

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  appropriate precautionary handling of the material by a properly trained person using this
  product.

**End of document**