



## Safety Data Sheet

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** VeriSpec<sup>®</sup> Multi-Element Standard 5  
200 ppb: Cd, Cu, Mg, Pb, Rh, Manufactured and Tested in an ISO 17025/Guide 34 Facility

**Product Number:** RV010732

**Other Identifying Product Numbers:** RV010732-100N

#### 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                     |
|-----------------------------|-------------|------------------|--|
| Skin Corrosion / Irritation | Category 2  | H315             | P264, P280, P302+P352, P321, P332+P313, P362 |
| Eye Damage / Irritation     | Category 2A | H319             | P264, P280, P305+P351+P338, P337+P313        |

#### 2.2. GHS Label Elements

**Pictograms:**



**Signal Word:** **Warning**



## Safety Data Sheet

### Hazard Statements:

| Hazard Number | Hazard Statement               |
|---------------|--------------------------------|
| H315          | Causes skin irritation.        |
| 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.   |
| P302+P352            | IF ON SKIN: Wash with plenty of soap and water.  |
| P305+P351+P338       | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P321                 | Specific treatment (Wash areas of contact with water immediately).   |
| P332+P313            | If skin irritation occurs: Get medical attention.  |
| P337+P313            | If eye irritation persists: Get medical attention.   |
| P362                 | Take off contaminated clothing and wash it before reuse.   |

### 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% |
|------------------------|--|------------------|------------|---------|
| Nitric Acid            | HNO <sub>3</sub>                                     | 63.01 g/mol      | 7697-37-2  | 2.00%   |
| Water                  | H <sub>2</sub> O                                     | 18.01 g/mol      | 7732-18-5  | 0.98%   |
| Hydrochloric Acid      | HCl  | 36.46 g/mol      | 7647-01-0  | 0.20%   |
| Cupric Nitrate         | Cu(NO <sub>3</sub> ) <sub>2</sub> ·xH <sub>2</sub> O | 251.10 g/mol     | 3251-23-8  | 0.00%   |
| Magnesium Nitrate      | Mg(NO <sub>3</sub> ) <sub>2</sub>                    | 148.31 g/mol     | 10377-60-3 | 0.00%   |
| Cadmium Nitrate        | CdN <sub>2</sub> O <sub>6</sub>                      | 236.42 g/mol     | 10325-94-7 | 0.00%   |
| Lead Nitrate           | Pb(NO <sub>3</sub> ) <sub>2</sub>                    | 331.20 g/mol     | 10099-74-8 | 0.00%   |
| Rhodium (III) Chloride | RhCl <sub>3</sub>                                    | 209.26 g/mol     | 10049-07-7 | 0.00%   |



## Safety Data Sheet

### 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:** IF ON SKIN: Wash with plenty of soap and 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

Specific treatment (Wash areas of contact with water immediately).

### 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.

## Safety Data Sheet

### SECTION 8: Exposure Controls / Personal Protection

#### 8.1. Control Parameters

| Chemical Name                       | Limit Type  | Country | Exposure Limit   | Information Source   |
|-------------------------------------|-------------|---------|--|--|
| Cadmium Nitrate (10325-94-7)        | TLV-TWA     | USA     | 0.01 mg/m <sup>3</sup> TWA (as Cd)<br>0.002 mg/m <sup>3</sup> TWA (respirable fraction, as Cd)   | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)      |
| Cadmium Nitrate (10325-94-7)        | PEL         | USA     | 5 µg/m <sup>3</sup> TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. See 29 CFR 1910.1027, as Cd)<br>2.5 µg/m <sup>3</sup> Action Level (as Cd) | U.S. - OSHA - Specifically Regulated Chemicals with PELs               |
| Cupric Nitrate (3251-23-8)          | TLV-TWA     | USA     | 1 mg/m <sup>3</sup> TWA (dust and mist, as Cu)   | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)      |
| Hydrochloric Acid (7647-01-0)       | TLV-Ceiling | USA     | 2 ppm Ceiling  | ACGIH - Threshold Limit Values - Ceilings (TLV-C)                      |
| Hydrochloric Acid (7647-01-0)       | PEL-Ceiling | USA     | 5 ppm Ceiling<br>7 mg/m <sup>3</sup> Ceiling   | U.S. - OSHA - Final PELs - Ceiling Limits                              |
| Lead Nitrate (10099-74-8)           | TWA         | USA     | 50 µg/m <sup>3</sup> TWA (as Pb)   | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)               |
| Lead Nitrate (10099-74-8)           | TLV-TWA     | USA     | 0.05 mg/m <sup>3</sup> TWA (as Pb)   | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)      |
| Lead Nitrate (10099-74-8)           | PEL         | USA     | 30 µg/m <sup>3</sup> Action Level (Poison, See 29 CFR 1910.1025, as Pb)<br>50 µg/m <sup>3</sup> TWA (as Pb)  | U.S. - OSHA - Specifically Regulated Chemicals with PELs               |
| Nitric Acid (7697-37-2)             | TWA         | USA     | 2 ppm TWA<br>5 mg/m <sup>3</sup> 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)      |
| Rhodium (III) Chloride (10049-07-7) | TWA         | USA     | 0.1 mg/m <sup>3</sup> TWA (as Rh)  | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)               |
| Rhodium (III) Chloride (10049-07-7) | TLV-TWA     | USA     | 1 mg/m <sup>3</sup> TWA (as Rh)  | 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



## Safety Data Sheet

**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.

## 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 Coefficient (n-Octanol/Water):** 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.



## Safety Data Sheet

### 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.

## 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:

Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with water immediately). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

#### 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.



## Safety Data Sheet

**Specific Target Organ Toxicity from Repeated Exposure:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**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.



## Safety Data Sheet

Not regulated according to IATA Regulations.

### SECTION 15: Regulatory Information

#### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Lead Nitrate (CAS # 10099-74-8): 30 µg/m<sup>3</sup> Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m<sup>3</sup> TWA (See 29 CFR 1910.1025, as Pb)  
Cadmium Nitrate (CAS # 10325-94-7): 5 µg/m<sup>3</sup> TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m<sup>3</sup> Action Level (as Cd)

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

Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)  
Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)  
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

Lead Nitrate (CAS # 10099-74-8): 10 lb final RQ; 4.54 kg final RQ  
Cupric Nitrate (CAS # 3251-23-8): 100 lb final RQ; 45.4 kg final RQ  
Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ; 2270 kg final RQ  
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)

Lead Nitrate (CAS # 10099-74-8): 0.1 % Supplier notification limit (listed under Chemical Category N420)  
Lead Nitrate (CAS # 10099-74-8): 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511)  
Lead Nitrate (CAS # 10099-74-8): 100 lb RT  
Cadmium Nitrate (CAS # 10325-94-7): 0.1 % de minimis concentration (listed under Chemical Category N078)  
Cadmium Nitrate (CAS # 10325-94-7): 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511)  
Magnesium Nitrate (CAS # 10377-60-3): 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511)  
Cupric Nitrate (CAS # 3251-23-8): 1.0 % de minimis concentration (This category does not include CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine., listed under Chemical Category N100)  
Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)  
Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration





## Safety Data Sheet

### 15.5. Massachusetts Right-to-Know Substance List

Rhodium (III) Chloride (CAS # 10049-07-7): Present  
Lead Nitrate (CAS # 10099-74-8): Present  
Magnesium Nitrate (CAS # 10377-60-3): Present  
Cupric Nitrate (CAS # 3251-23-8): Present  
Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous  
Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Lead Nitrate (CAS # 10099-74-8): Environmental hazard  
Lead Nitrate (CAS # 10099-74-8): Present  
Cadmium Nitrate (CAS # 10325-94-7): Environmental hazard  
Cadmium Nitrate (CAS # 10325-94-7): Present  
Magnesium Nitrate (CAS # 10377-60-3): Present  
Cupric Nitrate (CAS # 3251-23-8): Environmental hazard  
Cupric Nitrate (CAS # 3251-23-8): Present  
Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard  
Hydrochloric Acid (CAS # 7647-01-0): Present  
Nitric Acid (CAS # 7697-37-2): Environmental hazard  
Nitric Acid (CAS # 7697-37-2): Present  
Water (CAS # 7732-18-5): Present



## Safety Data Sheet

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

Lead Nitrate (CAS # 10099-74-8): carcinogen

Lead Nitrate (CAS # 10099-74-8): carcinogen; teratogen

Lead Nitrate (CAS # 10099-74-8): sn 1108

Lead Nitrate (CAS # 10099-74-8): sn 2266

Lead Nitrate (CAS # 10099-74-8): SN 2266 500 lb TPQ (Category Code N420. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

Lead Nitrate (CAS # 10099-74-8): sn 3722

Lead Nitrate (CAS # 10099-74-8): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Cadmium Nitrate (CAS # 10325-94-7): carcinogen

Cadmium Nitrate (CAS # 10325-94-7): sn 2199

Cadmium Nitrate (CAS # 10325-94-7): SN 2199 500 lb TPQ (Category Code N078)

Cadmium Nitrate (CAS # 10325-94-7): sn 3722

Cadmium Nitrate (CAS # 10325-94-7): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Cadmium Nitrate (CAS # 10325-94-7): sn 4088

Magnesium Nitrate (CAS # 10377-60-3): sn 1143

Magnesium Nitrate (CAS # 10377-60-3): sn 3722

Magnesium Nitrate (CAS # 10377-60-3): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Cupric Nitrate (CAS # 3251-23-8): sn 0547

Cupric Nitrate (CAS # 3251-23-8): sn 2215

Cupric Nitrate (CAS # 3251-23-8): SN 2215 500 lb TPQ (except C.I. Pigment Blue 15, C.I. Pigment Green 7, and C.I. Pigment Green 36, Category Code N100)

Cupric Nitrate (CAS # 3251-23-8): sn 3722

Cupric Nitrate (CAS # 3251-23-8): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Hydrochloric Acid (CAS # 7647-01-0): corrosive

Hydrochloric Acid (CAS # 7647-01-0): sn 1012

Hydrochloric Acid (CAS # 7647-01-0): SN 1012 500 lb TPQ ( $\geq 37\%$  concentration); SN 2909 500 lb TPQ (Hydrogen chloride gas only)

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

Lead Nitrate (CAS # 10099-74-8): carcinogen, 10/1/1992

Cadmium Nitrate (CAS # 10325-94-7): carcinogen, 10/1/1987



## Safety Data Sheet

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

Rhodium (III) Chloride (CAS # 10049-07-7): Present (DSL)  
Lead Nitrate (CAS # 10099-74-8): Present (DSL)  
Cadmium Nitrate (CAS # 10325-94-7): Present (DSL)  
Magnesium Nitrate (CAS # 10377-60-3): Present (DSL)  
Cupric Nitrate (CAS # 3251-23-8): Present (DSL)  
Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)  
Nitric Acid (CAS # 7697-37-2): Present (DSL)  
Water (CAS # 7732-18-5): Present (DSL)

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

Rhodium (III) Chloride (CAS # 10049-07-7): Present  
Lead Nitrate (CAS # 10099-74-8): Present  
Cadmium Nitrate (CAS # 10325-94-7): Present  
Magnesium Nitrate (CAS # 10377-60-3): Present  
Cupric Nitrate (CAS # 3251-23-8): Present  
Hydrochloric Acid (CAS # 7647-01-0): Present [T]  
Nitric Acid (CAS # 7697-37-2): Present  
Water (CAS # 7732-18-5): 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 skin irritation. Causes serious eye irritation.

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

IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (Wash areas of contact with water immediately). If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing and wash it before reuse.

### 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

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

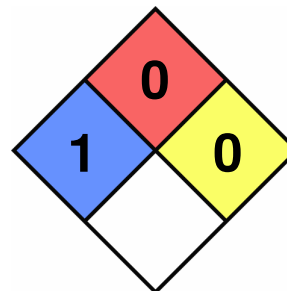
**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.  
Not Applicable.



## Safety Data Sheet

### 16.3. National Fire Protection Association (NFPA) Rating

Health: 1  
Flammability: 0  
Reactivity: 0  
Special Hazard:





## Safety Data Sheet

### 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.