

Safety Data Sheet

Classified according to WHMIS 2015

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Primary Metals Standard, for GFAA/ICP/ICP-MS

Product Number: RPRIMET

Other Identifying Product Numbers: RPRIMET-100

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:
Acute Toxicity - Inhalation	Category 3	H331	P261, P271, P304+P340, P311, P321, P403+P233, P405, P501
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 2	H319	P264, P280, P305+P351+P338, P337+P313
Hazardous to the Aquatic Environment (Acute)	Category 3	H402	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 3	H412	P273, P501

Safety Data Sheet

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes, mist, vapors, or spray.
P261	Avoid breathing fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
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.
P311	Call a POISON CENTER or physician.
P321	Specific treatment (Wash areas of contact with water.).
P337+P313	If eye irritation persists: Get medical attention.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

Safety Data Sheet

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 ₂ O	18.01 g/mol	7732-18-5	97.95
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	1.93
Calcium Carbonate	CaCO ₃	100.09 g/mol	471-34-1	< 0.1
Sodium Carbonate	Na ₂ CO ₃	105.98 g/mol	497-19-8	< 0.1
Tartaric Acid	HOOC(CHOH) ₂ COOH	150.08 g/mol	87-69-4	< 0.1
Silicon	Si	28.08 g/mol	7440-21-3	< 0.1
Arsenic	As	74.92 g/mol	7440-38-2	< 0.1
Antimony	Sb	121.76 g/mol	7440-36-0	< 0.1
Chromium Nitrate Nonahydrate	Cr(NO ₃) ₃ ·9H ₂ O	238.01 g/mol	7789-02-8	< 0.1
Hydrofluoric Acid	HF	20.00 g/mol	7664-39-3	< 0.1
Barium Nitrate	Ba(NO ₃) ₂	261.33 g/mol	10022-31-8	< 0.1
Selenium	Se	78.95 g/mol	7782-49-2	< 0.1
Hydrochloric Acid	HCl	36.46 g/mol	7647-01-0	< 0.1
Copper	Cu	63.54 g/mol	7440-50-8	< 0.1
Cadmium	Cd	112.41 g/mol	7440-43-9	< 0.1
Beryllium	Be	9.01 g/mol	7440-41-7	< 0.1
Thallium	Tl	204.38 g/mol	7440-28-0	< 0.1
Nickel	Ni	58.69 g/mol	7440-02-0	< 0.1
Lead	Pb	207.2 g/mol	7439-92-1	< 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 irritation, redness, pain, and tearing.

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. Contact will discolor skin yellow-brown depending on exposure which will wear off after a period of time.

Safety Data Sheet

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute with water or milk. 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 irritation. Toxic if inhaled. CAUTION! Mildly corrosive liquid. Contains minute amounts of known and suspected carcinogens. Avoid contact with skin, eyes, and clothing. If swallowed, dilute with water and call a physician. Wash areas of contact with plenty of water. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness and pain. Contact will discolor skin yellow-brown depending on exposure which will wear off after a period of time.

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. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Call a physician if necessary.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not combustible, but substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can react with metals to release flammable hydrogen gas. May react explosively with combustible organic or readily oxidizable materials such as: alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc.

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 protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal. Do not flush to sewer. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. 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.

Safety Data Sheet

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Barium Nitrate (10022-31-8)	TLV-TWA	USA	"0.5 mg/m ³ TWA (as Ba)" As Barium soluble compounds [RR-00049-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Barium Nitrate (10022-31-8)	TWA	USA	"0.5 mg/m ³ TWA (regulated under CAS 7440-39-3, as Ba)" As Barium, soluble compounds [RR-00049-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Barium Nitrate (10022-31-8)	TLV-TWA	USA	0.5 mg/m ³ TWA (as Ba)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Barium Nitrate (10022-31-8)	TWA	USA	0.5 mg/m ³ TWA (regulated under CAS 7440-39-3, as Ba)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Lead (7439-92-1)	PEL	USA	30 µg/m ³ Action Level (See 29 CFR 1910.1025); 50 µg/m ³ TWA	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Lead (7439-92-1)	TLV-TWA	USA	0.05 mg/m ³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Lead (7439-92-1)	TWA	USA	50 µg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nickel (7440-02-0)	TLV-TWA	USA	1.5 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TWA	USA	1 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silicon (7440-21-3)	TWA	USA	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Thallium (7440-28-0)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter, as Tl)" As Thallium compounds [RR-00575-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Thallium (7440-28-0)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter, as Tl)" As Thallium compounds [RR-00575-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

Thallium (7440-28-0)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter, as TI)" As Thallium compounds [RR-00575-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Thallium (7440-28-0)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter, as TI)" As Thallium compounds [RR-00575-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
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Thallium (7440-28-0)	TLV-TWA	USA	0.02 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

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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)
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Safety Data Sheet

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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)	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)
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Safety Data Sheet

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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	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)
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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)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs

Safety Data Sheet

Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
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Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Safety Data Sheet

Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
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Safety Data Sheet

Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic (7440-38-2)	TLV-TWA	USA	0.01 mg/m ³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	PEL	USA	"10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic (7440-38-2)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic (7440-38-2)	TWA	USA	"10 µg/m ³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Safety Data Sheet

Beryllium (7440-41-7)	TLV-TWA	USA	"0.00005 mg/m ³ TWA (inhalable particulate matter, as Be)" As Beryllium compounds [RR-00557-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Beryllium (7440-41-7)	TWA	USA	"0.2 µg/m ³ TWA (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Beryllium (7440-41-7)	PEL-Ceiling	USA	"2 µg/m ³ Ceiling (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Ceiling Limits
Beryllium (7440-41-7)	TLV-TWA	USA	"0.00005 mg/m ³ TWA (inhalable particulate matter, as Be)" As Beryllium compounds [RR-00557-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Beryllium (7440-41-7)	TWA	USA	"0.2 µg/m ³ TWA (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Beryllium (7440-41-7)	PEL-Ceiling	USA	"2 µg/m ³ Ceiling (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Ceiling Limits
Beryllium (7440-41-7)	PEL	USA	0.2 µg/m ³ TWA (See 29 CFR 1910.1024); 0.1 µg/m ³ Action Level; 2.0 µg/m ³ STEL (15 min)	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Beryllium (7440-41-7)	PEL-STEL	USA	2 µg/m ³ STEL (see 29 CFR 1910.1024)	U.S. - OSHA - Final PELs - Short Term Exposure Limits
Beryllium (7440-41-7)	TLV-TWA	USA	0.00005 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Beryllium (7440-41-7)	PEL-Ceiling	USA	2 µg/m ³ Ceiling	U.S. - OSHA - Final PELs - Ceiling Limits
Beryllium (7440-41-7)	TWA	USA	0.2 µg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Beryllium (7440-41-7)	PEL-Ceiling	USA	"2 µg/m ³ Ceiling (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Ceiling Limits
Beryllium (7440-41-7)	TWA	USA	"0.2 µg/m ³ TWA (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Safety Data Sheet

Beryllium (7440-41-7)	TLV-TWA	USA	"0.00005 mg/m ³ TWA (inhalable particulate matter, as Be)" As Beryllium compounds [RR-00557-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs

Safety Data Sheet

Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs

Safety Data Sheet

Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	5 µg/m ³ TWA (See 29 CFR 1910.1027); 2.5 µg/m ³ Action Level	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	0.01 mg/m ³ TWA; 0.002 mg/m ³ TWA (respirable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

Cadmium (7440-43-9)	PEL-Ceiling	USA	0.3 mg/m ³ Ceiling (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect, fume); 0.6 mg/m ³ Ceiling (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect, dust)	U.S. - OSHA - Final PELs - Ceiling Limits
Cadmium (7440-43-9)	TWA	USA	5 µg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	PEL	USA	"5 µg/m ³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m ³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Copper (7440-50-8)	TWA	USA	0.1 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TLV-TWA	USA	0.2 mg/m ³ TWA (fume)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

Copper (7440-50-8)	TLV-TWA	USA	"1 mg/m ³ TWA (dust and mist, as Cu)" As Copper compounds [RR-00595-8]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Copper (7440-50-8)	TLV-TWA	USA	"1 mg/m ³ TWA (dust and mist, as Cu)" As Copper compounds [RR-00595-8]	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; 7 mg/m ³ Ceiling	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrofluoric Acid (7664-39-3)	TWA	USA	"2.5 mg/m ³ 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 ³ 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 ³ TWA (as F)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	2.5 mg/m ³ 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 ³ 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)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Safety Data Sheet

Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	0.2 mg/m ³ TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Chromium Nitrate Nonahydrate (7789-12-7)	TWA	USA	"0.5 mg/m ³ TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Chromium Nitrate Nonahydrate (7789-12-7)	TWA	USA	"0.5 mg/m ³ TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Safety Data Sheet

Chromium Nitrate Nonahydrate (7789-(TWA	USA	0.5 mg/m ³ TWA (as Cr)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Chromium Nitrate Nonahydrate (7789-(TWA	USA	"0.5 mg/m ³ TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Chromium Nitrate Nonahydrate (7789-(TWA	USA	"0.5 mg/m ³ TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

8.2. Exposure Controls

Engineering Controls: Use only outdoors or in a well-ventilated area. No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

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. Chemical resistant gloves. Safety glasses or goggles.



Safety Data Sheet

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: acidic

Melting/Freezing Point: Data not available.

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: 1.02

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

Strong bases, metallic powders, Carbides, Hydrogen Sulfide, Turpentine and combustible organics.

10.4. Hazardous Decomposition Products

Will not occur.



Safety Data Sheet

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:

Toxic if inhaled. Avoid breathing fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Other Information:

LDLo, Oral, Human: 430 mg/kg (Nitric Acid), details of toxic effects not reported other than lethal dose value.

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 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

Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations. Harmful to aquatic life with long lasting effects. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

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.



Safety Data Sheet

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

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.

Safety Data Sheet

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Lead (CAS # 7439-92-1): 30 µg/m³ Action Level (See 29 CFR 1910.1025); 50 µg/m³ TWA (See 29 CFR 1910.1025)

Arsenic (CAS # 7440-38-2): "10 µg/m³ TWA (See 29 CFR 1910.1018, except Arsine, as As); 5 µg/m³ Action Level (See 29 CFR 1910.1018, except Arsine, as As)" As Inorganic arsenic compounds [RR-00065-7]

Beryllium (CAS # 7440-41-7): 0.2 µg/m³ TWA (See 29 CFR 1910.1024); 0.1 µg/m³ Action Level (See 29 CFR 1910.1024); 2.0 µg/m³ STEL (See 29 CFR 1910.1024, 15 min)

Cadmium (CAS # 7440-43-9): "5 µg/m³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]

Cadmium (CAS # 7440-43-9): 5 µg/m³ TWA (See 29 CFR 1910.1027); 2.5 µg/m³ Action Level

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)

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

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

Lead (CAS # 7439-92-1): 10 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 µm); 4.54 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 µm)

Nickel (CAS # 7440-02-0): 100 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 µm); 45.4 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 µm)

Thallium (CAS # 7440-28-0): 1000 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 µm); 454 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 µm)

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 µm); 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 µm)

Arsenic (CAS # 7440-38-2): 1 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 µm); 0.454 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 µm)

Arsenic (CAS # 7440-38-2): 1 lb final RQ; 0.454 kg final RQ

Beryllium (CAS # 7440-41-7): 10 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 µm); 4.54 kg final RQ (no reporting of re

Safety Data Sheet

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

Barium Nitrate (CAS # 10022-31-8): "1.0 % de minimis concentration (includes any unique chemical substance that contains Barium as part of that chemical's infrastructure except for Barium sulfate CAS 7727-43-7, listed under Chemical Category N040)" As Barium compounds [RR-00555-0]

Barium Nitrate (CAS # 10022-31-8): "1.0 % de minimis concentration (includes any unique chemical substance that contains Barium as part of that chemical's infrastructure except for Barium sulfate CAS 7727-43-7, listed under Chemical Category N040)" As Barium compounds [RR-00555-0];

"1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]

Barium Nitrate (CAS # 10022-31-8): 1.0 % de minimis concentration (includes any unique chemical substance that contains Barium as part of that chemical's infrastructure except for Barium sulfate CAS 7727-43-7, listed under Chemical Category N040)

Barium Nitrate (CAS # 10022-31-8): 1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)

Lead (CAS # 7439-92-1): 0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)

Lead (CAS # 7439-92-1): 100 lb RT (this lower threshold does not apply to lead when it is contained in stainless steel, brass or bronze alloy)

Nickel (CAS # 7440-02-0): "0.1 % de minimis concentration (includes any unique chemical substance that contains Nickel as part of that chemical's infrastructure, listed under Chemical Category N495)" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): 0.1 % de minimis concentration

Thallium (CAS # 7440-28-0): "1.0 % de minimis concentration (includes any unique chemical substance that contains Thallium as part of that chemical's infrastructure, listed under Chemical Category N760)" As Thallium compounds [RR-00575-4]

Thallium (CAS # 7440-28-0): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Barium Nitrate (CAS # 10022-31-8): Present

Lead (CAS # 7439-92-1): Teratogen

Nickel (CAS # 7440-02-0): Carcinogen; Extraordinarily hazardous

Silicon (CAS # 7440-21-3): Present (dust)

Thallium (CAS # 7440-28-0): Present

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

Arsenic (CAS # 7440-38-2): Carcinogen; Extraordinarily hazardous

Beryllium (CAS # 7440-41-7): Carcinogen; Extraordinarily hazardous

Cadmium (CAS # 7440-43-9): Carcinogen; Extraordinarily hazardous

Copper (CAS # 7440-50-8): Present

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

Hydrofluoric Acid (CAS # 7664-39-3): Extraordinarily hazardous

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

Selenium (CAS # 7782-49-2): Present

Safety Data Sheet

15.6. Pennsylvania Right-to-Know Hazardous Substances

Barium Nitrate (CAS # 10022-31-8): "Environmental hazard" As Barium compounds [RR-00555-0]

Barium Nitrate (CAS # 10022-31-8): "Present" As Barium compounds [RR-00555-0]

Barium Nitrate (CAS # 10022-31-8): Environmental hazard

Barium Nitrate (CAS # 10022-31-8): Present

Lead (CAS # 7439-92-1): Environmental hazard

Lead (CAS # 7439-92-1): Present

Nickel (CAS # 7440-02-0): "Environmental hazard" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): "Present" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): Environmental hazard

Nickel (CAS # 7440-02-0): Environmental hazard; Special hazardous substance

Nickel (CAS # 7440-02-0): Present

Silicon (CAS # 7440-21-3): Present

Thallium (CAS # 7440-28-0): "Environmental hazard" As Thallium compounds [RR-00575-4]

Thallium (CAS # 7440-28-0): "Present" As Thallium compounds [RR-00575-4]

Thallium (CAS # 7440-28-0): Environmental hazard

Thallium (CAS # 7440-28-0): Present

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

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

Arsenic (CAS # 7440-38-2): "Environmental hazard" As Arsenic compounds [RR-00625-7]

Arsenic (CAS # 7440-38-2): "Present" As Arsenic compounds [RR-00625-7]

Arsenic (CAS # 7440-38-2): Environmental hazard (including inorganic); Special hazardous substance

Arsenic (CAS # 7440-38-2): Present

Arsenic (CAS # 7440-38-2): Present (including inorganic)

Beryllium (CAS # 7440-41-7): "Environmental hazard" As Beryllium compounds [RR-00557-2]

Beryllium (CAS # 7440-41-7): "Present" As Beryllium compounds [RR-00557-2]

Beryllium (CAS # 7440-41-7): Environmental hazard (dust; metal); Special hazardous substance

Beryllium (CAS # 7440-41-7): Present

Beryllium (CAS # 7440-41-7): Present (dust; metal)

Cadmium (CAS # 7440-43-9): "Environmental hazard" As Cadmium compounds [RR-00559-4]

Cadmium (CAS # 7440-43-9): "Present" As Cadmium co

Safety Data Sheet

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

Barium Nitrate (CAS # 10022-31-8): "SN 2146 500 lb TPQ (except Barium sulfate CAS number 7727-43-7, Category Code N040. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Barium compounds [RR-00555-0]

Barium Nitrate (CAS # 10022-31-8): "SN 2146 500 lb TPQ (except Barium sulfate CAS number 7727-43-7, Category Code N040. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Barium compounds [RR-00555-0];

"SN 3722 500 lb TPQ (water dissociable, Category Code N511)" As Nitrate compounds [RR-01770-9]

Barium Nitrate (CAS # 10022-31-8): "sn 2146" As Barium compounds [RR-00555-0]

Barium Nitrate (CAS # 10022-31-8): "SN 3722 500 lb TPQ (water dissociable, Category Code N511)" As Nitrate compounds [RR-01770-9]

Barium Nitrate (CAS # 10022-31-8): "sn 3722" As Nitrate compounds [RR-01770-9]

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 CAS number 7727-43-7, Category Code N040. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

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 (CAS # 7439-92-1): carcinogen; teratogen

Lead (CAS # 7439-92-1): sn 1096

Lead (CAS # 7439-92-1): SN 1096 500 lb TPQ

Nickel (CAS # 7440-02-0): "carcinogen" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): "SN 2366 500 lb TPQ (Category Code N495. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): "sn 2366" As Nickel compounds [RR-00800-4]

Nickel (CAS # 7440-02-0): carcinogen

Nickel (CAS # 7440-02-0): sn 1341

Nickel (CAS # 7440-02-0): SN 1341 500 lb TPQ

Silicon (CAS # 7440-21-3): flammable - third degree

Silicon (CAS #

Safety Data Sheet

15.8. California Proposition 65

- Lead (CAS # 7439-92-1): 15 µg/day NSRL (oral)
- Lead (CAS # 7439-92-1): carcinogen, 10/1/1992
- Lead (CAS # 7439-92-1): developmental toxicity, 2/27/1987
- Lead (CAS # 7439-92-1): female reproductive toxicity 2/27/87
- Lead (CAS # 7439-92-1): male reproductive toxicity, 2/27/87
- Nickel (CAS # 7440-02-0): "carcinogen, 5/7/2004" As Nickel compounds [RR-00800-4]
- Nickel (CAS # 7440-02-0): carcinogen, 10/1/1989 (metallic)
- Arsenic (CAS # 7440-38-2): "0.06 µg/day NSRL (inhalation, listed under Arsenic); 10 µg/day NSRL (except inhalation, listed under Arsenic)" As Arsenic, inorganic compounds [RR-00065-7]
- Arsenic (CAS # 7440-38-2): "carcinogen, 2/27/1987" As Arsenic, inorganic compounds [RR-00065-7]
- Arsenic (CAS # 7440-38-2): 0.06 µg/day NSRL (inhalation); 10 µg/day NSRL (except inhalation)
- Beryllium (CAS # 7440-41-7): "carcinogen, 10/1/1987" As Beryllium compounds [RR-00557-2]
- Beryllium (CAS # 7440-41-7): 0.1 µg/day NSRL
- Beryllium (CAS # 7440-41-7): carcinogen, 10/1/1987
- Cadmium (CAS # 7440-43-9): "carcinogen, 10/1/1987" As Cadmium compounds [RR-00559-4]
- Cadmium (CAS # 7440-43-9): 0.05 µg/day NSRL (inhalation)
- Cadmium (CAS # 7440-43-9): carcinogen, 10/1/1987
- Cadmium (CAS # 7440-43-9): developmental toxicity, 5/1/1997
- Cadmium (CAS # 7440-43-9): male reproductive toxicity, 5/1/97

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

- Barium Nitrate (CAS # 10022-31-8): Present (DSL)
- Calcium Carbonate (CAS # 471-34-1): Present (DSL)
- Sodium Carbonate (CAS # 497-19-8): Present (DSL)
- Lead (CAS # 7439-92-1): Present (DSL)
- Nickel (CAS # 7440-02-0): Present (DSL)
- Silicon (CAS # 7440-21-3): Present (DSL)
- Thallium (CAS # 7440-28-0): Present (DSL)
- Antimony (CAS # 7440-36-0): Present (DSL)
- Arsenic (CAS # 7440-38-2): Present (DSL)
- Beryllium (CAS # 7440-41-7): Present (DSL)
- Cadmium (CAS # 7440-43-9): Present (DSL)
- Copper (CAS # 7440-50-8): Present (DSL)
- Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)
- Hydrofluoric Acid (CAS # 7664-39-3): Present (DSL)
- Nitric Acid (CAS # 7697-37-2): Present (DSL)
- Water (CAS # 7732-18-5): Present (DSL)
- Selenium (CAS # 7782-49-2): Present (DSL)
- Chromium Nitrate Nonahydrate (CAS # 7789-02-8): Present (DSL)
- Tartaric Acid (CAS # 87-69-4): Present (DSL)

Safety Data Sheet

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.

Barium Nitrate (CAS # 10022-31-8): Present (ACTIVE)
Calcium Carbonate (CAS # 471-34-1): Present (ACTIVE)
Sodium Carbonate (CAS # 497-19-8): Present (ACTIVE)
Lead (CAS # 7439-92-1): Present (ACTIVE)
Nickel (CAS # 7440-02-0): Present (ACTIVE)
Silicon (CAS # 7440-21-3): Present (ACTIVE)
Thallium (CAS # 7440-28-0): Present (ACTIVE)
Antimony (CAS # 7440-36-0): Present (ACTIVE)
Arsenic (CAS # 7440-38-2): Present (ACTIVE)
Beryllium (CAS # 7440-41-7): Present (ACTIVE)
Cadmium (CAS # 7440-43-9): Present (ACTIVE)
Copper (CAS # 7440-50-8): Present (ACTIVE)
Hydrochloric Acid (CAS # 7647-01-0): Present (ACTIVE)
Hydrofluoric Acid (CAS # 7664-39-3): Present (ACTIVE)
Nitric Acid (CAS # 7697-37-2): Present (ACTIVE)
Water (CAS # 7732-18-5): Present (ACTIVE)
Selenium (CAS # 7782-49-2): Present (ACTIVE)
Chromium Nitrate Nonahydrate (CAS # 7789-02-8): Present (ACTIVE)
Tartaric Acid (CAS # 87-69-4): Present (ACTIVE)

Safety Data Sheet

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

Barium Nitrate (CAS # 10022-31-8): 233-020-5
Calcium Carbonate (CAS # 471-34-1): 207-439-9
Sodium Carbonate (CAS # 497-19-8): 207-838-8
Sodium Carbonate (CAS # 497-19-8): 231-420-4
Lead (CAS # 7439-92-1): 231-100-4
Nickel (CAS # 7440-02-0): 231-111-4
Silicon (CAS # 7440-21-3): 231-130-8
Thallium (CAS # 7440-28-0): 231-138-1
Antimony (CAS # 7440-36-0): 231-146-5
Arsenic (CAS # 7440-38-2): 231-148-6
Beryllium (CAS # 7440-41-7): 231-150-7
Cadmium (CAS # 7440-43-9): 231-152-8
Copper (CAS # 7440-50-8): 231-159-6
Hydrochloric Acid (CAS # 7647-01-0): 231-595-7
Hydrofluoric Acid (CAS # 7664-39-3): 231-634-8
Nitric Acid (CAS # 7697-37-2): 231-714-2
Water (CAS # 7732-18-5): 231-791-2
Selenium (CAS # 7782-49-2): 231-957-4
Chromium Nitrate Nonahydrate (CAS # 7789-02-8): 236-921-1
Tartaric Acid (CAS # 87-69-4): 201-766-0

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Causes severe skin burns and eye damage. Causes serious eye irritation. Toxic if inhaled. Harmful to aquatic life with long lasting effects.

Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. 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.). If eye irritation persists: Get medical attention. Wash contaminated clothing before reuse.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

Safety Data Sheet

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

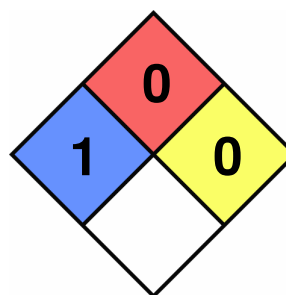
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

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:



16.4. Document Revision

Last Revision Date: 2023-11-13

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.