



Material Safety Data Sheet

| NFPA | HMIS | Personal Protective Equipment |
|--------------------|---------------|-------------------------------|
| 2 _{0XV} 0 | Fire Hazard 0 | |
| ¥/// | Reactivity | See Section 15. |

| Section 1. Chemical Product and Company Identification | | | Page Number: 1 | |
|--|---|---|---|--|
| Common Name/ Trade Name | Silver nitrate | Catalog Number(s). | S1085, S1086, SI115 | |
| | | CAS# | 7761-88-8 | |
| Manufacturer | SPECTRUM LABORATORY PRODUCTS INC. | RTECS | VW4725000 | |
| | 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | TSCA | TSCA 8(b) inventory: Silver nitrate | |
| Commercial Name(s) | Lunar caustic | CI# | Not available. | |
| Synonym | Silver (1+) nitrate; Nitric acid, silver (1+) salt | | | |
| Chemical Name | Silver Nitrate | *************************************** | <u>F EMERGENCY</u> C (24hr) 800-424-9300 | |
| Chemical Family | ly Not available. | | CALL (310) 516-8000 | |
| Chemical Formula | AgNO3 | | | |
| Supplier | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | | | |

| Section 2.Composition and Information on Ingredients | | | | | | |
|--|---------------------------------|---------------|----------------------|-----------------|-------------------|-------------|
| Name 1) Silver nitrate | | | Exposure Limits | | | |
| | | CAS# | TWA (mg/m³) | STEL (mg/m³) | CEIL (mg/m³) | % by Weight |
| | | 7761-88-8 | 0.01 | | | 100 |
| Toxicological Data on Ingredients | Silver nitrate: ORAL (LD50): | Acute: 1173 m | g/kg [Rat]. 50 mg/kg | [Mouse]. 473 mg | /kg [Guinea pìg]. | |

Section 3. Hazards Identification

Potential Acute Health Effects Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

| Silver nitrate | Page Number: 2 |
|-------------------------------------|--|
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs. The substance may be toxic to mucous membranes, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. |

| Section 4. First A | iu 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 contaminate 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 | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediated attention. | | | |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. | | | |
| 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 | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. | | | |
| 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 | organic materials, combustible materials | |
| 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 | Contact with combustible or organic materials may cause fire. | |
| Special Remarks on Explosion Hazards | Silver nitrate mixed with dry powdered magnesium may ignite explosively on contact with a drop of water. An explosive fulminate may be formed if silver nitrate is mixed with alcohols. Highly explosive is formed by the addition of calcium carbide to silver nitrate solution. | |

| Silver nitrate | | Page Number: 3 | |
|---|--|--|--|
| Section 6. Accidental | Release Measures | | |
| Small Spill | Use appropriate tools to put the spilled solid in a convenient waste disposal container. | | |
| Large Spill | Oxidizing material. Corrosive solid. Stop leak if without risk. Do not get water inside container. Avoid contact with a combustible material (wood, paper, oil, clothing). Keep substance damp using water spray. 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 a | and Storage | | |
| Precautions | material Do not ingest. Do not breathe dust | Keep away from sources of ignition. Keep away from combustible. Never add water to this product. In case of insufficient ventilation, ted, seek medical advice immediately and show the container or the | |
| Storage | Keep container tightly closed. Keep container reducing agents and combustibles. See NFP to light. Store in light-resistant containers. | ner in a cool, well-ventilated area. Separate from acids, alkalies, A 43A, Code for the Storage of Liquid and Solid Oxidizers. Sensitive | |
| Section 8. Exposure | Controls/Personal Protection | | |
| Engineering Controls | | lation, or other engineering controls to keep airborne levels below ons generate dust, fume or mist, use ventilation to keep exposure to it. | |
| Personal Protection | Splash goggles. Synthetic apron. Vapor and 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. Vapor and 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: 0.01 (mg/m³ Ag) from ACGIH (TLV) [ITWA: 0.01 (mg/m³ Ag) from OSHA (PEL) [ITWA: 0.01 (mg/m³ Ag) from OSHA (PEL) [ITWA: 0.01 (mg/m³ Ag) from OSHA (PEL) [ITWA: 0.01 (mg/m³ Ag) from ACGIH (TLV) [ITWA: 0.01 (mg/m³ Ag) from OSHA (PEL) [ITWA: 0.01 (mg/m³ Ag) from OSHA (production from OSHA (productin from OSHA (production from OSHA (production from OSHA (producti | Inited States] | |
| Section 9. Physical a | nd Chemical Properties | | |
| Physical state and appearance | Solid. (Crystals solid.) | Odor Not available. | |
| Molecular Weight | 169.87 g/mole | Taste Bitter. Metallic | |
| pH (1% soln/water) | 6 - 7 [slightly acidic to neutral] | Color Colorless. White. | |
| | | | |
| Boiling Point | Decomposition temperature: 440°C (824°F) | | |
| | Decomposition temperature: 440°C (824°F) 212°C (413.6°F) | | |
| Melting Point | | | |
| Melting Point Critical Temperature | 212°C (413.6°F) | | |
| Melting Point | 212°C (413.6°F) Not available. | | |
| Melting Point Critical Temperature Specific Gravity | 212°C (413.6°F) Not available. 4.35 (Water = 1) | | |
| Melting Point Critical Temperature Specific Gravity Vapor Pressure | 212°C (413.6°F) Not available. 4.35 (Water = 1) Not applicable. | | |
| Melting Point Critical Temperature Specific Gravity Vapor Pressure Vapor Density | 212°C (413.6°F) Not available. 4.35 (Water = 1) Not applicable. 5.8 (Air = 1) | | |
| Melting Point Critical Temperature Specific Gravity Vapor Pressure Vapor Density Volatility | 212°C (413.6°F) Not available. 4.35 (Water = 1) Not applicable. 5.8 (Air = 1) Not available. | | |
| Melting Point Critical Temperature Specific Gravity Vapor Pressure Vapor Density Volatility Odor Threshold | 212°C (413.6°F) Not available. 4.35 (Water = 1) Not applicable. 5.8 (Air = 1) Not available. Not available. | | |
| Melting Point Critical Temperature Specific Gravity Vapor Pressure Vapor Density Volatility Odor Threshold Water/Oil Dist. Coeff. | 212°C (413.6°F) Not available. 4.35 (Water = 1) Not applicable. 5.8 (Air = 1) Not available. Not available. Not available. | | |

| Silver nitrate | | Page Number: 4 |
|----------------|---|----------------|
| Solubility | Easily soluble in cold water, hot water. Soluble in diethyl ether. Very slightly soluble in acetone. Solubility in water: 122 g/100 ml water @ 0 deg. C. Solubility in water: 952 g /100 ml water @ 190 deg. C Solubility in alcohol: 1 g/30 ml alcohol; 1g/ 6.5 ml boiling alcohol. Solubility in acetone: 1 g/ 253 ml acetone | |

| Stability | The product is stable. | | |
|---|--|--|--|
| Instability Temperature | Not available. | | |
| Conditions of Instability | Incompatible materials, light | | |
| Incompatibility with various substances | Reactive with reducing agents, combustible materials, organic materials, alkalis. | | |
| Corrosivity | Non-corrosive in presence of glass. | | |
| Special Remarks on Reactivity | Sensitive to light. Incompatible with antimony salts, arsenites, bromides, carbonates, chloarides, iodides, thiocyanates, ferrous salts, hypophosphites, morphine salts, oils, creosote, phosphates, tannic acid, tartrates, vegetable decoctions, and extracts, sodium hydroxide, charcoal, thimerosal, benzalkonium chloride, halogenated acids and their salts, alcohols. Silver nitrate reacts with acetylene in presence of ammonia to form silver acetylide, a sensitive powerful detonator when dry. Reaction between silver nitrate and chlorosulfonic acid is violent. Silver nitrate is reduced by hydrogen sulfide in the dark. Silver nitrate is easily reduces to metallic silver by ferrous salts, arsenites, hypophosphites, tartrates, sugars, tannins, volatile oils. | | |
| Special Remarks on Corrosivity | Not available. | | |
| Polymerization | Will not occur. | | |

| Routes of Entry | Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion. | | |
|---|---|--|--|
| Toxicity to Animals | Acute oral toxicity (LD50): 50 mg/kg [Mouse]. | | |
| Chronic Effects on Humans | Causes damage to the following organs: lungs. May cause damage to the following organs: mucous membranes, skin, eyes. | | |
| Other Toxic Effects on Humans | Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). | | |
| Special Remarks on Toxicity to Animals | Not available. | | |
| Special Remarks on Chronic Effects on Humans | May affect genetic material (mutagenic). May cause cancer based on animal test data. May cause adverse reproductive effects. | | |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects: Skin: Causes severe irritation and possible burns. It may cause dermatitis. It may be absorbed through the skin Eyes: Causes severe irritation. Can cause burns, corneal opacification, bleeding conjunctiva, burns of conjunctiva, blindness. Inhalation: Causes irritation of the respiratory tract and mucous membranes with possible chemical burns Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache nausea, vomiting. Ingestion: Causes severe digestive/gastrointestinal tract irritation and can cause burns. Symptoms may include pain and burning in the mouth, violent abdominal pain, a blackening of the skin and mucous membranes salivation, vomiting of black material, diarrhea, hypermotility, ulcerative gingivitis. May affect kidneys (lesions of kidneys, anuria,), lungs (lesions of lungs). Other symptoms of acute silver poisoning may include shock | | |

Silver nitrate Page Number: 5

dzziness, tetany, somnolence, vertigo, coma, convulsions), cardiovascular (fall in blood pressure), respiration (decreased respiration, cyanosis),

Chronic Potential Health Effects:

- * Chronic exposure to Silver nitrate dust or fumes can gradually cause the eyes, nails, inner nose, throat, body organs and skin to bluish-grayish color. This usually takes 2 to 20 years to develop and is permanent.
- *Systemic absorption of the nitrate and reduction to nitrite may cause rare methemoglobinemia which is characterized by chocolate -brown colored blood, headache, weakness, dizziness, shortness of breath, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate.

Eyes and Skin: Repeated or prolonged application on the skin or eyes causes argyria, a bluish-grayish discoloration of the skin and eyes.

Ingestion: Prolonged or repeated ingestion causes argyria characterized by a permanent blue-slate gray discoloration of the skin, eyes, mucous membranes, and internal organs. Prolonged or repeated ingestion may also affect the liver (hepatitis), kidneys (nephritis), cardiovascular system, behavior/central nervous system (symptoms similar to acute ingestion), and metabolism (weight loss)

Inhalation: Prolonged or repeated inhalation can cause bronchitis. It can also cause argyrosis of the respiratory tract, bluish-grayish/blackening of the mucous membranes of the respiratory tract with nasal mucosa showing impregnation of silver nitrate. It may also affect the cardiovascular system, and blood.

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 less toxic than the product itself. Special Remarks on the Products of Biodegradation Not available.

Section 13. Disposal Considerations

Section 14 Transport Information

Waste Disposal

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

| Section 14. Frans | Section 14. Transport information | | |
|------------------------|------------------------------------|--|--|
| DOT Classification | CLASS 5.1: Oxidizing material. | | |
| Identification | UNNA: 1493 : Silver nitrate PG: II | | |
| Special Provisions for | Not available. | | |

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations Connecticut hazardous material survey.: Silver nitrate

Illinois chemical safety act: Silver nitrate

New York acutely hazardous substances: Silver nitrate Rhode Island RTK hazardous substances: Silver nitrate

Pennsylvania RTK: Silver nitrate Massachusetts RTK: Silver nitrate Massachusetts spill list: Silver nitrate New Jersey: Silver nitrate

New Jersey spill list: Silver nitrate Louisiana spill reporting: Silver nitrate

| Silver nitrate | | | Page Number: 6 |
|--|---|---|---|
| | California Director's List of Hazardous Substances: Silver nitrate TSCA 8(b) inventory: Silver nitrate SARA 313 toxic chemical notification and release reporting: Silver nitrate (Listed as Silver compounds) CERCLA: Hazardous substances.: Silver nitrate: 1 lbs. (0.4536 kg) | | |
| Camornia Proposition 65 Warnings | California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found. | | |
| 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 (EINECS No. 231-853-9). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS. | | |
| Other Classifications | WHMIS (Canada) | CLASS C: Oxidizing material. CLASS E: Corrosive solid. | |
| | DSCL (EEC) | R8- Contact with combustible material may cause fire. R34- Causes burns. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. | 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). S60- This material and its container must be disposed of as hazardous waste. S61- Avoid release to the environment. Refer to special instructions/Safety data sheets. |
| HMIS (U.S.A.) | Fire Hazard Reactivity Personal Protection | National Fire Protection Association (U.S.A.) | Health Planmability Reactivity Specific hazard |
| WHMIS (Canada) (Pictograms) | | | |
| DSCL (Europe) (Pictograms) | 8 | | |
| TDG (Canada) (Pictograms) | | | |
| ADR (Europe) (Pictograms) | | | |
| Protective Equipment | | | |

Silver nitrate

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Gloves (impervious).



Synthetic apron.



Vapor and 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

MSDS Code S3440

References Not available.

Other Special Not available.
Considerations

Validated by Sonia Owen on 10/12/2007.

Verified by Sonia Owen. Printed 1/21/2008.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

MATERIAL SAFETY DATA SHEET

Date Printed: 05/28/2008 Date Updated: 10/13/2006

Version 1.4

Section 1 - Product and Company Information

POTASSIUM FLUORIDE DIHYDRATE, REAGENT Product Name

GRADE, 98%

Product Number

Brand

221872 SIAL

Company

Address

Sigma-Aldrich

3050 Spruce Street

SAINT LOUIS MO 63103 US

Technical Phone:

Fax:

800-325-5832 800-325-5052 314-776-6555

Emergency Phone:

Section 2 - Composition/Information on Ingredient

Substance Name

CAS #

SARA 313

POTASSIUM FLUORIDE DIHYDRATE

13455-21-5

No

Formula

RTECS Number:

KF.2H2O TT0705000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic.

Toxic by inhalation, in contact with skin and if swallowed. Causes

Target organ(s): Bones. G.I. System.

HMIS RATING

HEALTH: 3*

FLAMMABILITY: 0 REACTIVITY: 1

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0 REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS

Hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

| Appearance Physical State: Solid Color: White Form: Fine crystals Property Value At Temperature or Pressure Molecular Weight 94.13 AMU PH N/A PH N/A Physical Pressure MP/MP Range 156 °C Preezing Point N/A N/A Papor Pressure N/A Papor Pressure N/A Papor Pressure N/A Papor Density N/A Papor Density N/A Papor Density N/A Papor Density N/A Papor Pressure N/A Papor Density Physical Pressure | | | |
|--|--|--|----------------------------|
| Molecular Weight 94.13 AMU pH N/A BP/BP Range 156 °C MP/MP Range 41 °C Freezing Point N/A Vapor Pressure N/A Vapor Density N/A Saturated Vapor Conc. N/A SG/Density 2.454 g/cm3 Bulk Density N/A Volatile* N/A VOC Content N/A Water Content N/A Solvent Content N/A Solvent Content N/A Frange 41 °C Freezing Point N/A VISCOSITY N/A VISCOSITY N/A PARTITION COefficient N/A Partition Coefficient N/A Flash Point N/A Explosion Limits N/A Flammability N/A Autoignition Temp N/A Refractive Index N/A Miscellaneous Data N/A Miscellaneous Data | Appearance | Color: White | |
| pH | Property | Value | At Temperature or Pressure |
| N/Δ - not available | pH BP/BP Range MP/MP Range Freezing Point Vapor Pressure Vapor Density Saturated Vapor Conc. SG/Density Bulk Density Odor Threshold Volatile% VOC Content Water Content Evaporation Rate Viscosity Surface Tension Partition Coefficient Decomposition Temp. Flash Point Explosion Limits Flammability Autoignition Temp Refractive Index Optical Rotation Miscellaneous Data Solubility | N/A 156 °C 41 °C N/A | |

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen fluoride.

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: Toxic if absorbed through skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. Toxic if inhaled.

Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Bones. G.I. System. Teeth.

SIGNS AND SYMPTOMS OF EXPOSURE

Ingestion of large quantities of potassium ion may cause lowered blood pressure, coma, and death. Symptoms of fluoride overexposure may include salivation, nausea, vomiting, abdominal pain, fever, and labored breathing. Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia. Prolonged exposure to fluoride dusts, vapors, or mists results in perforation of the nasal septum. Chronic effects include excessive calcification of the bones, ligaments, and tendons. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynxand bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

CHRONIC EXPOSURE - TERATOGEN

Result: Laboratory experiments have shown teratogenic effects.

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Potassium fluoride

UN#: 1812 Class: 6.1

Packing Group: Packing Group III Hazard Label: Toxic Substance

PIH: Not PIH

IATA

Proper Shipping Name: Potassium fluoride

IATA UN Number: 1812 Hazard Class: 6.1 Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T

Indication of Danger: Toxic.

R: 23/24/25

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed.

S: 36/37-45

Safety Statements: Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Causes burns.

Safety Statements: 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 where possible).

US Statements: Target organ(s): Bones. G.I. System.

UNITED STATES REGULATORY INFORMATION SARA LISTED: NO

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.