

## Section 1. Product and Company Identification

Product Identification: Simulated Rainwater Level 1  
 MSDS Number: SR-1  
 Recommended Use: For Laboratory Use.  
 Company Identification: High-Purity Standards  
 P.O. Box 41727  
 Charleston, SC 29423  
 Telephone: (843) 767-7900  
 FAX: (843) 767-7906

In case of emergency call INFOTRAC: 800-535-5053

## Section 2. Hazard Identification

**Classification:**

None

**Labeling:**

**Symbol:** None

**Signal Word:** None

**Hazard Statement:** None

**Precautionary Statement:** None

## Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Ammonium Chloride (NH <sub>4</sub> Cl)	12125-02-9/235-186-4	<0.001
Calcium Chloride Hydrate (CaCl <sub>2</sub> · xH <sub>2</sub> O)	22691-02-7/233-140-8	<0.001
Magnesium Sulfate Heptahydrate (MgSO <sub>4</sub> · 7H <sub>2</sub> O)	10034-99-8/231-298-2	<0.001
Nitric Acid (HNO <sub>3</sub> )	7697-37-2/231-714-2	<0.001
Potassium Nitrate (KNO <sub>3</sub> )	7757-79-1/231-818-8	<0.001
Sodium Fluoride (NaF)	7681-49-4/231-667-8	<0.001
Sodium Nitrate (NaNO <sub>3</sub> )	7631-99-4/231-554-3	<0.001
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	7664-93-9/231-639-5	<0.001
Water, deionized	7732-18-5/231-791-2	Balance

## Section 4. First Aid Measures

Emergency Overview: May cause eye and skin irritation. May cause digestive tract irritation. Wash areas of contact with plenty of water.

Target Organs: None known at this concentration.

Skin/eye Contact: May cause slight irritation, redness, and pain.

Inhalation: Not expected to be a health hazard at this concentration.

Ingestion: May cause irritation to the digestion tract.

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### Section 5. Fire Fighting Measures

Fire & Explosion hazards: Not considered to be a fire or explosion hazard.  
 Extinguishing Media: Use any means suitable for extinguishing surrounding fire.  
 Specific Methods: Firefighters should wear proper protective equipment and breathing apparatus for surrounding fire.

### Section 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Dilute with water and mop up or absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Always dispose of in accordance with local regulations.

### Section 7. Handling and Storage

Store in a cool, dry, ventilated storage area. Keep away from incompatible materials. Keep container tightly sealed. Refer to Section 8 for personal handling instructions.

### Section 8. Exposure Controls and Personal Protection

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.  
 Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

#### Exposure Limits:

Component	ACGIH TLV	OSHA PEL
Ammonium Chloride	Not Available	Not Available
Calcium Chloride Hydrate	Not Available	Not Available
Magnesium Sulfate Heptahydrate	Not Available	Not Available
Nitric Acid	2 mg/kg	5 mg/m <sup>3</sup>
Potassium Nitrate	Not Available	Not Available
Sodium Fluoride	2.5 mg/m <sup>3</sup> (as F)	2.5 mg/m <sup>3</sup> (as F)
Sodium Nitrate	Not Available	Not Available
Sulfuric Acid	5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>

### Section 9. Physical and Chemical Properties

Physical State: Liquid  
 Color: Clear, colorless liquid  
 Odor: Odorless  
 Odor threshold: None  
 pH: 3-4  
 Melting point: N/A  
 Freezing Point: N/A  
 Boiling Point: Approximately 100°C  
 Flash point: N/A  
 Evaporation rate: N/A  
 Flammability: N/A  
 Explosion limits: N/A  
 Vapor Pressure (mm): N/A  
 Vapor Density (air+1): N/A  
 Relative density: (H<sub>2</sub>O = 1): Approximately 1.0  
 Solubility in H<sub>2</sub>O: Complete

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Auto ignition temperature: N/A  
 Decomposition temperature: N/A  
 Molecular Weight: N/A

#### Section 10. Stability and Reactivity

Stability Indicator: YES  
 Conditions to Avoid: None reported.  
 Hazardous Decomposition Products: None reported for this concentration.  
 Hazardous Polymerization: Will not occur.

#### Section 11. Toxicological Information

Toxicity Data:

**RTECS #:**

HNO <sub>3</sub> - QU5775000	H <sub>2</sub> SO <sub>4</sub> - WS5600000	KNO <sub>3</sub> - TT3700000	NaF- WB0350000
NaNO <sub>3</sub> -WC5600000	NH <sub>4</sub> Cl- BP4550000	MgSO <sub>4</sub> ·7H <sub>2</sub> O- OM4508000	

LD<sub>LO</sub> Oral, Human: (HNO<sub>3</sub>) 430 mg/kg;  
 LD<sub>50</sub> Oral, Rat: (H<sub>2</sub>SO<sub>4</sub>) 2140 mg/kg;  
 LD<sub>50</sub> Oral, Rat: (KNO<sub>3</sub>) 3750 mg/kg;  
 LD<sub>LO</sub> Dermal, Mouse: (NaF)~300 mg/kg;  
 LD<sub>50</sub> Oral, Rat: (NaNO<sub>3</sub>) 1267 mg/kg;  
 LD<sub>50</sub> Oral, Rat: (NH<sub>4</sub>Cl) 1650 mg/kg.

#### Section 12. Ecological Information

Ecotoxicological information: Not expected to be toxic to aquatic life.

#### Section 13. Disposal Considerations

General: Follow Federal, state and local regulations for waste.

#### Section 14. Transport Information

D.O.T. Classification: Not hazardous by DOT regulations

#### Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)

TSCA Status: The components of this solution are listed on the TSCA Inventory.  
 RCRA Status: No  
 SARA: No  
 Risk Phrases: R36/38 Irritating to eyes and skin.  
 Safety Phrases: S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
 WHMIS Information (Canada): Not applicable at this concentration.

#### Section 16. Other Information

HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The MSDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the MSDS. Certified values for this material are given only on the Certificate of Analysis.  
 Theodore C. Rains, Ph.D.