RICCA CHEMICAL COMPANY®

Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: VeriSpec® Elan 9000/6100 ICP-MS Set Up Solution 9
10 ppb: Ba, Ce, Cd, Cu, In, Pb, Mg, Rh, U , Manufactured and Tested in an ISO 17025/Guide 34 Facilit

Product Number: RV010871

Other Identifying Product Numbers: RV010871-100N

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**

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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_3	63.01 g/mol	7697-37-2	1.00%
Uranyl Acetate Dihydrate	$UO_2(CH_3COO)_2 \cdot 2H_2O$	424.15 g/mol	6159-44-0	0.00%
Cupric Nitrate	$Cu(NO_3)_2 \cdot xH_2O$	251.10 g/mol	3251-23-8	0.00%
Indium (III) Nitrate Hydrate	$In(NO_3)_3 \cdot xH_2O$	300.83 g/mol (anhydrous basis)	13465-14-0	0.00%
Magnesium Nitrate	$Mg(NO_3)_2$	148.31 g/mol	10377-60-3	0.00%
Cadmium Nitrate	CdN_2O_6	236.42 g/mol	10325-94-7	0.00%
Cerium (III) Nitrate Hexahydrate	$Ce(NO_3)_3 \cdot 6H_2O$	326.13 g/mol	10294-41-4	0.00%
Lead Nitrate	$Pb(NO_3)_2$	331.20 g/mol	10099-74-8	0.00%
Rhodium (III) Chloride	$RhCl_3$	209.26 g/mol	10049-07-7	0.00%
Barium Nitrate	$Ba(NO_3)_2$	261.33 g/mol	10022-31-8	0.00%

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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.

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SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Barium Nitrate (10022-31-8)	TWA	USA	0.5 mg/m³ TWA (as Ba)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Barium Nitrate (10022-31-8)	TLV-TWA	USA	0.5 mg/m³ TWA (as Ba)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium Nitrate (10325-94-7)	TLV-TWA	USA	0.01 mg/m³ TWA (as Cd) 0.002 mg/m³ TWA (respirable fraction, as Cd)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium Nitrate (10325-94-7)	PEL	USA	5 µg/m³ 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) 2.5 µg/m³ Action Level (as Cd)	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cupric Nitrate (3251-23-8)	TLV-TWA	USA	1 mg/m³ TWA (dust and mist, as Cu)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Lead Nitrate (10099-74-8)	TWA	USA	50 µg/m³ TWA (as Pb)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Lead Nitrate (10099-74-8)	TLV-TWA	USA	0.05 mg/m³ TWA (as Pb)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Lead Nitrate (10099-74-8)	PEL	USA	30 µg/m³ Action Level (Poison, See 29 CFR 1910.1025, as Pb) 50 µg/m³ TWA (as Pb)	U.S. - OSHA - Specifically Regulated Chemicals with PELs
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)
Rhodium (III) Chloride (10049-07-7)	TWA	USA	0.1 mg/m³ TWA (as Rh)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Rhodium (III) Chloride (10049-07-7)	TLV-TWA	USA	1 mg/m³ TWA (as Rh)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Uranyl Acetate Dihydrate (6159-44-0)	TWA	USA	0.05 mg/m³ TWA (as U)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Uranyl Acetate Dihydrate (6159-44-0)	TWA	USA	0.25 mg/m³ TWA (as U)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Uranyl Acetate Dihydrate (6159-44-0)	TLV-STEL	USA	0.6 mg/m³ STEL (as U)	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Uranyl Acetate Dihydrate (6159-44-0)	TLV-TWA	USA	0.2 mg/m³ TWA (as U)	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.

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: 1.07

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.

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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.

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.

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.

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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

Lead Nitrate (CAS # 10099-74-8): 30 µg/m3 Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m3 TWA (See 29 CFR 1910.1025, as Pb)
Cadmium Nitrate (CAS # 10325-94-7): 5 µg/m3 TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m3 Action Level (as Cd)

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

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
Uranyl Acetate Dihydrate (CAS # 6159-44-0): 100 lb final RQ; 45.4 kg final RQ
Nitric Acid (CAS # 7697-37-2): 1000 lb final RQ; 454 kg final RQ

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

Barium Nitrate (CAS # 10022-31-8): 1.0 % de minimis concentration (does not include Barium sulfate CAS 7727-43-7, Chemical Category N040)
Barium Nitrate (CAS # 10022-31-8): 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511)
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
Cerium (III) Nitrate Hexahydrate (CAS # 10294-41-4): 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511)
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)
Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Barium Nitrate (CAS # 10022-31-8): Present
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
Uranyl Acetate Dihydrate (CAS # 6159-44-0): Present
Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances

Barium Nitrate (CAS # 10022-31-8): Environmental hazard
Barium Nitrate (CAS # 10022-31-8): Present
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
Uranyl Acetate Dihydrate (CAS # 6159-44-0): Environmental hazard
Uranyl Acetate Dihydrate (CAS # 6159-44-0): Present
Nitric Acid (CAS # 7697-37-2): Environmental hazard
Nitric Acid (CAS # 7697-37-2): Present

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

Barium Nitrate (CAS # 10022-31-8): sn 0186
Barium Nitrate (CAS # 10022-31-8): sn 2146
Barium Nitrate (CAS # 10022-31-8): SN 2146 500 lb TPQ (except Barium sulfate, Category Code N040.)
Barium Nitrate (CAS # 10022-31-8): sn 3722
Barium Nitrate (CAS # 10022-31-8): SN 3722 500 lb TPQ (water dissociable, Category Code N511)
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)
Cerium (III) Nitrate Hexahydrate (CAS # 10294-41-4): sn 3722
Cerium (III) Nitrate Hexahydrate (CAS # 10294-41-4): 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)
Uranyl Acetate Dihydrate (CAS # 6159-44-0): sn 1975
Nitric Acid (CAS # 7697-37-2): corrosive; reactive

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

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

Barium Nitrate (CAS # 10022-31-8): Present (DSL)
Rhodium (III) Chloride (CAS # 10049-07-7): Present (DSL)
Lead Nitrate (CAS # 10099-74-8): Present (DSL)
Cerium (III) Nitrate Hexahydrate (CAS # 10294-41-4): 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)
Uranyl Acetate Dihydrate (CAS # 6159-44-0): Present (DSL)
Nitric Acid (CAS # 7697-37-2): Present (DSL)

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

Barium Nitrate (CAS # 10022-31-8): Present
Rhodium (III) Chloride (CAS # 10049-07-7): Present
Lead Nitrate (CAS # 10099-74-8): Present
Cerium (III) Nitrate Hexahydrate (CAS # 10294-41-4): Present
Cadmium Nitrate (CAS # 10325-94-7): Present
Magnesium Nitrate (CAS # 10377-60-3): Present
Cupric Nitrate (CAS # 3251-23-8): Present
Uranyl Acetate Dihydrate (CAS # 6159-44-0): Present
Nitric Acid (CAS # 7697-37-2): 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 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.

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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.

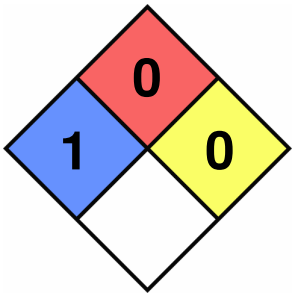
16.3. National Fire Protection Association (NFPA) Rating

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.