

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 3

Product Number: RICPMS3

Other Identifying Product Numbers: RICPMS3-100, RICPMS3-1000

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.

Hazard Class	Category	Hazard Statements:	Precautionary Statements:
Skin Corrosion / Irritation	Category 1	H314	P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501
Eye Damage / Irritation	Category 1	H318	P280, P305+P351+P338, P310
Corrosive to Metals	Category 1	H290	P234, P390, P406

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2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P234	Keep only in original container.
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P280	Wear protective gloves and eye protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P321	Specific treatment (Wash areas of contact with water.).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

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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	91.59
Hydrochloric Acid	HCl	36.46 g/mol	7647-01-0	8.40
Rhodium (III) Chloride Hydrate	RhCl ₃ ·xH ₂ O	126 g/mol (anhydrous)	20765-98-4	< 0.1
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	< 0.1
Ruthenium (III) Chloride Hydrate	RuCl ₃ ·xH ₂ O	126 g/mol (anhydrous basis)	14898-67-0	< 0.1
Hafnium Oxychloride Octahydrate	HfOCl ₂ ·8H ₂ O	409.52 g/mol	14456-34-9	< 0.1
Iridium (III) Chloride Trihydrate	IrCl ₃ ·3H ₂ O	352.62 g/mol	13569-57-8	< 0.1
Gold	Au	196.96 g/mol	7440-57-5	< 0.1
Antimony	Sb	121.76 g/mol	7440-36-0	< 0.1
Tin	Sn	118.71 g/mol	7440-31-5	< 0.1
Platinum	Pt	195.07 g/mol	7440-06-4	< 0.1
Palladium	Pd	106.42 g/mol	7440-05-3	< 0.1
Tellurium	Te	127.59 g/mol	13494-80-9	< 0.1

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. May cause severe burns and permanent damage.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. May cause irritation, redness, and pain.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage. Causes serious eye damage. DANGER! Corrosive liquid! Causes severe burns to all areas of contact. May be fatal if swallowed. Wash areas of contact with water immediately for at least 15 minutes. Inhalation can cause coughing, choking, inflammation of the nose, throat and upper respiratory tract. If ingested, give large quantity of water. Do not induce vomiting. Call a physician immediately. EYE CONTACT: May cause severe burns and permanent damage. SKIN CONTACT: May cause irritation, redness, and pain.

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4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). 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. Wash areas of contact with soap and 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 any means suitable for extinguishing surrounding fire (water or water spray). Neutralize with soda ash or slaked lime.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard. May react with metals to release flammable Hydrogen gas.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire. Structural firefighter's protective clothing is ineffective for fires involving Hydrochloric Acid.

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

Cover the spill with Sodium Carbonate or a soda ash-slaked lime mixture (50:50). Mix and add water to form slurry. Decant the liquid to the drain with excess water. Treat the solid residue as normal refuse. Wash site with soda ash solution. Always dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Do not mix with bases.

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SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Tellurium (13494-80-9)	TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]; "0.1 mg/m ³ TWA (as Te)" As Tellurium compounds [RR-00614-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Tellurium (13494-80-9)	TLV-TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]; "0.1 mg/m ³ TWA (except Hydrogen telluride and Tellurium hexafluoride, as Te)" As Tellurium compounds [RR-00614-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Tellurium (13494-80-9)	TLV-TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]; "0.1 mg/m ³ TWA (except Hydrogen telluride and Tellurium hexafluoride, as Te)" As Tellurium compounds [RR-00614-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Tellurium (13494-80-9)	TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]; "0.1 mg/m ³ TWA (as Te)" As Tellurium compounds [RR-00614-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Tellurium (13494-80-9)	TLV-TWA	USA	0.1 mg/m ³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Tellurium (13494-80-9)	TWA	USA	0.1 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Tellurium (13494-80-9)	TLV-TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Tellurium (13494-80-9)	TWA	USA	"0.1 mg/m ³ TWA" As Tellurium [13494-80-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hafnium Oxychloride Octahydrate (144	TLV-TWA	USA	"0.5 mg/m ³ TWA (as Hf)" As Hafnium compounds [RR-03981-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Hafnium Oxychloride Octahydrate (144 TLV-TWA	USA	0.5 mg/m ³ TWA (as Hf)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Rhodium (III) Chloride Hydrate (20765- TWA	USA	"0.1 mg/m ³ TWA (as Rh)" As Rhodium, insoluble compounds [RR-00047-5]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Rhodium (III) Chloride Hydrate (20765- TLV-TWA	USA	"1 mg/m ³ TWA (as Rh)" As Rhodium insoluble compounds [RR-00047-5]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Rhodium (III) Chloride Hydrate (20765- TLV-TWA	USA	"0.01 mg/m ³ TWA (as Rh)" As Rhodium soluble compounds [RR-00040-8]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Rhodium (III) Chloride Hydrate (20765- TWA	USA	"0.001 mg/m ³ TWA (as Rh)" As Rhodium, soluble compounds [RR-00040-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Rhodium (III) Chloride Hydrate (20765- TLV-TWA	USA	0.01 mg/m ³ TWA (as Rh)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Rhodium (III) Chloride Hydrate (20765- TWA	USA	0.001 mg/m ³ TWA (as Rh)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Rhodium (III) Chloride Hydrate (20765- TWA	USA	"0.001 mg/m ³ TWA (as Rh)" As Rhodium, soluble compounds [RR-00040-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Rhodium (III) Chloride Hydrate (20765- TLV-TWA	USA	"0.01 mg/m ³ TWA (as Rh)" As Rhodium soluble compounds [RR-00040-8]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Platinum (7440-06-4)	TLV-TWA	USA	"1 mg/m ³ TWA" As Platinum [7440-06-4]
Platinum (7440-06-4)	TLV-TWA	USA	1 mg/m ³ TWA
Tin (7440-31-5)	TWA	USA	"2 mg/m ³ TWA (except oxides, as Sn)" As Tin, inorganic compounds [RR-00043-1]
Tin (7440-31-5)	TLV-TWA	USA	2 mg/m ³ TWA (inhalable particulate matter)
Tin (7440-31-5)	TLV-TWA	USA	2 mg/m ³ TWA (excluding Tin hydride and Indium tin oxide, inhalable particulate matter, as Sn)
Tin (7440-31-5)	TWA	USA	2 mg/m ³ TWA (except oxides, as Sn)

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Tin (7440-31-5)	TLV-TWA	USA	"2 mg/m ³ TWA (excluding Tin hydride and Indium tin oxide, inhalable particulate matter, as Sn)" As Tin inorganic compounds [RR-00043-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Tin (7440-31-5)	TWA	USA	"2 mg/m ³ TWA (except oxides, as Sn)" As Tin, inorganic compounds [RR-00043-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TLV-TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TLV-TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TWA	USA	0.5 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TLV-TWA	USA	0.5 mg/m ³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TLV-TWA	USA	"0.5 mg/m ³ TWA (as Sb)" As Antimony compounds [RR-00585-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TWA	USA	"0.5 mg/m ³ TWA (as Sb)" As Antimony compounds [RR-00585-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TLV-TWA	USA	"0.5 mg/m ³ TWA (as Sb)" As Antimony compounds [RR-00585-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TWA	USA	"0.5 mg/m ³ TWA (as Sb)" As Antimony compounds [RR-00585-6]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony (7440-36-0)	TLV-TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony (7440-36-0)	TWA	USA	"0.5 mg/m ³ TWA" As Antimony [7440-36-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits

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Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
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; 7 mg/m ³ Ceiling	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits

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Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
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)
Nitric Acid (7697-37-2)	TWA	USA	2 ppm TWA; 5 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TLV-TWA	USA	"2 ppm TWA" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	"4 ppm STEL" As Nitric acid [7697-37-2]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Nitric Acid (7697-37-2)	TWA	USA	"2 ppm TWA; 5 mg/m ³ TWA" As Nitric acid [7697-37-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

8.2. Exposure Controls

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

Respiratory Protection: Normal room ventilation is adequate. If necessary, wear a respirator equipped with an acid gas cartridge.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. If necessary, wear a respirator equipped with an acid gas cartridge. Chemical resistant gloves. Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Light brown/gold liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: <1

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: 1.04

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

Keep only in original container. Most metals, Alkalies, active metals, Cyanides, Sulfides, Sulfites, Metal Oxides, Formaldehyde.

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:

LD50, Oral, Rabbit (Hydrochloric Acid) 900 mg/kg; Details of toxic effects not reported other than lethal dose value. LCLo, inhalation, human: 3000 ppm/5 minutes: No toxic effects noted.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye damage. 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. Immediately call a POISON CENTER or physician.

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)

Sizes: 1 L, 100 mL

UN Number: UN1789

Proper Shipping Name: Hydrochloric Acid Solution

Hazard Class: 8

Packing Group: II

Hazard Label(s):



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

Sizes: 1 L, 100 mL

UN Number: UN1789

Proper Shipping Name: Hydrochloric Acid Solution

Hazard Class: 8

Packing Group: II

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 100 mL

UN Number: UN1789

Proper Shipping Name: HYDROCHLORIC ACID SOLUTION

Hazard Class: 8

Packing Group: II

Hazard Label(s):



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

Hydrochloric Acid (CAS # 7647-01-0): "500 lb TPQ (gas only)" As Hydrogen chloride [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): "5000 lb EPCRA RQ (gas only)" As Hydrogen chloride [7647-01-0]

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" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "1000 lb TPQ" As Nitric acid [7697-37-2]

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

Antimony (CAS # 7440-36-0): "5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $>100\text{ }\mu\text{m}$); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $>100\text{ }\mu\text{m}$)" As Antimony [7440-36-0]

Antimony (CAS # 7440-36-0): 10 lb final RQ; 4.54 kg final RQ

Antimony (CAS # 7440-36-0): 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $>100\text{ }\mu\text{m}$); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $>100\text{ }\mu\text{m}$)

Hydrochloric Acid (CAS # 7647-01-0): "5000 lb final RQ; 2270 kg final RQ" As Hydrochloric acid [7647-01-0]

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" As Nitric acid [7697-37-2]

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)

Antimony (CAS # 7440-36-0): "1.0 % de minimis concentration (includes any unique chemical substance that contains Antimony as part of that chemical infrastructure, listed under Chemical Category N010)" As Antimony compounds [RR-00585-6]

Antimony (CAS # 7440-36-0): "1.0 % de minimis concentration" As Antimony [7440-36-0]

Antimony (CAS # 7440-36-0): 1.0 % de minimis concentration

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)" As Hydrochloric acid [7647-01-0]

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" As Nitric acid [7697-37-2]

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

15.5. Massachusetts Right-to-Know Substance List

Tellurium (CAS # 13494-80-9): "Extraordinarily hazardous" As Tellurium [13494-80-9]

Tellurium (CAS # 13494-80-9): Extraordinarily hazardous

Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): "Present" As Rhodium trichloride [10049-07-7]

Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): Present

Platinum (CAS # 7440-06-4): "Present" As Platinum [7440-06-4]

Platinum (CAS # 7440-06-4): Present

Tin (CAS # 7440-31-5): Present

Antimony (CAS # 7440-36-0): "Present" As Antimony [7440-36-0]

Antimony (CAS # 7440-36-0): Present

Hydrochloric Acid (CAS # 7647-01-0): "Extraordinarily hazardous" As Hydrochloric acid [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous

Nitric Acid (CAS # 7697-37-2): "Extraordinarily hazardous" As Nitric acid [7697-37-2]

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

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15.6. Pennsylvania Right-to-Know Hazardous Substances

Tellurium (CAS # 13494-80-9): "Environmental hazard" As Tellurium [13494-80-9]
Tellurium (CAS # 13494-80-9): "Present" As Tellurium [13494-80-9]
Tellurium (CAS # 13494-80-9): Environmental hazard
Tellurium (CAS # 13494-80-9): Present
Platinum (CAS # 7440-06-4): "Present" As Platinum [7440-06-4]
Platinum (CAS # 7440-06-4): Present
Tin (CAS # 7440-31-5): Present
Antimony (CAS # 7440-36-0): "Environmental hazard" As Antimony [7440-36-0]
Antimony (CAS # 7440-36-0): "Environmental hazard" As Antimony compounds [RR-00585-6]
Antimony (CAS # 7440-36-0): "Present" As Antimony [7440-36-0]
Antimony (CAS # 7440-36-0): "Present" As Antimony compounds [RR-00585-6]
Antimony (CAS # 7440-36-0): Environmental hazard
Antimony (CAS # 7440-36-0): Present
Hydrochloric Acid (CAS # 7647-01-0): "Environmental hazard" As Hydrochloric acid [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): "Present" As Hydrochloric acid [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard
Hydrochloric Acid (CAS # 7647-01-0): Present
Nitric Acid (CAS # 7697-37-2): "Environmental hazard" As Nitric acid [7697-37-2]
Nitric Acid (CAS # 7697-37-2): "Present" As Nitric acid [7697-37-2]
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



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

Tellurium (CAS # 13494-80-9): "flammable - third degree" As Tellurium [13494-80-9]

Tellurium (CAS # 13494-80-9): "sn 1777" As Tellurium [13494-80-9]

Tellurium (CAS # 13494-80-9): flammable - third degree

Tellurium (CAS # 13494-80-9): sn 1777

Platinum (CAS # 7440-06-4): "flammable - third degree" As Platinum [7440-06-4]

Platinum (CAS # 7440-06-4): "sn 1547" As Platinum [7440-06-4]

Platinum (CAS # 7440-06-4): flammable - third degree

Platinum (CAS # 7440-06-4): sn 1547

Tin (CAS # 7440-31-5): flammable - third degree

Tin (CAS # 7440-31-5): sn 1858

Antimony (CAS # 7440-36-0): "SN 0141 500 lb TPQ" As Antimony [7440-36-0]

Antimony (CAS # 7440-36-0): "sn 0141" As Antimony [7440-36-0]

Antimony (CAS # 7440-36-0): "SN 2223 500 lb TPQ (Category Code N010. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Antimony compounds [RR-00585-6]

Antimony (CAS # 7440-36-0): "sn 2223" As Antimony compounds [RR-00585-6]

Antimony (CAS # 7440-36-0): sn 0141

Antimony (CAS # 7440-36-0): SN 0141 500 lb TPQ

Hydrochloric Acid (CAS # 7647-01-0): "corrosive" As Hydrogen chloride [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): "SN 1012 500 lb TPQ; SN 2909 500 lb TPQ (gas only)" As Hydrogen chloride [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): "sn 1012" As Hydrogen chloride [7647-01-0]

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; SN 2909 500 lb TPQ (gas only)

Nitric Acid (CAS # 7697-37-2): "corrosive; reactive - second degree" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "SN 1356 500 lb TPQ" As Nitric acid [7697-37-2]

Nitric Acid (CAS # 7697-37-2): "sn 1356" As Nitric acid [7697-37-2]

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 T

15.8. California Proposition 65

Not listed.



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

Tellurium (CAS # 13494-80-9): "Present" As Tellurium [13494-80-9] (DSL)
Tellurium (CAS # 13494-80-9): Present (DSL)
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): "Present" As Iridium chloride (IrCl_3) [10025-83-9] (DSL)
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): Present (DSL)
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): "Present" As Ruthenium chloride (RuCl_3) [10049-08-8] (DSL)
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): Present (DSL)
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): "Present" As Rhodium trichloride [10049-07-7] (DSL)
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): Present (DSL)
Palladium (CAS # 7440-05-3): Present (DSL)
Platinum (CAS # 7440-06-4): "Present" As Platinum [7440-06-4] (DSL)
Platinum (CAS # 7440-06-4): Present (DSL)
Tin (CAS # 7440-31-5): Present (DSL)
Antimony (CAS # 7440-36-0): "Present" As Antimony [7440-36-0] (DSL)
Antimony (CAS # 7440-36-0): Present (DSL)
Gold (CAS # 7440-57-5): "Present" As Gold [7440-57-5] (DSL)
Gold (CAS # 7440-57-5): Present (DSL)
Hydrochloric Acid (CAS # 7647-01-0): "Present" As Hydrogen chloride [7647-01-0] (DSL)
Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)
Nitric Acid (CAS # 7697-37-2): "Present" As Nitric acid [7697-37-2] (DSL)
Nitric Acid (CAS # 7697-37-2): Present (DSL)
Water (CAS # 7732-18-5): "Present" As Water [7732-18-5] (DSL)
Water (CAS # 7732-18-5): 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.



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Tellurium (CAS # 13494-80-9): "Present (ACTIVE)" As Tellurium [13494-80-9]
Tellurium (CAS # 13494-80-9): Present (ACTIVE)
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): "Present (ACTIVE)" As Iridium chloride (IrCl₃) [10025-83-9]
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): Present (ACTIVE)
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): "Present (ACTIVE)" As Ruthenium chloride (RuCl₃) [10049-08-8]
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): Present (ACTIVE)
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): "Present (ACTIVE)" As Rhodium chloride (RhCl₃) [10049-07-7]
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): Present (ACTIVE)
Palladium (CAS # 7440-05-3): Present (ACTIVE)
Platinum (CAS # 7440-06-4): "Present (ACTIVE)" As Platinum [7440-06-4]
Platinum (CAS # 7440-06-4): Present (ACTIVE)
Tin (CAS # 7440-31-5): Present (ACTIVE)
Antimony (CAS # 7440-36-0): "Present (ACTIVE)" As Antimony [7440-36-0]
Antimony (CAS # 7440-36-0): Present (ACTIVE)
Gold (CAS # 7440-57-5): "Present (ACTIVE)" As Gold [7440-57-5]
Gold (CAS # 7440-57-5): Present (ACTIVE)
Hydrochloric Acid (CAS # 7647-01-0): "Present (ACTIVE)" As Hydrochloric acid [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): Present (ACTIVE)
Nitric Acid (CAS # 7697-37-2): "Present (ACTIVE)" As Nitric acid [7697-37-2]
Nitric Acid (CAS # 7697-37-2): Present (ACTIVE)
Water (CAS # 7732-18-5): "Present (ACTIVE)" As Water [7732-18-5]
Water (CAS # 7732-18-5): 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)

Tellurium (CAS # 13494-80-9): "236-813-4" As Tellurium [13494-80-9]
Tellurium (CAS # 13494-80-9): 236-813-4
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): "233-044-6" As Iridium trichloride [10025-83-9]
Iridium (III) Chloride Trihydrate (CAS # 13569-57-8): 233-044-6
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): "233-167-5" As Ruthenium trichloride [10049-08-8]
Ruthenium (III) Chloride Hydrate (CAS # 14898-67-0): 233-167-5
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): "233-165-4" As Rhodium trichloride [10049-07-7]
Rhodium (III) Chloride Hydrate (CAS # 20765-98-4): 233-165-4
Palladium (CAS # 7440-05-3): 231-115-6
Platinum (CAS # 7440-06-4): "231-116-1" As Platinum [7440-06-4]
Platinum (CAS # 7440-06-4): 231-116-1
Tin (CAS # 7440-31-5): 231-141-8
Antimony (CAS # 7440-36-0): "231-146-5" As Antimony [7440-36-0]
Antimony (CAS # 7440-36-0): 231-146-5
Gold (CAS # 7440-57-5): "231-165-9" As Gold [7440-57-5]
Gold (CAS # 7440-57-5): 231-165-9
Hydrochloric Acid (CAS # 7647-01-0): "231-595-7" As Hydrogen chloride [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): 231-595-7
Nitric Acid (CAS # 7697-37-2): "231-714-2" As Nitric acid [7697-37-2]
Nitric Acid (CAS # 7697-37-2): 231-714-2
Water (CAS # 7732-18-5): "231-791-2" As Water [7732-18-5]
Water (CAS # 7732-18-5): 231-791-2

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SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May be corrosive to metals. Causes severe skin burns and eye damage.

Keep only in original container. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

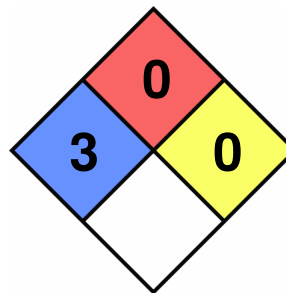
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

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

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health:	3
Flammability:	0
Reactivity:	0
Special Hazard:	



16.4. Document Revision

Last Revision Date: 2025-01-31

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.