RICCA CHEMICAL COMPANY®

Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: VeriSpec® Multi-Element Standard, Memory Test 7
7200 ppm Cl, 2000 ppm C; 1000 ppm P, S; 20 ppm Mo, Sb, Ti , Manufactured and Tested in an ISO 17025/

Product Number: RV010842

Other Identifying Product Numbers: RV010842-100N

1.2. Recommended Use and Restrictions on Use

Calibration Standard

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 hr)

CHEMTREC (USA) 800-424-9300
CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

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

Hazard Class	Category	Hazard Statement	Precautionary Statements
Eye Damage / Irritation	Category 2A	H319	P264, P280, P305+P351+P338, P337+P313

2.2. GHS Label Elements

Pictograms:

Signal Word: **Warning**

Hazard Statements:

Hazard Number	Hazard Statement
H319	Causes serious eye irritation.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P264	Wash arms, hands and face thoroughly after handling.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical attention.

2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

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%
Sodium Chloride	NaCl	58.44 g/mol	7647-14-5	1.19%
Oxalic Acid Dihydrate	$C_2H_6O_6 \cdot 2H_2O$	162.10 g/mol	6153-56-6	1.05%
Ammonium Sulfate	$(NH_4)_2SO_4$	132.13 g/mol	7783-20-2	0.41%
Ammonium Dihydrogen Phosphate	$NH_4H_2PO_4$	97.99 g/mol	7722-76-1	0.37%
Nitric Acid	HNO_3	63.01 g/mol	7697-37-2	0.20%
Ammonium Hexafluorotitanate	$(NH_4)_2TiF_6$	197.93 g/mol	16962-40-6	0.01%
Molybdenum Pentafluoride	MoF_5	Data not available.	13819-84-6	0.00%

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Skin Contact: No action required to be taken. If necessary, wash areas of contact with water.

Ingestion: No action required to be taken. If necessary, dilute with water.

4.2. Most Important Symptoms and Effects, Acute and Delayed

May cause mild irritation to areas of contact.

4.3. Medical Attention or Special Treatment Needed

Not expected to require special treatment.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Not considered to be a fire or explosion hazard.

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

Wear protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Protect from freezing and physical damage.

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SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ammonium Hexafluorotitanate (16962-40-6)	TWA	USA	2.5 mg/m³ TWA (as F) 2.5 mg/m³ TWA (dust)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorotitanate (16962-40-6)	TLV-TWA	USA	2.5 mg/m³ TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	2 ppm TWA 5 mg/m³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-STEL	USA	4 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	2 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Oxalic Acid Dihydrate (6153-56-6)	TWA	USA	1 mg/m³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Oxalic Acid Dihydrate (6153-56-6)	TLV-STEL	USA	2 mg/m³ STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Oxalic Acid Dihydrate (6153-56-6)	TLV-STEL	USA	2 mg/m³ STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Oxalic Acid Dihydrate (6153-56-6)	TLV-TWA	USA	1 mg/m³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Oxalic Acid Dihydrate (6153-56-6)	TLV-TWA	USA	1 mg/m³ TWA	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: No specific controls are needed. Normal room ventilation is adequate

Skin Protection: Wear protective gloves and eye protection.

Eye Protection: Wear protective gloves and eye protection.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Data not available.
Physical State: Liquid
Odor: Data not available.
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: 1.06
Solubility: Data not available.
Partition Coeffieient (n-Octanol/Water): Data not available.
Auto-Ignition Temperature: Data not available.
Decomposition Temperature: Data not available.
Viscosity: Data not available.
ExplosiveProperties: 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.

10.3. Conditions to Avoid and Incompatible Materials

Protect from freezing and physical damage.

10.4. Hazardous Decomposition Products

May emit irritating fumes when heated to decomposition.

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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:

Data not available.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

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.

Additional Toxicology Information:

Data not available.

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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.

Not regulated according to IATA 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

Nitric Acid (CAS # 7697-37-2): 1000 lb EPCRA RQ

Nitric Acid (CAS # 7697-37-2): 1000 lb TPQ

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

Nitric Acid (CAS # 7697-37-2): 1000 lb final RQ; 454 kg final RQ

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

Ammonium Hexafluorotitanate (CAS # 16962-40-6): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration

Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

Ammonium Sulfate (CAS # 7783-20-2): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

15.5. Massachusetts Right-to-Know Substance List

Oxalic Acid Dihydrate (CAS # 6153-56-6): Present

Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

Ammonium Sulfate (CAS # 7783-20-2): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Oxalic Acid Dihydrate (CAS # 6153-56-6): Present

Nitric Acid (CAS # 7697-37-2): Environmental hazard

Nitric Acid (CAS # 7697-37-2): Present

Ammonium Sulfate (CAS # 7783-20-2): Environmental hazard

Ammonium Sulfate (CAS # 7783-20-2): Present

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

Ammonium Hexafluorotitanate (CAS # 16962-40-6): sn 0936
Oxalic Acid Dihydrate (CAS # 6153-56-6): corrosive
Oxalic Acid Dihydrate (CAS # 6153-56-6): sn 1445
Nitric Acid (CAS # 7697-37-2): corrosive; reactive - second degree
Nitric Acid (CAS # 7697-37-2): sn 1356
Nitric Acid (CAS # 7697-37-2): SN 1356 500 lb TPQ
Nitric Acid (CAS # 7697-37-2): sn 3722
Nitric Acid (CAS # 7697-37-2): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

15.8. California Proposition 65

Not listed.

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

Ammonium Hexafluorotitanate (CAS # 16962-40-6): Present (NDSL)
Oxalic Acid Dihydrate (CAS # 6153-56-6): Present (DSL)
Sodium Chloride (CAS # 7647-14-5): Present (DSL)
Nitric Acid (CAS # 7697-37-2): Present (DSL)
Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present (DSL)
Ammonium Sulfate (CAS # 7783-20-2): Present (DSL)

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

Ammonium Hexafluorotitanate (CAS # 16962-40-6): Present
Oxalic Acid Dihydrate (CAS # 6153-56-6): Present [T]
Sodium Chloride (CAS # 7647-14-5): Present
Nitric Acid (CAS # 7697-37-2): Present
Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present
Ammonium Sulfate (CAS # 7783-20-2): Present

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

Not listed.

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Causes serious eye irritation.

Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

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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.

Not Applicable.

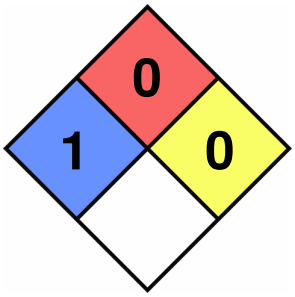
16.3. National Fire Protection Association (NFPA) Rating

Health: 1

Flammability: 0

Reactivity: 0

Special Hazard:



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16.4. Document Revision

Last Revision Date: 9/15/2016

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.