

4. First Aid Measures

Eyes

Flush affected areas with water for at least 15 minutes. Seek medical assistance if necessary.

Skin

Remove contaminated clothing. Wash affected area with large quantities of soap and water for at least five minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.

Ingestion

Do not induce vomiting unless so instructed by medical authority. If the subject is conscious, give plenty of milk or water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

Inhalation

If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

Note to Physician or Poison Control Center

Depending upon the dose, ingestion of the component potassium fluoride may be harmful. Its concentration in the product is <150 gm/kg. Treat fluoride intoxication symptomatically. No components are absorbed through the skin, although prolonged skin contact can cause irritation.

5. Fire Fighting Measures

Extinguishing Media

Use dry chemical, foam, or carbon dioxide. Do not use water.

Fire and Explosion Hazards

This product may ignite if exposed to flame at temperatures above its flash point and/or at temperatures above its autoignition point. If it is present in a fire or explosion, potential decomposition byproducts may include potassium hydroxide, fluorides, carbon monoxide, smoke, and irritant combustion byproducts.

Fire Fighting Instructions

If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full-facepiece operated in pressure-demand or other positive pressure mode.

6. Accidental Release Measures

Methods and Materials

Isolate spilled product and transfer to impervious containers.

Personal Precautions

Avoid contact with skin, eyes, and mucous membranes. Wear appropriate protective equipment (e.g., gloves, chemical goggles) during cleanup.

Environmental Precautions

Prevent spills from entering sewers or contaminating soil.

7. Handling and Storage

Handling Precautions

Avoid contact with skin and clothing, using protective equipment as needed.

Work and Hygiene Practices

To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.

Storage Precautions

Store in a cool place away from sources of ignition and incompatible materials (see Section #10).

8. Exposure Controls and Personal Protection

Ingredients - Exposure Limits

Cesium aluminum fluoride

ACGIH TLV: 2.5 mg/m³ TWA (as F-) OSHA PEL: 2.5 mg/m³ TWA (as F-)

Parrafinic hydrocarbon

No specific ACGIH TLV(s) No specific OSHA PEL(s)

Manufacturer's Recommended OEL: 1,200 mg/m³ TWA

Potassium fluoride

ACGIH TLV: 2.5 mg/m³ TWA (as F-) OSHA PEL: 2.5 mg/m³ TWA (as F-)

Ingredients - Biological Limits

Cesium aluminum fluoride

ACGIH BEIs for fluoride in urine: 2 mg/l. prior to shift
3 mg/l. end of shift

Parrafinic hydrocarbon

No ACGIH BEI(s) or other biological limit(s)

Potassium fluoride

ACGIH BEIs for fluoride in urine: 2 mg/l. prior to shift
3 mg/l. end of shift

Engineering Controls

Use dilution or local exhaust ventilation adequate to maintain concentrations of all components and their byproducts to within their applicable standards.

Eye/Face Protection

Wear eye protection adequate to prevent eye contact with the product and injury if the product is used with a flame. Plastic-frame spectacles with side shields are recommended.

Skin Protection

Wear protective gloves and clothing to prevent skin injuries if the product is used with a flame and/or for prolonged contact with the product. Avoid flammable fabrics.

Respiratory Protection

If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (facepiece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

9. Physical and Chemical Properties

Appearance: white paste
Odor: mineral spirits
Odor threshold: not determined
pH: not applicable
Melting point: not applicable
Freezing point: not determined
Boiling range: 437-469F./225-243C.
Flash Point: >200F./93C.
Autoignition Point: >410F./210C.
Flammability Class: IIIB
Lower/Upper Explosive Limits: approx. 1.4%/8.4%
Evaporation Rate: <0.01 (n-butyl acetate = 1)
Vapor pressure: <1 mm Hg @ 25C.
Vapor density: not determined
Relative density (H₂O): not determined
Solubility (H₂O): partial
Oil-water partition coefficient: not determined
Decomposition temperature: not determined
Viscosity: not determined

10. Stability and Reactivity

Reactivity: none reasonably foreseeable
Stability: stable
Hazardous Polymerization: will not occur
Risk of Dangerous Reactions: Some components of the product may decompose at elevated temperatures.

Incompatible Materials

Strong oxidizing agents; oxygen; hypochlorites; platinum plus bromine trifluoride.

Potential Hazardous Decomposition Products

Potassium hydroxide, fluorides, carbon monoxide, carbon dioxide, smoke, and decomposition byproducts.

11. Toxicological Information

This product has not been tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Cesium aluminum fluoride	
LD50: >2,000 mg/kg (oral/rat)	LC50: No data available
Paraffinic hydrocarbon	
LD50: 5,000 mg/kg (oral/rat)	LC50: No data available
Potassium fluoride	
LD50: 245 mg/kg (oral/rat)	LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

This product may cause eye irritation.

Skin Hazards

Prolonged skin contact may cause irritation.

Ingestion Hazards

Ingestion of the product may cause one or more of the following symptoms and effects: nausea, vomiting, cramps, gastrointestinal irritation, abdominal pain, and convulsions. Chronic ingestion may cause fluorosis (a disease characterized by mottled teeth, osteosclerosis, and pain and loss of mobility in joints).

Inhalation Hazards

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8). If the product is heated to elevated temperatures, vapors of the paraffinic hydrocarbon may irritate the nose, throat, and upper respiratory system.

Symptoms Related to Overexposure

Irritation to the nose, throat, and respiratory tract; cough, nose bleeds, nausea, vomiting, chest tightness, chills, fever, pneumonitis, tearing, and pulmonary edema.

Delayed Effects from Long Term Overexposure

Aggravation of pre-existing diseases of the liver, kidneys, and the skeletal, nervous, and gastrointestinal systems.

Carcinogenicity

The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Germ Cell Mutagenicity

Some inorganic fluorides have been demonstrated to induce mutagenic changes in mammalian cells in culture. No genetic effects in humans from occupational exposure to potassium fluoride or cesium aluminum fluoride have been established.

Reproductive Effects

The product contains no chemicals determined to be damaging to fertility or to the unborn child.

Acute Toxicity Estimates

LD50 (oral): >1,300 mg/kg
LD50 (dermal): no data available
LC50: no data available

Interactive Effects of Components: no data available

12. Ecological Information

No ecological data is available for the product. Ecological data for the components is as follows:

Cesium Aluminum Fluoride

Aquatic Toxicity to Fish: LC50 = 100 mg/l. for 96 h. (Grass Carp)
Aquatic Toxicity to Invertebrates: EC50 = 31 mg/l. for 48 h. (Daphnia)
Aquatic Toxicity to Plants: EC50 = 18 mg/l. for 72 h. (Algae)
No data available for Aquatic Toxicity to Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Paraffinic Hydrocarbon

No data available for Aquatic Toxicity to Fish, Invertebrates, Plants, Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Potassium Fluoride

Aquatic Toxicity to Fish: LC50 = 64 mg/l. for 240 h. (Trout)
Aquatic Toxicity to Invertebrates: EC50 = 270 mg/l. (Daphnia)
Aquatic Toxicity to Plants: EC50 = 95 mg/l. for 96 h. (Algae)
Aquatic Toxicity to Microorganisms: EC50 = 101 mg/l. (Protozoa)
No data available for Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Ozone Depletion Potential: This product contains no ingredients listed in the Annexes to the Montréal Protocol on Substances that Deplete the Ozone Layer.

13. Disposal Considerations

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Disposal of products containing fluorides may be subject to restrictions. Consult applicable Federal, State/Provincial, and local regulations.

14. Transport Information

Transport is not regulated by USDOT, TDG (Canada), IATA, or IMO.

15. Regulatory Information

United States Regulatory Information

All components of this product are listed on the EPA's TSCA inventory.

SARA Hazard Classes: Acute Health Hazard; Chronic Health Hazard

SARA Section 313 Notification

This product contains no ingredients in concentrations >1% (for carcinogens >0.1%) regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

Canadian Regulatory Information

All components of this product are listed on either the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).

WHMIS Class(es) and Division(s): D1B, D2B

Components on Ingredients Disclosure List:

1. Fluoride compounds, inorganic, n.o.s.

This product has been classified according to the hazard criteria of the CPR and this SDS contains all of the information required by the CPR.

16. Other Information

HMIS Ratings (Legend)

Health - 2* (moderate, chronic hazard)

Flammability - 1 (slight hazard)

Physical Hazard - 0 (minimal hazard)

PPE - see Note

Note: Lucas-Milhaupt, Inc. recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

NFPA Ratings

Health - 2 Flammability - 1 Reactivity - 0

Preparation Information

Date of Preparation:

Date of Prior SDS: 29 August 2013

Disclaimer

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Lucas-Milhaupt, Inc.