

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Initial Calibration Verification Standard 7 (Rev) CLP

Product Number: RICV7R

Other Identifying Product Numbers: RICV7R-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:
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	94.33
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	4.86
Aluminum Nitrate Nonahydrate	Al(NO ₃) ₃ ·9H ₂ O	375.13 g/mol	7784-27-2	0.27
Potassium Nitrate	KNO ₃	101.10 g/mol	7757-79-1	0.13
Calcium Carbonate	CaCO ₃	100.09 g/mol	471-34-1	0.12
Sodium Carbonate	Na ₂ CO ₃	105.98 g/mol	497-19-8	0.11
Magnesium Oxide	MgO	40.30 g/mol	1309-48-4	< 0.1
Barium Nitrate	Ba(NO ₃) ₂	261.33 g/mol	10022-31-8	< 0.1
Iron	Fe	55.84 g/mol	7439-89-6	< 0.1
Chromium Nitrate Nonahydrate	Cr(NO ₃) ₃ ·9H ₂ O	238.01 g/mol	7789-02-8	< 0.1
Antimony Trioxide	Sb ₂ O ₃	291.51 g/mol	1309-64-4	< 0.1
Manganous Nitrate Tetrahydrate	Mn(NO ₃) ₂ ·4H ₂ O	251.01 g/mol	15710-66-4	< 0.1
Vanadium	V	50.94 g/mol	7440-62-2	< 0.1
Cobalt	Co	58.93 g/mol	7440-48-4	< 0.1
Nickel	Ni	58.69 g/mol	7440-02-0	< 0.1
Copper	Cu	63.54 g/mol	7440-50-8	< 0.1
Zinc	Zn	65.40 g/mol	7440-66-6	< 0.1
Arsenic Trioxide	As ₂ O ₃	197.84 g/mol	1327-53-3	< 0.1
Thallium	Tl	204.38 g/mol	7440-28-0	< 0.1
Silver	Ag	107.86 g/mol	7440-22-4	< 0.1
Hydrofluoric Acid	HF	20.00 g/mol	7664-39-3	< 0.1
Selenium	Se	78.95 g/mol	7782-49-2	< 0.1
Cadmium	Cd	112.41 g/mol	7440-43-9	< 0.1
Beryllium	Be	9.01 g/mol	7440-41-7	< 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.

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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.

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. Contains low levels of known and suspected carcinogens. Corrosive Liquid. May be fatal if swallowed. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor. If swallowed, do not induce vomiting. 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. Immediately flush with plenty of water for at least 15 minutes. Remove any contaminated clothing. Wash with soap and water, then flush again with water. 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 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.

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

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.



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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.

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SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Barium Nitrate (10022-31-8)	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)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	10 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	15 mg/m ³ TWA (fume, total particulate)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Magnesium Oxide (1309-48-4)	TLV-TWA	USA	"10 mg/m ³ TWA (inhalable particulate matter)" As Magnesium oxide [1309-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Magnesium Oxide (1309-48-4)	TWA	USA	"15 mg/m ³ TWA (fume, total particulate)" As Magnesium oxide [1309-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Antimony Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	TLV-TWA	USA	0.02 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	"0.02 mg/m ³ TWA (inhalable particulate matter)" As Antimony trioxide [1309-64-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Antimony Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	TWA	USA	0.5 mg/m ³ TWA (as Sb)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Antimony Trioxide (1309-64-4)	TLV-TWA	USA	0.5 mg/m ³ TWA (as Sb)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Antimony Trioxide (1309-64-4)	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 Trioxide (1309-64-4)	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)
Arsenic Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	TLV-TWA	USA	0.01 mg/m ³ TWA (as As)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic Trioxide (1327-53-3)	TWA	USA	10 µg/m ³ TWA (as As)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic Trioxide (1327-53-3)	PEL	USA	10 µg/m ³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m ³ Action Level (as As)	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic Trioxide (1327-53-3)	TWA	USA	"0.5 mg/m ³ TWA (as As)" As Arsenic, organic compounds [RR-00035-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	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 Trioxide (1327-53-3)	TWA	USA	"10 µg/m³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic Trioxide (1327-53-3)	PEL	USA	"10 µg/m³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic Trioxide (1327-53-3)	TLV-TWA	USA	"0.01 mg/m³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Arsenic Trioxide (1327-53-3)	TWA	USA	"10 µg/m³ TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Arsenic Trioxide (1327-53-3)	PEL	USA	"10 µg/m³ TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m³ Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Arsenic Trioxide (1327-53-3)	TLV-TWA	USA	"0.01 mg/m³ TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Manganous Nitrate Tetrahydrate (1571 TLV-TWA		USA	"0.02 mg/m³ TWA (respirable particulate matter, as Mn); 0.1 mg/m³ TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling		USA	"5 mg/m³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganous Nitrate Tetrahydrate (1571 TLV-TWA		USA	"0.02 mg/m³ TWA (respirable particulate matter, as Mn); 0.1 mg/m³ TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling	USA	5 mg/m ³ Ceiling (as Mn)	U.S. - OSHA - Final PELs - Ceiling Limits
Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganous Nitrate Tetrahydrate (1571 TLV-TWA	USA	0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0) TLV-TWA	USA	"1.5 mg/m ³ TWA (inhalable particulate matter)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Manganous Nitrate Tetrahydrate (1571 TLV-TWA	USA	"0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganous Nitrate Tetrahydrate (1571 PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Calcium Carbonate (471-34-1) TWA	USA	"15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)" As Calcium carbonate [1317-65-3]	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" As Lead [7439-92-1]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Lead (7439-92-1) TLV-TWA	USA	"0.05 mg/m ³ TWA" As Lead [7439-92-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Lead (7439-92-1) TWA	USA	"50 µg/m ³ TWA" As Lead [7439-92-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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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)
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)	PEL	USA	"30 µg/m ³ Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m ³ TWA (as Pb)" As Lead, inorganic compounds [RR-00538-9]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Lead (7439-92-1)	TLV-TWA	USA	"0.05 mg/m ³ TWA (as Pb)" As Lead inorganic compounds [RR-00538-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Lead (7439-92-1)	TWA	USA	"50 µg/m ³ TWA (as Pb)" As Lead, inorganic compounds [RR-00538-9]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	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)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TLV-TWA	USA	"1.5 mg/m ³ TWA (inhalable particulate matter)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	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)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Nickel (7440-02-0)	TLV-TWA	USA	"1.5 mg/m ³ TWA (inhalable particulate matter)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TLV-TWA	USA	"1.5 mg/m ³ TWA (inhalable particulate matter)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	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)
Nickel (7440-02-0)	TLV-TWA	USA	"1.5 mg/m ³ TWA (inhalable particulate matter)" As Nickel, elemental [7440-02-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nickel (7440-02-0)	TWA	USA	"1 mg/m ³ TWA" As Nickel [7440-02-0]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TWA	USA	0.01 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TLV-TWA	USA	0.1 mg/m ³ TWA (dust and fume)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Silver (7440-22-4)	TWA	USA	"0.01 mg/m ³ TWA" As Silver [7440-22-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Silver (7440-22-4)	TLV-TWA	USA	"0.1 mg/m ³ TWA (dust and fume)" As Silver [7440-22-4]	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 Thallium [7440-28-0]	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 Thallium [7440-28-0]	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)	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 Thallium [7440-28-0]	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)
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)	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-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)	PEL-Ceiling	USA	2 µg/m ³ Ceiling	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-Ceiling	USA	"2 µg/m ³ Ceiling (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Ceiling Limits

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Beryllium (7440-41-7)	TWA	USA	"0.2 µg/m³ TWA (as Be)" As Beryllium compounds [RR-00557-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Beryllium (7440-41-7)	TLV-TWA	USA	"0.00005 mg/m³ 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)	PEL-Ceiling	USA	"2 µg/m³ Ceiling" As Beryllium [7440-41-7]	U.S. - OSHA - Final PELs - Ceiling Limits
Beryllium (7440-41-7)	PEL	USA	"0.2 µg/m³ TWA (See 29 CFR 1910.1024); 0.1 µg/m³ Action Level; 2.0 µg/m³ STEL (15 min)" As Beryllium [7440-41-7]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Beryllium (7440-41-7)	TLV-TWA	USA	"0.00005 mg/m³ TWA (inhalable particulate matter)" As Beryllium [7440-41-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Beryllium (7440-41-7)	PEL-STEL	USA	"2 µg/m³ STEL (see 29 CFR 1910.1024)" As Beryllium [7440-41-7]	U.S. - OSHA - Final PELs - Short Term Exposure Limits
Beryllium (7440-41-7)	TWA	USA	"0.2 µg/m³ TWA" As Beryllium [7440-41-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cadmium (7440-43-9)	PEL-Ceiling	USA	0.3 mg/m³ Ceiling (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect, fume); 0.6 mg/m³ 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/m³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cadmium (7440-43-9)	TLV-TWA	USA	0.01 mg/m³ TWA; 0.002 mg/m³ TWA (respirable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Cadmium (7440-43-9)	PEL	USA	5 µg/m³ TWA (See 29 CFR 1910.1027); 2.5 µg/m³ Action Level	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cadmium (7440-43-9)	TLV-TWA	USA	"0.01 mg/m³ TWA (as Cd); 0.002 mg/m³ 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/m³ TWA (See 29 CFR 1910.1027, as Cd); 2.5 µg/m³ Action Level (as Cd)" As Cadmium compounds [RR-00559-4]	U.S. - OSHA - Specifically Regulated Chemicals with PELs
Cobalt (7440-48-4)	TWA	USA	"0.1 mg/m³ TWA (dust and fume)" As Cobalt metal [7440-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cobalt (7440-48-4)	TLV-TWA	USA	"0.02 mg/m³ TWA (inhalable particulate matter)" As Cobalt [7440-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (7440-48-4)	TLV-TWA	USA	"0.02 mg/m³ TWA (inhalable particulate matter)" As Cobalt [7440-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (7440-48-4)	TWA	USA	"0.1 mg/m³ TWA (dust and fume)" As Cobalt metal [7440-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cobalt (7440-48-4)	TLV-TWA	USA	"0.02 mg/m³ TWA (inhalable particulate matter)" As Cobalt [7440-48-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (7440-48-4)	TWA	USA	"0.1 mg/m³ TWA (dust and fume)" As Cobalt metal [7440-48-4]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cobalt (7440-48-4)	TLV-TWA	USA	0.02 mg/m³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (7440-48-4)	TWA	USA	0.1 mg/m³ TWA (dust and fume)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cobalt (7440-48-4)	TLV-TWA	USA	0.02 mg/m³ TWA (inhalable particulate matter, as Co)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Copper (7440-50-8)	TLV-TWA	USA	"0.2 mg/m³ TWA (fume)" As Copper [7440-50-8]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Copper (7440-50-8)	TWA	USA	"0.1 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)" As Copper [7440-50-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TWA	USA	"0.1 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)" As Copper [7440-50-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TLV-TWA	USA	"0.2 mg/m ³ TWA (fume)" As Copper [7440-50-8]	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)" As Copper [7440-50-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TLV-TWA	USA	"0.2 mg/m ³ TWA (fume)" As Copper [7440-50-8]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Copper (7440-50-8)	TLV-TWA	USA	"0.2 mg/m ³ TWA (fume)" As Copper [7440-50-8]	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)" As Copper [7440-50-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TWA	USA	"0.1 mg/m ³ TWA (fume); 1 mg/m ³ TWA (dust and mist)" As Copper [7440-50-8]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Copper (7440-50-8)	TLV-TWA	USA	"0.2 mg/m ³ TWA (fume)" As Copper [7440-50-8]	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)
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)
Vanadium (7440-62-2)	PEL-Ceiling	USA	"0.5 mg/m ³ Ceiling (respirable dust, as V ₂ O ₅); 0.1 mg/m ³ Ceiling (fume, as V ₂ O ₅)" As Vanadium [7440-62-2]	U.S. - OSHA - Final PELs - Ceiling Limits

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Vanadium (7440-62-2)	PEL-Ceiling	USA	"0.5 mg/m ³ Ceiling (respirable dust, as V ₂ O ₅); 0.1 mg/m ³ Ceiling (fume, as V ₂ O ₅)" As Vanadium [7440-62-2]	U.S. - OSHA - Final PELs - Ceiling Limits
Vanadium (7440-62-2)	PEL-Ceiling	USA	0.5 mg/m ³ Ceiling (respirable dust, as V ₂ O ₅); 0.1 mg/m ³ Ceiling (fume, as V ₂ O ₅)	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrofluoric Acid (7664-39-3)	TWA	USA	"3 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]; "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-Ceiling	USA	"2 ppm Ceiling (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	"0.5 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]; "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)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	"3 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrofluoric Acid (7664-39-3)	TLV-Ceiling	USA	"2 ppm Ceiling (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
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)	TLV-Ceiling	USA	2 ppm Ceiling (as F)	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
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)	TWA	USA	2.5 mg/m ³ TWA (as F)	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)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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Hydrofluoric Acid (7664-39-3)	TLV-Ceiling	USA	"2 ppm Ceiling (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	"0.5 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	"3 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrofluoric Acid (7664-39-3)	TLV-Ceiling	USA	"2 ppm Ceiling (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrofluoric Acid (7664-39-3)	TLV-TWA	USA	"0.5 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrofluoric Acid (7664-39-3)	TWA	USA	"3 ppm TWA (as F)" As Hydrogen fluoride [7664-39-3]	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)
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)

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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)	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)
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)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Selenium (7782-49-2)	TLV-TWA	USA	"0.2 mg/m ³ TWA" As Selenium [7782-49-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

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

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Light colored liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: Data not available.

Initial Boiling Point/Range: 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: 1.03

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. Strong bases, metallic powders.

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:

LDLo, Oral, Human: 430 mg/kg (Nitric Acid), details of toxic effects not reported other than lethal dose value. Beryllium and Nickel are investigated as tumorigens. LD50, Oral, Rat: (Antimony Trioxide) >34600 mg/kg, behavioral and skin effects noted. Antimony Trioxide is investigated as a tumorigen. LD50, Oral, Rat: 14.6 mg/kg (Arsenic Trioxide), 2330 mg/kg (Cadmium) 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 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.

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Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

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

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Nitric Acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



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

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Nitric Acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 100 mL

UN Number: UN3264

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)

Hazard Class: 8

Packing Group: III

Hazard Label(s):



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SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Arsenic Trioxide (CAS # 1327-53-3): "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]

Arsenic Trioxide (CAS # 1327-53-3): 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)

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

Lead (CAS # 7439-92-1): "30 µg/m³ Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m³ TWA (See 29 CFR 1910.1025, as Pb)" As Lead, inorganic compounds [RR-00538-9]

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

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)" As Beryllium [7440-41-7]

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

Arsenic Trioxide (CAS # 1327-53-3): "1 lb EPCRA RQ" As Arsenous oxide [1327-53-3]

Arsenic Trioxide (CAS # 1327-53-3): "100 lb lower TPQ; 10000 lb upper TPQ" As Arsenous oxide [1327-53-3]

Arsenic Trioxide (CAS # 1327-53-3): 1 lb EPCRA RQ

Arsenic Trioxide (CAS # 1327-53-3): 100 lb lower TPQ; 10000 lb upper TPQ

Hydrofluoric Acid (CAS # 7664-39-3): "100 lb EPCRA RQ" As Hydrogen fluoride [7664-39-3]

Hydrofluoric Acid (CAS # 7664-39-3): "100 lb TPQ" As Hydrogen fluoride [7664-39-3]

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" 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 Trioxide (CAS # 1309-64-4): "1000 lb final RQ; 454 kg final RQ" As Antimony trioxide [1309-64-4]

Antimony Trioxide (CAS # 1309-64-4): 1000 lb final RQ; 454 kg final RQ

Arsenic Trioxide (CAS # 1327-53-3): "1 lb final RQ; 0.454 kg final RQ" As Arsenic oxide (As₂O₃) [1327-53-3]

Arsenic Trioxide (CAS # 1327-53-3): 1 lb final RQ; 0.454 kg final RQ

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)" As Lead [7439-92-1]

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)" As Nickel [7440-02-0]

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)

Silver (CAS # 7440-22-4): "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)" As Silver [7440-22-4]

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)

Antimony Trioxide (CAS # 1309-64-4): "1.0 % de minimis concentration (includes any unique chemical substance that contains Antimony as part of the chemical's infrastructure, listed under Chemical Category N010)" As Antimony compounds [RR-00585-6]

Antimony Trioxide (CAS # 1309-64-4): 1.0 % de minimis concentration (includes any unique chemical substance that contains Antimony as part of the chemical's infrastructure, listed under Chemical Category N010)

Arsenic Trioxide (CAS # 1327-53-3): "0.1 % de minimis concentration (includes any unique chemical substance that contains Arsenic as part of that chemical's infrastructure, listed under Chemical Category N020)" As Arsenic, inorganic compounds [RR-00065-7]

Arsenic Trioxide (CAS # 1327-53-3): "1.0 % de minimis concentration (includes any unique chemical substance that contains Arsenic as part of that chemical's infrastructure, listed under Chemical Category N020)" As Arsenic, inorganic compounds [RR-00065-7]

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15.5. Massachusetts Right-to-Know Substance List

Barium Nitrate (CAS # 10022-31-8): "Present" As Barium nitrate [10022-31-8]
Barium Nitrate (CAS # 10022-31-8): Present
Magnesium Oxide (CAS # 1309-48-4): "Present (fume)" As Magnesium oxide [1309-48-4]
Magnesium Oxide (CAS # 1309-48-4): Present (fume)
Antimony Trioxide (CAS # 1309-64-4): "Present" As Antimony trioxide [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): Present
Arsenic Trioxide (CAS # 1327-53-3): "Extraordinarily hazardous" As Arsenic trioxide [1327-53-3]
Arsenic Trioxide (CAS # 1327-53-3): Extraordinarily hazardous
Calcium Carbonate (CAS # 471-34-1): "Present (including dust)" As Calcium carbonate [1317-65-3]
Lead (CAS # 7439-92-1): "Teratogen" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): Teratogen
Nickel (CAS # 7440-02-0): "Carcinogen; Extraordinarily hazardous" As Nickel [7440-02-0]
Nickel (CAS # 7440-02-0): Carcinogen; Extraordinarily hazardous
Silver (CAS # 7440-22-4): "Present" As Silver [7440-22-4]
Silver (CAS # 7440-22-4): Present
Thallium (CAS # 7440-28-0): "Present" As Thallium [7440-28-0]
Thallium (CAS # 7440-28-0): Present
Beryllium (CAS # 7440-41-7): "Carcinogen; Extraordinarily hazardous" As Beryllium [7440-41-7]
Beryllium (CAS # 7440-41-7): Carcinogen; Extraordinarily hazardous
Cadmium (CAS # 7440-43-9): Carcinogen; Extraordinarily hazardous
Cobalt (CAS # 7440-48-4): "Present" As Cobalt [7440-48-4]
Cobalt (CAS # 7440-48-4): Present
Copper (CAS # 7440-50-8): "Present" As Copper [7440-50-8]
Copper (CAS # 7440-50-8): Present
Vanadium (CAS # 7440-62-2): "Present (dust and fume)" As Vanadium [7440-62-2]
Vanadium (CAS # 7440-62-2): Present (dust and fume)
Zinc (CAS # 7440-66-6): "Present" As Zinc [7440-66-6]
Zinc (CAS # 7440-66-6): Present
Hydrofluoric Acid (CAS # 7664-39-3): "Extraordinarily hazardous" As Hydrofluoric acid [7664-39-3]
Hydrofluoric Acid (CAS # 7664-39-3): Extraordinarily hazardous
Nitric Acid (CAS # 7697-37-2): "Extraordinarily hazardous" As Nitric acid [7697-37-2]
Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous
Potassi



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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): "Environmental hazard" As Nitric acid, barium salt [10022-31-8]
Barium Nitrate (CAS # 10022-31-8): "Present" As Barium compounds [RR-00555-0]
Barium Nitrate (CAS # 10022-31-8): "Present" As Nitric acid, barium salt [10022-31-8]
Barium Nitrate (CAS # 10022-31-8): Environmental hazard
Barium Nitrate (CAS # 10022-31-8): Present
Magnesium Oxide (CAS # 1309-48-4): "Present" As Magnesium oxide (MgO) [1309-48-4]
Magnesium Oxide (CAS # 1309-48-4): Present
Antimony Trioxide (CAS # 1309-64-4): "Environmental hazard" As Antimony compounds [RR-00585-6]
Antimony Trioxide (CAS # 1309-64-4): "Environmental hazard" As Antimony oxide (Sb₂O₃) [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): "Present" As Antimony compounds [RR-00585-6]
Antimony Trioxide (CAS # 1309-64-4): "Present" As Antimony oxide (Sb₂O₃) [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): Environmental hazard
Antimony Trioxide (CAS # 1309-64-4): Present
Arsenic Trioxide (CAS # 1327-53-3): "Environmental hazard" As Arsenic compounds [RR-00625-7]
Arsenic Trioxide (CAS # 1327-53-3): "Environmental hazard; Special hazardous substance" As Arsenic oxide (As₂O₃) [1327-53-3]
Arsenic Trioxide (CAS # 1327-53-3): "Present" As Arsenic compounds [RR-00625-7]
Arsenic Trioxide (CAS # 1327-53-3): "Present" As Arsenic oxide (As₂O₃) [1327-53-3]
Arsenic Trioxide (CAS # 1327-53-3): Environmental hazard
Arsenic Trioxide (CAS # 1327-53-3): Environmental hazard; Special hazardous substance
Arsenic Trioxide (CAS # 1327-53-3): Present
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): "Environmental hazard" As Manganese compounds [RR-00602-0]
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): "Present" As Manganese compounds [RR-00602-0]
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): Environmental hazard
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): Present
Calcium Carbonate (CAS # 471-34-1): "Present" As Lime

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

Barium Nitrate (CAS # 10022-31-8): "sn 0186" As Barium nitrate [10022-31-8]

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)

Magnesium Oxide (CAS # 1309-48-4): "sn 1144" As Magnesium oxide [1309-48-4]

Magnesium Oxide (CAS # 1309-48-4): sn 1144

Antimony Trioxide (CAS # 1309-64-4): "carcinogen" As Antimony trioxide [1309-64-4]

Antimony Trioxide (CAS # 1309-64-4): "sn 0149" As Antimony trioxide [1309-64-4]

Antimony Trioxide (CAS # 1309-64-4): "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 Trioxide (CAS # 1309-64-4): "sn 2223" As Antimony compounds [RR-0

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15.8. California Proposition 65

Antimony Trioxide (CAS # 1309-64-4): "0.13 µg/day NSRL (inhalation)" As Antimony(III) oxide [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): "carcinogen, 10/1/1990" As Antimony(III) oxide [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): 0.13 µg/day NSRL (inhalation)
Antimony Trioxide (CAS # 1309-64-4): carcinogen, 10/1/1990
Arsenic Trioxide (CAS # 1327-53-3): "0.06 µg/day NSRL (inhalation, listed under Arsenic); 10 µg/day NSRL (except inhalation, listed under Arsenic)" /
Arsenic, inorganic compounds [RR-00065-7]
Arsenic Trioxide (CAS # 1327-53-3): "carcinogen, 2/27/1987" As Arsenic, inorganic compounds [RR-00065-7]
Arsenic Trioxide (CAS # 1327-53-3): "developmental toxicity, 5/1/1997" As Arsenic inorganic oxides [RR-03689-5]
Arsenic Trioxide (CAS # 1327-53-3): 0.06 µg/day NSRL (inhalation, listed under Arsenic); 10 µg/day NSRL (except inhalation, listed under Arsenic)
Arsenic Trioxide (CAS # 1327-53-3): carcinogen, 2/27/1987
Arsenic Trioxide (CAS # 1327-53-3): developmental toxicity, 5/1/1997
Lead (CAS # 7439-92-1): "15 µg/day NSRL (oral)" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): "carcinogen, 10/1/1992" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): "carcinogen, 10/1/1992" As Lead compounds [RR-00630-4]
Lead (CAS # 7439-92-1): "developmental toxicity, 2/27/1987" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): "female reproductive toxicity 2/27/87" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): "male reproductive toxicity, 2/27/87" As Lead [7439-92-1]
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, 10/1/1989 (metallic)" As Nickel [7440-02-0]
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)
Beryllium (CAS # 7440-41-7): "0.1 µg



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

Barium Nitrate (CAS # 10022-31-8): "Present" As Barium nitrate [10022-31-8] (DSL)
Barium Nitrate (CAS # 10022-31-8): Present (DSL)
Magnesium Oxide (CAS # 1309-48-4): "Present" As Magnesium oxide [1309-48-4] (DSL)
Magnesium Oxide (CAS # 1309-48-4): Present (DSL)
Antimony Trioxide (CAS # 1309-64-4): "Present" As Antimony trioxide [1309-64-4] (DSL)
Antimony Trioxide (CAS # 1309-64-4): Present (DSL)
Arsenic Trioxide (CAS # 1327-53-3): "Present" As Arsenic trioxide [1327-53-3] (DSL)
Arsenic Trioxide (CAS # 1327-53-3): Present (DSL)
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): "Present" As Manganese nitrate [10377-66-9] (DSL)
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): Present (DSL)
Calcium Carbonate (CAS # 471-34-1): "Present" As Calcium carbonate [1317-65-3] (NDSL)
Calcium Carbonate (CAS # 471-34-1): "Present" As Carbonic acid, calcium salt (1:1) [471-34-1] (DSL)
Calcium Carbonate (CAS # 471-34-1): Present (DSL)
Sodium Carbonate (CAS # 497-19-8): "Present" As Sodium carbonate [497-19-8] (DSL)
Sodium Carbonate (CAS # 497-19-8): Present (DSL)
Iron (CAS # 7439-89-6): "Present" As Iron [7439-89-6] (DSL)
Iron (CAS # 7439-89-6): Present (DSL)
Lead (CAS # 7439-92-1): "Present" As Lead [7439-92-1] (DSL)
Lead (CAS # 7439-92-1): Present (DSL)
Nickel (CAS # 7440-02-0): "Present" As Nickel [7440-02-0] (DSL)
Nickel (CAS # 7440-02-0): Present (DSL)
Silver (CAS # 7440-22-4): "Present" As Silver [7440-22-4] (DSL)
Silver (CAS # 7440-22-4): Present (DSL)
Thallium (CAS # 7440-28-0): "Present" As Thallium [7440-28-0] (DSL)
Thallium (CAS # 7440-28-0): Present (DSL)
Beryllium (CAS # 7440-41-7): "Present" As Beryllium [7440-41-7] (DSL)
Beryllium (CAS # 7440-41-7): Present (DSL)
Cadmium (CAS # 7440-43-9): Present (DSL)
Cobalt (CAS # 7440-48-4): "Present" As Cobalt [7440-48-4] (DSL)
Cobalt (CAS # 7440-48-4): Present (DSL)
Copper (CAS # 7440-50-8): "Present" As Copper [7440-50-8] (DSL)
Copper (CAS # 7440-50-8): Present (DSL)
Vanadium (CAS # 7440-62-2): "Present" As Vanadium [7440-62-2]

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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Barium Nitrate (CAS # 10022-31-8): "Present (ACTIVE)" As Nitric acid, barium salt (2:1) [10022-31-8]
Barium Nitrate (CAS # 10022-31-8): Present (ACTIVE)
Magnesium Oxide (CAS # 1309-48-4): "Present (ACTIVE)" As Magnesium oxide (MgO) [1309-48-4]
Magnesium Oxide (CAS # 1309-48-4): Present (ACTIVE)
Antimony Trioxide (CAS # 1309-64-4): "Present (ACTIVE)" As Antimony oxide (Sb₂O₃) [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): Present (ACTIVE)
Arsenic Trioxide (CAS # 1327-53-3): "Present (ACTIVE)" As Arsenic oxide (As₂O₃) [1327-53-3]
Arsenic Trioxide (CAS # 1327-53-3): Present (ACTIVE)
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): "Present (ACTIVE)" As Nitric acid, manganese(2+) salt (2:1) [10377-66-9]
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): Present (ACTIVE)
Calcium Carbonate (CAS # 471-34-1): "Present (ACTIVE)" As Carbonic acid, calcium salt (1:1) [471-34-1]
Calcium Carbonate (CAS # 471-34-1): Present (ACTIVE)
Sodium Carbonate (CAS # 497-19-8): "Present (ACTIVE)" As Carbonic acid sodium salt (1:2) [497-19-8]
Sodium Carbonate (CAS # 497-19-8): Present (ACTIVE)
Iron (CAS # 7439-89-6): "Present (ACTIVE)" As Iron [7439-89-6]
Iron (CAS # 7439-89-6): Present (ACTIVE)
Lead (CAS # 7439-92-1): "Present (ACTIVE)" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): Present (ACTIVE)
Nickel (CAS # 7440-02-0): "Present (ACTIVE)" As Nickel [7440-02-0]
Nickel (CAS # 7440-02-0): Present (ACTIVE)
Silver (CAS # 7440-22-4): "Present (ACTIVE)" As Silver [7440-22-4]
Silver (CAS # 7440-22-4): Present (ACTIVE)
Thallium (CAS # 7440-28-0): "Present (ACTIVE)" As Thallium [7440-28-0]
Thallium (CAS # 7440-28-0): Present (ACTIVE)
Beryllium (CAS # 7440-41-7): "Present (ACTIVE)" As Beryllium [7440-41-7]
Beryllium (CAS # 7440-41-7): Present (ACTIVE)
Cadmium (CAS # 7440-43-9): Present (ACTIVE)
Cobalt (CAS # 7440-48-4): "Present (ACTIVE)" As Cobalt [7440-48-4]
Cobalt (CAS # 7440-48-4): Present (ACTIVE)
Copper (CAS # 7440-50-8): "Present (ACTIVE)" As Copper [7440-50-8]
Copper (CAS # 7440-50-8): P



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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)

Barium Nitrate (CAS # 10022-31-8): "233-020-5" As Barium nitrate [10022-31-8]
Barium Nitrate (CAS # 10022-31-8): 233-020-5
Magnesium Oxide (CAS # 1309-48-4): "215-171-9" As Magnesium oxide [1309-48-4]
Magnesium Oxide (CAS # 1309-48-4): 215-171-9
Antimony Trioxide (CAS # 1309-64-4): "215-175-0" As Diantimony trioxide [1309-64-4]
Antimony Trioxide (CAS # 1309-64-4): 215-175-0
Antimony Trioxide (CAS # 1309-64-4): 215-474-6
Arsenic Trioxide (CAS # 1327-53-3): "215-481-4" As Diarsenic trioxide [1327-53-3]
Arsenic Trioxide (CAS # 1327-53-3): 215-481-4
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): "233-828-8" As Manganese dinitrate [10377-66-9]
Manganous Nitrate Tetrahydrate (CAS # 15710-66-4): 233-828-8
Calcium Carbonate (CAS # 471-34-1): "207-439-9" As Calcium carbonate [471-34-1]
Calcium Carbonate (CAS # 471-34-1): 207-439-9
Sodium Carbonate (CAS # 497-19-8): "207-838-8" As Disodium carbonate [497-19-8]
Sodium Carbonate (CAS # 497-19-8): 207-838-8
Sodium Carbonate (CAS # 497-19-8): 231-420-4
Iron (CAS # 7439-89-6): "231-096-4" As Iron [7439-89-6]
Iron (CAS # 7439-89-6): 231-096-4
Lead (CAS # 7439-92-1): "231-100-4" As Lead [7439-92-1]
Lead (CAS # 7439-92-1): 231-100-4
Nickel (CAS # 7440-02-0): "231-111-4" As Nickel [7440-02-0]
Nickel (CAS # 7440-02-0): 231-111-4
Silver (CAS # 7440-22-4): "231-131-3" As Silver [7440-22-4]
Silver (CAS # 7440-22-4): 231-131-3
Thallium (CAS # 7440-28-0): "231-138-1" As Thallium [7440-28-0]
Thallium (CAS # 7440-28-0): 231-138-1
Beryllium (CAS # 7440-41-7): "231-150-7" As Beryllium [7440-41-7]
Beryllium (CAS # 7440-41-7): 231-150-7
Cadmium (CAS # 7440-43-9): 231-152-8
Cobalt (CAS # 7440-48-4): "231-158-0" As Cobalt [7440-48-4]
Cobalt (CAS # 7440-48-4): 231-158-0
Copper (CAS # 7440-50-8): "231-159-6" As Copper [7440-50-8]
Copper (CAS # 7440-50-8): 231-159-6
Vanadium (CAS # 7440-62-2): "231-171-1" As Vanadium [7440-62-2]
Vanadium (CAS # 7440-62-2): 231-171-1
Zinc (CAS # 7440-66-6): "231-175-3" As Zinc [7440-66-6]
Zinc (CAS # 7440-66-6): 23

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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.

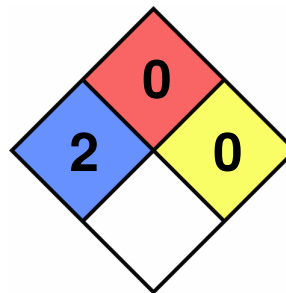
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

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

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health:	2
Flammability:	0
Reactivity:	0
Special Hazard:	



16.4. Document Revision

Last Revision Date: 2025-02-02

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.