



## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** ICP-MS Calibration Standard 4

**Product Number:** RICPMS4

**Other Identifying Product Numbers:** RICPMS4-100, RICPMS4-1000

#### 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 <sub>2</sub> O	18.01 g/mol	7732-18-5	99.95
Ammonium Tetrafluoroborate	BF <sub>4</sub> H <sub>4</sub> N	104.84 g/mol	13826-83-0	< 0.1
Ammonium Hexafluorosilicate (IV)	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub>	178.15 g/mol	16919-19-0	< 0.1
Nitric Acid	HNO <sub>3</sub>	63.01 g/mol	7697-37-2	< 0.1
Ammonium Sulfate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	132.13 g/mol	7783-20-2	< 0.1
Ammonium Hexafluorotitanate	(NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub>	197.93 g/mol	16962-40-6	< 0.1
Ammonium Dihydrogen Phosphate	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	97.99 g/mol	7722-76-1	< 0.1
Zirconyl Chloride Octahydrate	ZrOCl <sub>2</sub> ·8H <sub>2</sub> O	322.25 g/mol	13520-92-8	< 0.1
Ammonium Hexafluorogermanate	(NH <sub>4</sub> ) <sub>2</sub> GeF <sub>6</sub>	222.71 g/mol	16962-47-3	< 0.1
Ammonium Hexafluoronioate	NH <sub>4</sub> NbF <sub>6</sub>	224.93 g/mol	12062-13-4	< 0.1
Ammonium Molybdate	(NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub>	196.03 g/mol	13106-76-8	< 0.1
Ammonium Heptafluorotantalate	(NH <sub>4</sub> ) <sub>2</sub> TaF <sub>7</sub>	350.01 g/mol	12022-02-5	< 0.1
Hydrofluoric Acid	HF	20.00 g/mol	7664-39-3	< 0.1
Ammonium Perrhenate	NH <sub>4</sub> ReO <sub>4</sub>	268.24 g/mol	13598-65-7	< 0.1
Ammonium Tungstate	(NH <sub>4</sub> ) <sub>2</sub> WO <sub>4</sub>	283.91 g/mol	11140-77-5	< 0.1
Ammonium Hydroxide	NH <sub>4</sub> OH	35.04 g/mol	1336-21-6	< 0.1

## 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 to those allergic to phosphates.



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**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

Avoid contact with skin, eyes, and clothing. If swallowed, dilute with water and call a physician. Wash areas of contact with plenty of water. Does not present any significant health hazards. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation to those allergic to phosphates.

### 4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

Use water or water spray.

### 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

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

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. 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 Tungstate (11140-77-5)	TLV-TWA	USA	"3 mg/m <sup>3</sup> TWA (in the absence of cobalt, respirable particulate matter, as W)" As Tungsten compounds [RR-00616-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tungstate (11140-77-5)	TLV-TWA	USA	3 mg/m <sup>3</sup> TWA (in the absence of cobalt, respirable particulate matter, as W)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Molybdate (13106-76-8)	TLV-TWA	USA	"0.5 mg/m <sup>3</sup> TWA (respirable particulate matter, as Mo)" As Molybdenum soluble compounds [RR-00036-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Molybdate (13106-76-8)	TWA	USA	"5 mg/m <sup>3</sup> TWA (as Mo)" As Molybdenum, soluble compounds [RR-00036-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Molybdate (13106-76-8)	TLV-TWA	USA	0.5 mg/m <sup>3</sup> TWA (respirable particulate matter, as Mo)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Molybdate (13106-76-8)	TWA	USA	5 mg/m <sup>3</sup> TWA (as Mo)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hydroxide (1336-21-6)	TLV-TWA	USA	25 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hydroxide (1336-21-6)	TLV-STEL	USA	35 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ammonium Hydroxide (1336-21-6)	TWA	USA	50 ppm TWA; 35 mg/m <sup>3</sup> TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Zirconyl Chloride Octahydrate (13520-)	TLV-TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Zirconyl Chloride Octahydrate (13520-)	TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Zirconyl Chloride Octahydrate (13520-9) TLV-STEL	USA	"10 mg/m <sup>3</sup> STEL (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Zirconyl Chloride Octahydrate (13520-9) TLV-STEL	USA	"10 mg/m <sup>3</sup> STEL (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Zirconyl Chloride Octahydrate (13520-9) TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Zirconyl Chloride Octahydrate (13520-9) TLV-TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Zirconyl Chloride Octahydrate (13520-9) TWA	USA	5 mg/m <sup>3</sup> TWA (as Zr)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Zirconyl Chloride Octahydrate (13520-9) TLV-TWA	USA	5 mg/m <sup>3</sup> TWA (as Zr)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Zirconyl Chloride Octahydrate (13520-9) TLV-STEL	USA	10 mg/m <sup>3</sup> STEL (as Zr)	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Zirconyl Chloride Octahydrate (13520-9) TLV-TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Zirconyl Chloride Octahydrate (13520-9) TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Zirconyl Chloride Octahydrate (13520-9) TLV-STEL	USA	"10 mg/m <sup>3</sup> STEL (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Zirconyl Chloride Octahydrate (13520-9) TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Zirconyl Chloride Octahydrate (13520-9) TLV-STEL	USA	"10 mg/m <sup>3</sup> STEL (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Zirconyl Chloride Octahydrate (13520-9) TLV-TWA	USA	"5 mg/m <sup>3</sup> TWA (as Zr)" As Zirconium compounds [RR-00624-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tetrafluoroborate (13826-8) TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tetrafluoroborate (13826-8) TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Ammonium Tetrafluoroborate (13826-8 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Tetrafluoroborate (13826-8 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tetrafluoroborate (13826-8 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tetrafluoroborate (13826-8 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Tetrafluoroborate (13826-8 TLV-TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Tetrafluoroborate (13826-8 TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ammonium Hexafluorosilicate (IV) (169 TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorotitanate (16962- TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorotitanate (16962- TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Ammonium Hexafluorotitanate (16962- TLV-TWA		USA	2.5 mg/m <sup>3</sup> TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ammonium Hexafluorotitanate (16962- TWA		USA	2.5 mg/m <sup>3</sup> TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrofluoric Acid (7664-39-3)	TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	"2.5 mg/m <sup>3</sup> TWA (as F)" As Fluorides [RR-02792-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	0.5 ppm TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	3 ppm TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrofluoric Acid (7664-39-3)	TLV-Ceiling	USA	2 ppm Ceiling (as F)	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	2.5 mg/m <sup>3</sup> TWA (as F)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TWA	USA	2 ppm TWA; 5 mg/m <sup>3</sup> TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	2 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	4 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

### 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, Neoprene or PVC.

**Eye Protection:** Safety glasses or goggles.

### 8.3. Personal Protective Equipment

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



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### SECTION 9: Physical and Chemical Properties

#### 9.1. Basic Physical and Chemical Properties

**Appearance:** Colorless liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** Approximately 0°C

**Initial Boiling Point/Range:** Approximately 100°C - Approximately 100°C

**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:** 1.0

**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.

#### 10.3. Conditions to Avoid and Incompatible Materials

None identified.

#### 10.4. Hazardous Decomposition Products

Will not occur.





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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:**

LC50, Inhalation, Rat, Hydrofluoric Acid: 1276 ppm/1 H.

**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.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

#### 12.1. Ecotoxicity

Not applicable.

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### 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

Ammonium Hydroxide (CAS # 1336-21-6): 100 lb EPCRA RQ

Ammonium Hydroxide (CAS # 1336-21-6): 500 lb TPQ

Hydrofluoric Acid (CAS # 7664-39-3): 100 lb EPCRA RQ

Hydrofluoric Acid (CAS # 7664-39-3): 100 lb TPQ

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

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

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

Ammonium Hydroxide (CAS # 1336-21-6): 100 lb final RQ; 45.4 kg final RQ  
Ammonium Hydroxide (CAS # 1336-21-6): 1000 lb final RQ; 454 kg final RQ  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): 5000 lb final RQ; 2270 kg final RQ  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): 1000 lb final RQ; 454 kg final RQ  
Hydrofluoric Acid (CAS # 7664-39-3): 100 lb final RQ; 45.4 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)

Ammonium Molybdate (CAS # 13106-76-8): "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 Molybdate (CAS # 13106-76-8): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)  
Ammonium Hydroxide (CAS # 1336-21-6): "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 Hydroxide (CAS # 1336-21-6): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)  
Ammonium Hydroxide (CAS # 1336-21-6): 1.0 % de minimis concentration (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): "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 Tetrafluoroborate (CAS # 13826-83-0): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): "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 Hexafluorosilicate (IV) (CAS # 16919-19-0): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)  
Ammonium Hexafluorotitanate (CAS # 16962-40-6): "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 Hexafluorotitanate (CAS # 16962-40-6): 1.0 % de

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

Ammonium Hydroxide (CAS # 1336-21-6): Extraordinarily hazardous (including anhydrous)  
Ammonium Hydroxide (CAS # 1336-21-6): Present  
Zirconyl Chloride Octahydrate (CAS # 13520-92-8): Present  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): Present  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): Present  
Hydrofluoric Acid (CAS # 7664-39-3): Extraordinarily hazardous  
Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous  
Ammonium Sulfate (CAS # 7783-20-2): Present

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

Ammonium Hydroxide (CAS # 1336-21-6): Environmental hazard  
Ammonium Hydroxide (CAS # 1336-21-6): Present  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): Environmental hazard  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): Present  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): Environmental hazard  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): Present  
Hydrofluoric Acid (CAS # 7664-39-3): Environmental hazard  
Hydrofluoric Acid (CAS # 7664-39-3): Present  
Nitric Acid (CAS # 7697-37-2): Environmental hazard  
Nitric Acid (CAS # 7697-37-2): Present  
Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]  
Water (CAS # 7732-18-5): Present  
Ammonium Sulfate (CAS # 7783-20-2): Environmental hazard  
Ammonium Sulfate (CAS # 7783-20-2): Present

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

Ammonium Molybdate (CAS # 13106-76-8): sn 0105  
Ammonium Hydroxide (CAS # 1336-21-6): corrosive  
Ammonium Hydroxide (CAS # 1336-21-6): sn 0084  
Ammonium Hydroxide (CAS # 1336-21-6): SN 0084 500 lb TPQ (The reportable quantity for anhydrous Ammonia is based on 100% of the anhydrous Ammonia. The reportable quantity for aqueous Ammonia is the Ammonia equivalent weight for concentrations of >=20%.)  
Ammonium Hydroxide (CAS # 1336-21-6): sn 0103  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): "sn 0936" As Fluorides [RR-02792-9]  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): sn 0100  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): sn 0936  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): "sn 0936" As Fluorides [RR-02792-9]  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): sn 0101  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): sn 0936  
Ammonium Hexafluorotitanate (CAS # 16962-40-6): "sn 0936" As Fluorides [RR-02792-9]  
Ammonium Hexafluorotitanate (CAS # 16962-40-6): sn 0936  
Hydrofluoric Acid (CAS # 7664-39-3): "sn 0936" As Fluorides [RR-02792-9]  
Hydrofluoric Acid (CAS # 7664-39-3): corrosive  
Hydrofluoric Acid (CAS # 7664-39-3): sn 0936  
Hydrofluoric Acid (CAS # 7664-39-3): sn 3759  
Hydrofluoric Acid (CAS # 7664-39-3): SN 3759 100 lb TPQ; SN 1014 100 lb TPQ  
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)

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### 15.8. California Proposition 65

Not listed.

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

Ammonium Molybdate (CAS # 13106-76-8): Present (DSL)  
Ammonium Hydroxide (CAS # 1336-21-6): Present (DSL)  
Zirconyl Chloride Octahydrate (CAS # 13520-92-8): Present (DSL)  
Ammonium Perrhenate (CAS # 13598-65-7): Present (DSL)  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): Present (DSL)  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): Present (DSL)  
Ammonium Hexafluorotitanate (CAS # 16962-40-6): Present (NDSL)  
Hydrofluoric Acid (CAS # 7664-39-3): Present (DSL)  
Nitric Acid (CAS # 7697-37-2): Present (DSL)  
Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present (DSL)  
Water (CAS # 7732-18-5): Present (DSL)  
Ammonium Sulfate (CAS # 7783-20-2): 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.**

Ammonium Molybdate (CAS # 13106-76-8): Present (ACTIVE)  
Ammonium Hydroxide (CAS # 1336-21-6): Present (ACTIVE)  
Zirconyl Chloride Octahydrate (CAS # 13520-92-8): Present (ACTIVE)  
Ammonium Perrhenate (CAS # 13598-65-7): Present (ACTIVE)  
Ammonium Tetrafluoroborate (CAS # 13826-83-0): Present (ACTIVE)  
Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): Present (ACTIVE)  
Ammonium Hexafluorotitanate (CAS # 16962-40-6): Present (ACTIVE)  
Hydrofluoric Acid (CAS # 7664-39-3): Present (ACTIVE)  
Nitric Acid (CAS # 7697-37-2): Present (ACTIVE)  
Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): Present (ACTIVE)  
Water (CAS # 7732-18-5): Present (ACTIVE)  
Ammonium Sulfate (CAS # 7783-20-2): Present (ACTIVE)

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

Ammonium Hexafluoroniobate (CAS # 12062-13-4): 235-046-2  
 Ammonium Molybdate (CAS # 13106-76-8): 236-031-3  
 Ammonium Hydroxide (CAS # 1336-21-6): 215-647-6  
 Ammonium Hydroxide (CAS # 1336-21-6): 231-635-3  
 Zirconyl Chloride Octahydrate (CAS # 13520-92-8): 231-717-9  
 Ammonium Perrhenate (CAS # 13598-65-7): 237-075-6  
 Ammonium Tetrafluoroborate (CAS # 13826-83-0): 237-531-4  
 Ammonium Hexafluorosilicate (IV) (CAS # 16919-19-0): 240-968-3  
 Ammonium Hexafluorotitanate (CAS # 16962-40-6): 241-036-9  
 Ammonium Hexafluorogermanate (CAS # 16962-47-3): 241-037-4  
 Hydrofluoric Acid (CAS # 7664-39-3): 231-634-8  
 Nitric Acid (CAS # 7697-37-2): 231-714-2  
 Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): 231-764-5  
 Ammonium Dihydrogen Phosphate (CAS # 7722-76-1): 233-330-0  
 Water (CAS # 7732-18-5): 231-791-2  
 Ammonium Sulfate (CAS # 7783-20-2): 231-984-1

## 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.

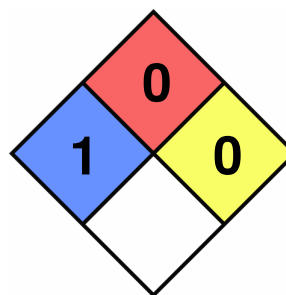
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

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

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

### 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:** 2023-05-03

### 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.