



Safety Data Sheet

Classified according to WHMIS 2015

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Contract Required Detection Limits (CRDL) Standard 1R, CLP

Product Number: RCRDL1R

Other Identifying Product Numbers: RCRDL1R-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

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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 2	H330	P260, P271, P285, P304+P340, P310, P320, 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 1	H318	P280, P305+P351+P338, P310
Corrosive to Metals	Category 1	H290	P234, P390, P406
Hazardous to the Aquatic Environment (Acute)	Category 2	H401	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 2	H411	P273, P391, P501

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.
H330	Fatal if inhaled.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

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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.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P285	In case of inadequate ventilation wear respiratory 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.
P320	Specific treatment is urgent (Wash areas of contact with water.).
P321	Specific treatment (Wash areas of contact with water.).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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	94.89
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	4.98
Arsenic Trioxide	As ₂ O ₃	197.84 g/mol	1327-53-3	< 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
Selenium	Se	78.95 g/mol	7782-49-2	< 0.1
Thallium	Tl	204.38 g/mol	7440-28-0	< 0.1
Lead	Pb	207.2 g/mol	7439-92-1	< 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
Manganese	Mn	54.93 g/mol	7439-96-5	< 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
Cadmium	Cd	112.41 g/mol	7440-43-9	< 0.1
Beryllium	Be	9.01 g/mol	7440-41-7	< 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.

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.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage. Causes serious eye damage. Fatal if inhaled.



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4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment is urgent (Wash areas of contact with water.). Specific treatment (Wash areas of contact with water.).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Not considered to be a fire or explosion hazard.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Wear protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner.

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SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
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)	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	"0.5 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	"0.5 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)	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)
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	"0.5 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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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)	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)	U.S. - OSHA - Specifically Regulated Chemicals with PELs
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)	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	"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)	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)	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)	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

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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)	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)	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
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)
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits

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Manganese (7439-96-5)	TLV-TWA	USA	0.02 mg/m ³ TWA (respirable particulate matter); 0.1 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Manganese (7439-96-5)	PEL-Ceiling	USA	5 mg/m ³ Ceiling (fume)	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Manganese (7439-96-5)	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)	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)
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	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)
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)

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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)
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)
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)
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)
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 TI)" As Thallium compounds [RR-00575-4]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
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)

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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)
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

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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
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)

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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
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

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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)
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)

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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)
Cobalt (7440-48-4)	TWA	USA	0.1 mg/m ³ TWA (dust and fume)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Cobalt (7440-48-4)	TLV-TWA	USA	0.02 mg/m ³ TWA (inhalable particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (7440-48-4)	TLV-TWA	USA	0.02 mg/m ³ TWA (inhalable particulate matter, as Co)	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)

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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)	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)
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)

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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 (7789-1)	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)

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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)
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8.2. Exposure Controls

Engineering Controls: Use only outdoors or in a well-ventilated area.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection.

Skin Protection: Wear protective gloves and eye protection.

Eye Protection: Wear protective gloves and eye protection.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: Approximately 0°C

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

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.0

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.



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SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep only in original container.

10.4. Hazardous Decomposition Products

May emit irritating fumes when heated to decomposition.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Fatal if inhaled. Do not breathe fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment is urgent (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:

Data not available.

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.



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Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

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



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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):



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)

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

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

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

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

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

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

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

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

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)

Silver (CAS # 7440-22-4): 1 lb final RQ; 0.454 kg final RQ

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)

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)

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 releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)

Cadmium (CAS # 7440-43-9): 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of

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

Antimony Trioxide (CAS # 1309-64-4): "1.0 % de minimis concentration (includes any unique chemical substance that contains Antimony as part of that 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 that 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 organic compounds [RR-00035-1]

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)

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)

Manganese (CAS # 7439-96-5): "1.0 % de minimis concentration (includes any unique chemical substance that contains Manganese as part of that chemical's infrastructure, listed under Chemical Category N450)" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): 1.0 % de minimis concentration

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]

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15.5. Massachusetts Right-to-Know Substance List

Antimony Trioxide (CAS # 1309-64-4): Present
Arsenic Trioxide (CAS # 1327-53-3): Extraordinarily hazardous
Lead (CAS # 7439-92-1): Teratogen
Manganese (CAS # 7439-96-5): Present
Nickel (CAS # 7440-02-0): Carcinogen; Extraordinarily hazardous
Silver (CAS # 7440-22-4): Present
Thallium (CAS # 7440-28-0): Present
Beryllium (CAS # 7440-41-7): Carcinogen; Extraordinarily hazardous
Cadmium (CAS # 7440-43-9): Carcinogen; Extraordinarily hazardous
Cobalt (CAS # 7440-48-4): Present
Copper (CAS # 7440-50-8): Present
Vanadium (CAS # 7440-62-2): Present (dust and fume)
Zinc (CAS # 7440-66-6): Present
Hydrofluoric Acid (CAS # 7664-39-3): Extraordinarily hazardous
Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous
Selenium (CAS # 7782-49-2): Present

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15.6. Pennsylvania Right-to-Know Hazardous Substances

Antimony Trioxide (CAS # 1309-64-4): "Environmental hazard" As Antimony compounds [RR-00585-6]

Antimony Trioxide (CAS # 1309-64-4): "Present" As Antimony compounds [RR-00585-6]

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): "Present" As Arsenic compounds [RR-00625-7]

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

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

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

Manganese (CAS # 7439-96-5): "Environmental hazard" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): "Present" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): Environmental hazard

Manganese (CAS # 7439-96-5): 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

Silver (CAS # 7440-22-4): Environmental hazard

Silver (CAS # 7440-22-4): 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

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 Cad

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

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-00585-6]

Antimony Trioxide (CAS # 1309-64-4): carcinogen

Antimony Trioxide (CAS # 1309-64-4): sn 0149

Antimony Trioxide (CAS # 1309-64-4): sn 2223

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)

Arsenic Trioxide (CAS # 1327-53-3): "SN 2138 500 lb TPQ (Category Code N020. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Arsenic compounds [RR-00625-7]

Arsenic Trioxide (CAS # 1327-53-3): "sn 2138" As Arsenic compounds [RR-00625-7]

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

Arsenic Trioxide (CAS # 1327-53-3): sn 0161

Arsenic Trioxide (CAS # 1327-53-3): SN 0161 100 lb TPQ

Arsenic Trioxide (CAS # 1327-53-3): sn 2138

Arsenic Trioxide (CAS # 1327-53-3): SN 2138 500 lb TPQ (Category Code N020. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

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

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

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

Manganese (CAS # 7439-96-5): "SN 2324 500 lb TPQ (Category Code N450. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): "sn 2324" As Manganese compounds [RR-00602-0]

Manganese (CAS # 7439-96-5): flammable - third degree

Manganese (CAS # 7439-96-5): sn 1155

Manganese (CAS # 7439-96-5): SN 1155 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 chemi

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15.8. California Proposition 65

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)"
As 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)

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)

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

Cobalt (CAS # 7440-48-4): carcinogen, 7/1/1992 (powder)

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

Antimony Trioxide (CAS # 1309-64-4): Present (DSL)
Arsenic Trioxide (CAS # 1327-53-3): Present (DSL)
Lead (CAS # 7439-92-1): Present (DSL)
Manganese (CAS # 7439-96-5): Present (DSL)
Nickel (CAS # 7440-02-0): Present (DSL)
Silver (CAS # 7440-22-4): Present (DSL)
Thallium (CAS # 7440-28-0): Present (DSL)
Beryllium (CAS # 7440-41-7): Present (DSL)
Cadmium (CAS # 7440-43-9): Present (DSL)
Cobalt (CAS # 7440-48-4): Present (DSL)
Copper (CAS # 7440-50-8): Present (DSL)
Vanadium (CAS # 7440-62-2): Present (DSL)
Zinc (CAS # 7440-66-6): 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)

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.

Antimony Trioxide (CAS # 1309-64-4): Present (ACTIVE)
Arsenic Trioxide (CAS # 1327-53-3): Present (ACTIVE)
Lead (CAS # 7439-92-1): Present (ACTIVE)
Manganese (CAS # 7439-96-5): Present (ACTIVE)
Nickel (CAS # 7440-02-0): Present (ACTIVE)
Silver (CAS # 7440-22-4): Present (ACTIVE)
Thallium (CAS # 7440-28-0): Present (ACTIVE)
Beryllium (CAS # 7440-41-7): Present (ACTIVE)
Cadmium (CAS # 7440-43-9): Present (ACTIVE)
Cobalt (CAS # 7440-48-4): Present (ACTIVE)
Copper (CAS # 7440-50-8): Present (ACTIVE)
Vanadium (CAS # 7440-62-2): Present (ACTIVE)
Zinc (CAS # 7440-66-6): 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)

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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)

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
Lead (CAS # 7439-92-1): 231-100-4
Manganese (CAS # 7439-96-5): 231-105-1
Nickel (CAS # 7440-02-0): 231-111-4
Silver (CAS # 7440-22-4): 231-131-3
Thallium (CAS # 7440-28-0): 231-138-1
Beryllium (CAS # 7440-41-7): 231-150-7
Cadmium (CAS # 7440-43-9): 231-152-8
Cobalt (CAS # 7440-48-4): 231-158-0
Copper (CAS # 7440-50-8): 231-159-6
Vanadium (CAS # 7440-62-2): 231-171-1
Zinc (CAS # 7440-66-6): 231-175-3
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

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. Fatal if inhaled. Toxic to aquatic life with long lasting effects.

Keep only in original container. 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. In case of inadequate ventilation wear respiratory 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 is urgent (Wash areas of contact with water.). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Collect spillage.

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

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16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

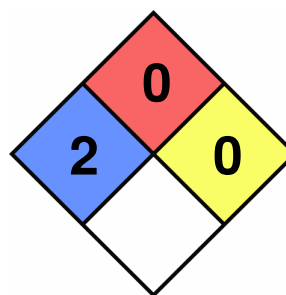
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

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

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: 2023-09-11

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.