



MATERIAL SAFETY DATA SHEET

Analytical Sensors & Instruments Ltd.

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Section I. PRODUCT IDENTIFICATION

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|---|--|------------------------------------|
| Product Name: Fluoride, Chloride, and Silver/Sulfide, Reference Filling Solution, 1M or 10% KNO ₃ (Potassium Nitrate) | Catalog No. RF0FL1-xx; RF0CL1-xx; RF0SS1-xx | Effective Date 02 May, 2008 |
| Hazardous Shipment Labeling: | DOT: None | IATA: None |
| Prepared by: George C. Barone III, Ph.D. | Title: Senior Research Chemist | |
| Approved by: George C. Barone III, Ph.D. | Title: Director Regulatory Compliance | |

Section II. HAZARDOUS INGREDIENTS/Identity Information

| Hazardous Components* Specific Chemical Identity; Common Name(s) | CAS No. | % | OSHA PEL | ACGIH TLV | LD ₅₀ mg/Kg |
|---|-----------|-----|-------------|-------------|---------------------------|
| Potassium Nitrate (KNO ₃) | 7757-79-1 | 10 | None Listed | None Listed | 3,750 (ORL-RAT) |
| Non-hazardous Components** | NA | <1 | None Listed | None Listed | NA |
| Deionized Water (H ₂ O)** | 7732-18-5 | >89 | None Listed | None Listed | 190,000 (IPR-MUS) |

Section III. PHYSICAL/CHEMICAL DATA AND CHARACTERISTICS

| | | | |
|---|------------|-------------------------------------|----------|
| Boiling Point at 760 mmHg | NA | Freezing Point | NA |
| Specific Gravity (H₂O = 1) | NA | Vapor Pressure at 25°C | NA |
| pH at 25°C | 5.5 to 8.0 | Solubility in water, % by wt | Miscible |
| Volatiles, % by wt | NA | Evaporation Rate (B A = 1) | NA |
| Vapor Density (AIR = 1): NA | | | |
| Appearance and Odor: Clear, colorless, and odorless liquid | | | |

Section IV. FIRE AND EXPLOSION HAZARD DATA

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|--|--------------------------------------|---|--------------------|--------------------|
| Flash Point (Method Used): NA | Auto-ignition Temperature: NA | Flammable Limits In air, % by volume: | Lower NA | Upper NA |
| Extinguishing Media: Dry chemical, water, foam, or CO ₂ . Use media appropriate to surrounding fire conditions | | | | |
| Special Fire Fighting Procedures: NONE, this solution is non-flammable. As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. | | | | |
| Unusual Fire and Explosion Hazards: NONE. This product will not burn or explode. | | | | |

*Chemicals that are not classified as hazardous by U.S. OSHA guidelines (29 CFR Parts 1915.2 or 1916.2) will not necessarily be listed herein even though one or more may be in this product.

** Non-hazardous component

NA = Not available/Not applicable



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Section V. REACTIVITY DATA

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| Stability: Unstable Stable X Conditions to Avoid: Extreme Temperatures |
| Incompatibility (Materials to Avoid): Bromine Trifluoride, Magnesium, sodium metals, or strong mineral acids and bases |
| Hazardous Decomposition or Byproducts: No hazardous decomposition products known. |
| Hazardous Polymerization: May Occur Will Not Occur X Conditions to Avoid: Extreme Temperatures |

Section VI. HEALTH HAZARD DATA

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| Route(s) of Entry: Inhalation? YES Skin? YES Ingestion? YES |
| Health Hazards (Acute and Chronic): May cause irritation in contact areas. May cause eye irritation. Ingestion of very large doses may cause weakness, circulatory disturbances, heart problems, and/or blood pressure changes. |
| Carcinogenicity: NTP? IARC Monographs? OSHA Regulated? Not found on these lists |
| Signs and Symptoms of Exposure: May cause irritations to eyes, skin, mucous membranes or digestive tract. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |
| Medical Conditions Generally Aggravated by Exposure: May cause eye irritation, may be harmful or cause irritation if swallowed, inhaled, or allowed to come in contact with the skin. |
| Emergency and First Aid Procedures: Eye Contact: Immediately flush eyes with copious amounts of water, separate eyelid from eye. Call physician if irritation develops. Skin Contact: Wash effected area with soap and copious amounts of water. Call physician if irritation develops. Ingestion: Wash out mouth if person is conscious. Give 1 to 2 glasses of water. Call physician if you feel unwell. Inhalation: Remove to fresh air, if not breathing give artificial respiration, if breathing is difficult give oxygen. Call physician. |

Section VII. PRECAUTIONS FOR SAFE HANDLING AND USE

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| Steps to Be Taken in Case Material is Released or Spilled: Clean up then dispose of properly according to local laws. Observe all Federal, State and Local laws when disposing of this product. |
| Waste Disposal Method: Observe all Federal, State and Local laws when disposing of this product. |
| Precautions to Be taken in Handling and Storing: Avoid contact with eyes. Wash hands thoroughly after use. NFPA Rating: Scale (0-4): Health – 1, Fire – 0, Reactivity – 0, Specific – None. |
| Other Precautions: Potassium nitrate is an oxidizer that may cause irritation. Potassium nitrate is on the TSCA list and on the SARA 311/312 is listed as Acute: yes, Chronic: yes, Fire: yes, Pressure: no, Reactivity: no. |

Section VIII. CONTROL MEASURES

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| Respiratory Protection (Specify Type) Wear appropriate respirator if ventilation is inadequate | |
| Ventilation Local Exhaust: NONE | Special: NONE |
| Ventilation Mechanical (General): NONE | Other: NONE |
| Protective Gloves: Disposable latex gloves or similar | Eye Protection: Safety Glasses with top and side shields |
| Other Protective Clothing or Equipment: Eye wash station should be available. Wear protective garments if sensitive skin. | |
| Work/Hygienic Practices: No eating or drinking in work area. Wash hands after working with this product. | |

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of this product or any materials designated. Safe use of the materials is the responsibility of the user.

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