

## Material Safety Data Sheet

### Section 1. Product and Company Identification

Product Identification: Simulated Rainwater Level 1  
 MSDS Number: SR-1  
 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. Chemical Composition

Component	CAS/EINECS Registry #	Percent Concentration	ACGIH TLV	OSHA PEL
Ammonium Chloride (NH <sub>4</sub> Cl)	12125-02-9/ 235-186-4	<0.001	Not Available	Not Available
Calcium Chloride Hydrate (CaCl <sub>2</sub> · xH <sub>2</sub> O)	22691-02-7/ 233-140-8	<0.001	Not Available	Not Available
Magnesium Sulfate Heptahydrate (MgSO <sub>4</sub> · 7H <sub>2</sub> O)	10034-99-8/ 231-298-2	<0.001	Not Available	Not Available
Nitric Acid (HNO <sub>3</sub> )	7697-37-2/ 231-714-2	<0.001	2 mg/kg	5 mg/m <sup>3</sup>
Potassium Nitrate (KNO <sub>3</sub> )	7757-79-1/ 231-818-8	<0.001	Not Available	Not Available
Sodium Fluoride (NaF)	7681-49-4/ 231-667-8	<0.001	2.5 mg/m <sup>3</sup> (as F)	2.5 mg/m <sup>3</sup> (as F)
Sodium Nitrate (NaNO <sub>3</sub> )	7631-99-4/ 231-554-3	<0.001	Not Available	Not Available
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	7664-93-9/ 231-639-5	<0.001	5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>
Water, deionized	7732-18-5/ 231-791-2	Balance	Not Available	Not Available

### Section 3. Hazard Identification

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.

### Section 4. First Aid Measures

Inhalation: Remove to fresh air.  
 Skin/eye Contact: Remove contaminated shoes and clothing. Flush contaminated area with plenty of water for at least 15 minutes. Call a physician if irritation develops.

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Ingestion: Give several glasses of water to dilute. If large amounts were swallowed, get medical advice.

#### 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.

Respiratory Protection: Normal room ventilation is adequate.

Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron. Do not wear contact lenses when working with chemicals.

#### Section 9. Physical and Chemical Properties

Molecular Weight: N/A

Boiling Point: Approximately 100°C

Freezing Point: N/A

Vapor Pressure (mm): N/A

Vapor Density (air+1): N/A

Specific Gravity (H<sub>2</sub>O = 1): Approximately 1.0

Solubility in H<sub>2</sub>O: Complete

Appearance: Clear, colorless liquid

Odor: Odorless

pH: 4

#### 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.

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#### Section 11. Toxicological Information

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

Toxicity Data:

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: This product does not contain components at concentrations that are expected to be toxic to aquatic life.

#### Section 13. Disposal Considerations

General: Follow federal, state and local regulations for disposal.

#### Section 14. Transport Information

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

#### 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 rest 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.