



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Cation Mixed Standard Solution, 1000 ppm Li, Na, NH₄, K, Mg, Ca

Product Number: R1854100

Other Identifying Product Numbers: R1854100-500A

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA)

800-424-9300

CHEMTREC (International)

1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

This product is not categorized as hazardous in any GHS hazard class.

2.2. GHS Label Elements

Pictograms: None Required.

Signal Word: None Required.

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Hazard Statements: None Required.

Precautionary Statements: None Required.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

| Chemical Name | Formula | Molecular Weight | CAS Number | Weight% |
|-------------------------------|--|------------------|------------|---------|
| Water | H ₂ O | 18.01 g/mol | 7732-18-5 | 97.19 |
| Magnesium Nitrate Hexahydrate | Mg(NO ₃) ₂ ·6H ₂ O | 256.4 g/mol | 13446-18-9 | 1.04 |
| Lithium Chloride | LiCl | 42.39 g/mol | 7447-41-8 | 0.60 |
| Calcium Chloride Dihydrate | CaCl ₂ ·2H ₂ O | 147.02 g/mol | 10035-04-8 | 0.36 |
| Ammonium Chloride | NH ₄ Cl | 53.49 g/mol | 12125-02-9 | 0.29 |
| Potassium Nitrate | KNO ₃ | 101.10 g/mol | 7757-79-1 | 0.26 |
| Sodium Chloride | NaCl | 58.44 g/mol | 7647-14-5 | 0.25 |

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: May cause slight irritation.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: May cause slight irritation.

Ingestion: Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Handle this item and all chemicals with care. Wash areas of contact with water. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

4.3. Medical Attention or Special Treatment Needed

Not expected to require special treatment.

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SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate PPE for the size and nature of the spill. As a general rule, wear safety glasses and gloves.

6.2. Cleanup and Containment Methods and Materials

Dilute with water, then flush to sewer if local regulations allow. If not allowed, save for recovery or recycling in an approved waste disposal facility. Always dispose of in accordance with local, state and federal regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

| Chemical Name | Limit Type | Country | Exposure Limit | Information Source |
|--------------------------------|------------|---------|----------------------------------|--|
| Ammonium Chloride (12125-02-9) | TLV-STEL | USA | 20 mg/m ³ STEL (fume) | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Ammonium Chloride (12125-02-9) | TLV-TWA | USA | 10 mg/m ³ TWA (fume) | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.



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Eye Protection: Safety glasses or goggles.

8.3. Personal Protective Equipment

Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless liquid

Physical State: Liquid

Odor: Odorless

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: Data not available.

Initial Boiling Point/Range: Data not available.

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.01

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.



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10.3. Conditions to Avoid and Incompatible Materials

Protect from freezing and physical damage.

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: 3000 mg/kg (Sodium Chloride), 1650 mg/kg (Ammonium Chloride), LD50, Oral, Rat: 5440 mg/kg (Magnesium Nitrate Hexahydrate), details of toxic effects not reported other than lethal dose value. LD50, Dermal, Rabbit: (Sodium Chloride) >10 gm/kg. LD50, Intraperitoneal, Mouse: (Calcium Chloride Dihydrate) 20,500 mg/kg, details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Not applicable.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.



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Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

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14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Ammonium Chloride (CAS # 12125-02-9): 5000 lb final RQ; 2270 kg final RQ

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15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Ammonium Chloride (CAS # 12125-02-9): "1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]

Ammonium Chloride (CAS # 12125-02-9): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): "1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): 1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)

Potassium Nitrate (CAS # 7757-79-1): "1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]

Potassium Nitrate (CAS # 7757-79-1): 1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)

15.5. Massachusetts Right-to-Know Substance List

Ammonium Chloride (CAS # 12125-02-9): Present (including fume)

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): Present

Potassium Nitrate (CAS # 7757-79-1): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ammonium Chloride (CAS # 12125-02-9): Environmental hazard

Ammonium Chloride (CAS # 12125-02-9): Present

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

Potassium Nitrate (CAS # 7757-79-1): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Ammonium Chloride (CAS # 12125-02-9): sn 0093

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): "SN 3722 500 lb TPQ (water dissociable, Category Code N511)" As Nitrate compounds [RR-01770-9]

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): "sn 3722" As Nitrate compounds [RR-01770-9]

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): sn 1143

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): sn 3722

Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Potassium Nitrate (CAS # 7757-79-1): "SN 3722 500 lb TPQ (water dissociable, Category Code N511)" As Nitrate compounds [RR-01770-9]

Potassium Nitrate (CAS # 7757-79-1): "sn 3722" As Nitrate compounds [RR-01770-9]

Potassium Nitrate (CAS # 7757-79-1): sn 1574

Potassium Nitrate (CAS # 7757-79-1): sn 3722

Potassium Nitrate (CAS # 7757-79-1): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

15.8. California Proposition 65

Not listed.

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15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Calcium Chloride Dihydrate (CAS # 10035-04-8): Present (DSL)
Ammonium Chloride (CAS # 12125-02-9): Present (DSL)
Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): Present (DSL)
Lithium Chloride (CAS # 7447-41-8): Present (DSL)
Sodium Chloride (CAS # 7647-14-5): Present (DSL)
Water (CAS # 7732-18-5): Present (DSL)
Potassium Nitrate (CAS # 7757-79-1): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Calcium Chloride Dihydrate (CAS # 10035-04-8): Present (ACTIVE)
Ammonium Chloride (CAS # 12125-02-9): Present (ACTIVE)
Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): Present (ACTIVE)
Lithium Chloride (CAS # 7447-41-8): Present (ACTIVE)
Sodium Chloride (CAS # 7647-14-5): Present (ACTIVE)
Water (CAS # 7732-18-5): Present (ACTIVE)
Potassium Nitrate (CAS # 7757-79-1): Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Calcium Chloride Dihydrate (CAS # 10035-04-8): 233-140-8
Ammonium Chloride (CAS # 12125-02-9): 235-186-4
Magnesium Nitrate Hexahydrate (CAS # 13446-18-9): 233-826-7
Lithium Chloride (CAS # 7447-41-8): 231-212-3
Sodium Chloride (CAS # 7647-14-5): 231-598-3
Water (CAS # 7732-18-5): 231-791-2
Potassium Nitrate (CAS # 7757-79-1): 231-818-8

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

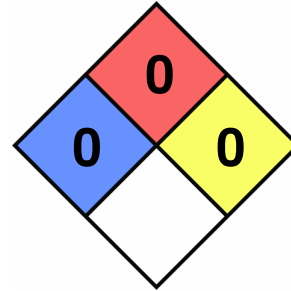
Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

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16.3. National Fire Protection Association (NFPA) Rating

Health: 0
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2023-09-11

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.