



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Mixed ICP Standard, 10 ppm Sb, As, Ba, Be, Ti, B, Bi, Cd, Cr, Ti, Co, Cu, Fe, Pb, V, Li, Mn, Mo, Ni, in 5% HNO₃

Product Number RPMX201N

Other Identifying Product Numbers RPMX201N-100B

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 412 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

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
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310
Corrosive to Metals	Category 1	H290	P234,P390,P406

2.2. GHS Label Elements

Pictograms:



Signal Word: Danger

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

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

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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Prevention

Precautionary Number	Precautionary Statement
P234	Keep only in original packaging.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
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 or shower.
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 doctor.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.

Storage

Precautionary Number	Precautionary Statement
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

5 percent of this mixture consists of ingredient(s) of unknown acute oral and dermal toxicity.

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SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	95.00
nitric acid	Nitric Acid	7697-37-2	4.94
azanium tetrafluoroborate	Ammonium Tetrafluoroborate; Ammonium fluoroborate	13826-83-0	< 0.1
chromium(3+) trinitrate nonahydrate	Chromium Nitrate Nonahydrate; Chromium(III) nitrate nonahydrate	7789-02-8	< 0.1
dilithium carbonate	Lithium Carbonate, 6Li ₂ CO ₃ ; Lithium carbonate	554-13-2	< 0.1
manganese(2+) diacetate tetrahydrate	Manganese Acetate Tetrahydrate; Acetic acid, manganese(2+) salt, tetrahydrate	6156-78-1	< 0.1
diazanium hexafluorotitanium(2-)	Ammonium Hexafluorotitanate; Ammonium titanium fluoride	16962-40-6	< 0.1
azanium oxido(dioxo)vanadium	Ammonium Metavanadate	7803-55-6	< 0.1
barium nitrate	Barium Nitrate	10022-31-8	< 0.1
strontium carbonate	Strontium Carbonate; Carbonic acid, strontium salt (1:1)	1633-05-2	< 0.1
(2R,3R)-2,3-dihydroxybutanedioic acid	Tartaric Acid; (+)-Tartaric acid; L-Tartaric acid	87-69-4	< 0.1
cesium nitrate	Cesium Nitrate; Nitric acid, cesium salt	7789-18-6	< 0.1
Selenium dioxide	Selenium Dioxide; Selenium(IV) dioxide (1:2)	7446-08-4	< 0.1
iron	Iron	7439-89-6	< 0.1
lead	Lead	7439-92-1	< 0.1
mercury	Mercury	7439-97-6	< 0.1
molybdenum	Molybdenum	7439-98-7	< 0.1
nickel	Nickel	7440-02-0	< 0.1
silver	Silver	7440-22-4	< 0.1
thallium	Thallium	7440-28-0	< 0.1
antimony	Antimony	7440-36-0	< 0.1
arsenic	Arsenic	7440-38-2	< 0.1
beryllium	Beryllium	7440-41-7	< 0.1
cadmium	Cadmium	7440-43-9	< 0.1
cobalt	Cobalt	7440-48-4	< 0.1
copper	Copper	7440-50-8	< 0.1

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zinc	Zinc	7440-66-6	< 0.1
bismuth	Bismuth	7440-69-9	< 0.1
fluorane	Hydrofluoric Acid	7664-39-3	< 0.1
chlorane	Hydrochloric Acid; Muriatic acid	7647-01-0	< 0.1

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

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 slight irritation.

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

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 or shower. May cause slight irritation.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage CAUTION! Mildly corrosive. May cause irritation. Wash areas of contact with water. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

4.3. Immediate Medical Attention or Special Treatment Needed

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

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire (water or water spray). Neutralize with soda ash or slaked lime.

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

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

5.3. Special Protective Equipment and Precautions 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.

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6.2. Cleanup and Containment Methods and Materials

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

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Barium Nitrate	10022-31-8	"0.5 mg/m3 TWA (regulated under CAS 7440-39-3, as Ba)" As Barium, soluble compounds [RR-00049-7]
Ammonium Tetrafluoroborate	13826-83-0	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Lead	7439-92-1	50 µg/m3 TWA
Molybdenum	7439-98-7	"15 mg/m3 TWA (total dust)" As Molybdenum, insoluble compounds [RR-00037-3]
Nickel	7440-02-0	1 mg/m3 TWA
Silver	7440-22-4	0.01 mg/m3 TWA
Antimony	7440-36-0	0.5 mg/m3 TWA
Beryllium	7440-41-7	0.2 µg/m3 TWA
Cadmium	7440-43-9	5 µg/m3 TWA
Cobalt	7440-48-4	0.1 mg/m3 TWA (dust and fume)
Copper	7440-50-8	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)
Selenium Dioxide	7446-08-4	"0.2 mg/m3 TWA (as Se)" As Selenium compounds [RR-00612-2]
Hydrofluoric Acid	7664-39-3	3 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA; 5 mg/m3 TWA
Chromium Nitrate Nonahydrate	7789-02-8	"0.5 mg/m3 TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

Chemical Name	CAS Number	Exposure Limit
Manganese Acetate Tetrahydrate	6156-78-1	"5 mg/m3 Ceiling (as Mn)" As Manganese compounds [RR-00602-0]
Mercury	7439-97-6	0.1 mg/m3 Ceiling
Beryllium	7440-41-7	2 µg/m3 Ceiling
Cadmium	7440-43-9	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)
Hydrochloric Acid	7647-01-0	5 ppm Ceiling; 7 mg/m3 Ceiling

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

Chemical Name	CAS Number	Exposure Limit
Beryllium	7440-41-7	2 µg/m3 STEL (see 29 CFR 1910.1024)

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U.S. OSHA - Specifically Regulated Chemicals

Chemical Name	CAS Number	Exposure Limit
Lead	7439-92-1	30 µg/m ³ Action Level (See 29 CFR 1910.1025); 50 µg/m ³ TWA
Beryllium	7440-41-7	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)
Cadmium	7440-43-9	5 µg/m ³ TWA (See 29 CFR 1910.1027); 2.5 µg/m ³ Action Level

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

Chemical Name	CAS Number	Exposure Limit
Hydrochloric Acid	7647-01-0	2 ppm Ceiling
Hydrofluoric Acid	7664-39-3	2 ppm Ceiling (as F)

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

Chemical Name	CAS Number	Exposure Limit
Nitric Acid	7697-37-2	4 ppm STEL

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ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Barium Nitrate	10022-31-8	"0.5 mg/m3 TWA (as Ba)" As Barium soluble compounds [RR-00049-7]
Ammonium Tetrafluoroborate	13826-83-0	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Lead	7439-92-1	0.05 mg/m3 TWA
Mercury	7439-97-6	0.025 mg/m3 TWA
Molybdenum	7439-98-7	10 mg/m3 TWA (inhalable particulate matter); 3 mg/m3 TWA (respirable particulate matter)
Nickel	7440-02-0	1.5 mg/m3 TWA (inhalable particulate matter)
Silver	7440-22-4	0.1 mg/m3 TWA (dust and fume)
Thallium	7440-28-0	0.02 mg/m3 TWA (inhalable particulate matter)
Antimony	7440-36-0	0.5 mg/m3 TWA
Arsenic	7440-38-2	0.01 mg/m3 TWA
Beryllium	7440-41-7	0.00005 mg/m3 TWA (inhalable particulate matter)
Cadmium	7440-43-9	0.01 mg/m3 TWA; 0.002 mg/m3 TWA (respirable particulate matter)
Cobalt	7440-48-4	0.02 mg/m3 TWA (inhalable particulate matter)
Copper	7440-50-8	0.2 mg/m3 TWA (fume)
Selenium Dioxide	7446-08-4	"0.2 mg/m3 TWA (as Se)" As Selenium compounds [RR-00612-2]
Hydrofluoric Acid	7664-39-3	0.5 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA

8.2. Engineering Controls

No specific controls are needed. Normal room ventilation is adequate.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Approximately 0°C
Boiling Point/Range:	Approximately 100°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	Not flammable
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	Acidic
Kinematic Viscosity:	Data not available.
Solubility:	Miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.00
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	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 packaging. Most metals, Alkalies, active metals, Cyanides, Sulfides, Sulfites, Metal Oxides, Formaldehyde.

10.4. Hazardous Decomposition Products

Will not occur.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Barium Nitrate	10022-31-8	Oral LD50 Rat 300 mg/kg (Source: ECHA)
Strontium Carbonate	1633-05-2	Oral LD50 Rat > 14 g/kg (Source: WHO)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Oral LD50 Rat 525 mg/kg (Source: NLM_CIP)
Manganese Acetate Tetrahydrate	6156-78-1	Oral LD50 Rat 3730 mg/kg (Source: NLM_CIP)
Mercury	7439-97-6	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: ECHA)
Nickel	7440-02-0	Oral LD50 Rat > 9000 mg/kg (powder suspended in mineral oil, Source: EU_RAR)
Silver	7440-22-4	Oral LD50 Rat > 2000 mg/kg (no deaths occurred, Source: ECHA)
Thallium	7440-28-0	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: ECHA)
Arsenic	7440-38-2	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: ECHA)
Beryllium	7440-41-7	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: ECHA)
Cadmium	7440-43-9	Oral LD50 Rat 2300 mg/kg (Source: Canada_WHMIS)
Cobalt	7440-48-4	Oral LD50 Rat 6171 mg/kg (Source: NLM_CIP)
Copper	7440-50-8	Oral LD50 Mouse 413 mg/kg (Source: Canada_WHMIS)
Selenium Dioxide	7446-08-4	Oral LD50 Rat 68.1 mg/kg (Source: Canada_WHMIS)
Hydrochloric Acid	7647-01-0	Oral LD50 Rat 700 mg/kg (Source: Canada_WHMIS)
Hydrofluoric Acid	7664-39-3	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: Canada_WHMIS)
Chromium Nitrate Nonahydrate	7789-02-8	Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)
Cesium Nitrate	7789-18-6	Oral LD50 Acute Toxicity Estimate 500 mg/kg (ECHA)
Ammonium Metavanadate	7803-55-6	Oral LD50 Rat 58100 µg/kg (Source: NLM_CIP)

Acute Toxicity - Dermal Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Dermal LD50 Rabbit > 3000 mg/kg (Source: ECHA_API)
Mercury	7439-97-6	Dermal LD50 Acute Toxicity Estimate 5 mg/kg (Source: ECHA)
Molybdenum	7439-98-7	Dermal LD50 Rat > 2000 mg/kg (Source: ECHA_API)
Silver	7440-22-4	Dermal LD50 rat > 2000 mg/kg (nanoparticulate silver dispersed in 1% Citric acid; no deaths occurred, Source: EU_CLH)
Hydrochloric Acid	7647-01-0	Dermal LD50 Rabbit > 5010 mg/kg (Source: JAPAN_GHS)
Cesium Nitrate	7789-18-6	Dermal LD50 Rat > 2000 mg/kg (Source: ECHA_API)
Ammonium Metavanadate	7803-55-6	Dermal LD50 Rat 2102 mg/kg (Source: NLM_HSDB)
Tartaric Acid	87-69-4	Dermal LD50 Rat > 2000 mg/kg (Source: ECHA_API)

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Acute Toxicity - Inhalation Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Barium Nitrate	10022-31-8	Inhalation LC50 Acute Toxicity Estimate 1.5 mg/L 4 h (Source: ECHA)
Lithium Carbonate, 6Li2CO3	554-13-2	Inhalation LC50 Rat >2 mg/L 4 h (males; death occurred (2 out of 5 tested animals), dust, Source: ECHA)
Mercury	7439-97-6	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)
Molybdenum	7439-98-7	Inhalation LC50 Rat >5.1 mg/L 4 h (death occurred (1 out of 10 tested animals), dust, Source: ECHA)
Nickel	7440-02-0	Inhalation LC50 Rat >10.2 mg/L 1 h (no deaths occurred, dust, Source: EU_RAR)
Silver	7440-22-4	Inhalation LC50 Rat >5.16 mg/L 4 h (no deaths occurred, dust, Source: ECHA_API)
Thallium	7440-28-0	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)
Arsenic	7440-38-2	Inhalation LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: ECHA)
Beryllium	7440-41-7	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)
Cadmium	7440-43-9	Inhalation LC50 Rat 25 mg/m3 30 min (Source: NLM_CIP)
Cobalt	7440-48-4	Inhalation LC50 Rat <0.05 mg/L 4 h (death occurred, dust, Source: AICIS)
Copper	7440-50-8	Inhalation LC50 Rat >5.11 mg/L 4 h (no deaths occurred, dust, Source: ECHA)
Selenium Dioxide	7446-08-4	Inhalation LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: ECHA)
Hydrochloric Acid	7647-01-0	Inhalation LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: ECHA)
Hydrofluoric Acid	7664-39-3	Inhalation LC50 Rat 0.79 mg/L 1 h (vapor, Source: JAPAN_GHS)
Nitric Acid	7697-37-2	Inhalation LC50 Rat 3.22 mg/L 4 h (Source: WHMIS)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

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Chemical Name	CAS Number	Classification
Ammonium Tetrafluoroborate	13826-83-0	Group 3 (Not Classified) - Supplement 7 [1987] (used in drinking-water); Monograph 27 [1982] As Fluorides, inorganic
Lead	7439-92-1	Group 2B (Possibly Carcinogenic to Humans) - Supplement 7 [1987]; Monograph 23 [1980]
Mercury	7439-97-6	Group 3 (Not Classified) - Monograph 58 [1993]
Nickel	7440-02-0	Group 2B (Possibly Carcinogenic to Humans) - Monograph 49 [1990]; Supplement 7 [1987]
Arsenic	7440-38-2	Group 1 (Carcinogenic to Humans) - Monograph 100C [2012]; Monograph 84 [2004] (in drinking water); Supplement 7 [1987]; Monograph 23 [1980]
Beryllium	7440-41-7	Group 1 (Carcinogenic to Humans) - Monograph 100C [2012]; Monograph 58 [1993]; Supplement 7 [1987]
Cadmium	7440-43-9	Group 1 (Carcinogenic to Humans) - Monograph 100C [2012]; Monograph 58 [1993]; Supplement 7 [1987]
Cobalt	7440-48-4	Group 2A (Probably Carcinogenic to Humans) - Monograph 131 [2023]; Monograph 86 [2006]; Monograph 52 [1991]
Selenium Dioxide	7446-08-4	Group 3 (Not Classified) - Supplement 7 [1987]; Monograph 9 [1975] As Selenium compounds
Hydrochloric Acid	7647-01-0	Group 1 (Carcinogenic to Humans) - Monograph 100F [2012]; Monograph 54 [1992] As Acid mists, strong inorganic
Nitric Acid	7697-37-2	Group 1 (Carcinogenic to Humans) - Monograph 100F [2012]; Monograph 54 [1992] As Acid mists, strong inorganic
Chromium Nitrate Nonahydrate	7789-02-8	Group 3 (Not Classified) - Monograph 49 [1990]; Supplement 7 [1987]; Monograph 23 [1980]; Monograph 2 [1973] As Chromic nitrate [13548-38-4]

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Lead	7439-92-1	Reasonably Anticipated To Be A Human Carcinogen (listed under Lead and lead compounds)
Nickel	7440-02-0	Reasonably Anticipated To Be A Human Carcinogen (listed under Nickel compounds and metallic nickel)
Arsenic	7440-38-2	Known Human Carcinogen
Beryllium	7440-41-7	Known Human Carcinogen
Cadmium	7440-43-9	Known Human Carcinogen
Cobalt	7440-48-4	Reasonably Anticipated To Be A Human Carcinogen; Male Rat - Clear Evidence; Female Rat - Clear Evidence; Male Mice - Clear Evidence; Female Mice - Clear Evidence (TR-581)

U.S. OSHA specifically regulated carcinogens

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Chemical Name	CAS Number	Classification
Beryllium	7440-41-7	see 29 CFR 1910.1024
Cadmium	7440-43-9	see 29 CFR 1910.1027

11.3 Additional Toxicology Information:

Causes severe skin burns and eye damage.

SECTION 12: Ecological Information

12.1. Ecotoxicity



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Chemical Name	CAS Number	Species	Exposure	Toxicity
Nickel	7440-02-0	Freshwater Algae	Acute	EC50 72 h Pseudokirchneriella subcapitata 0.18 mg/L (IUCLID); EC50 96 h Pseudokirchneriella subcapitata 0.174 - 0.311 mg/L [static] (EPA)
Copper	7440-50-8	Freshwater Algae	Acute	EC50 72 h Pseudokirchneriella subcapitata 0.0426 - 0.0535 mg/L [static] (EPA); EC50 96 h Pseudokirchneriella subcapitata 0.031 - 0.054 mg/L [static] (EPA)
Zinc	7440-66-6	Freshwater Algae	Acute	EC50 96 h Pseudokirchneriella subcapitata 0.11 - 0.271 mg/L [static] (EPA); EC50 72 h Pseudokirchneriella subcapitata 0.09 - 0.125 mg/L [static] (EPA)
Lithium Carbonate, 6Li2CO3	554-13-2	Freshwater Fish	Acute	LC50 96 h Oncorhynchus mykiss 30.3 mg/L [static] (ECHA)
Lead	7439-92-1	Freshwater Fish	Acute	LC50 96 h Cyprinus carpio 0.44 mg/L [semi-static] (EPA); LC50 96 h Oncorhynchus mykiss 1.17 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 1.32 mg/L [static] (EPA)
Mercury	7439-97-6	Freshwater Fish	Acute	LC50 96 h Cyprinus carpio 0.5 mg/L (EPA); LC50 96 h Cyprinus carpio 0.16 mg/L [semi-static] (EPA); LC50 96 h Cyprinus carpio 0.18 mg/L [static] (EPA); LC50 96 h Oryzias latipes 0.9 mg/L [flow-through] (EPA)
Nickel	7440-02-0	Freshwater Fish	Acute	LC50 96 h Brachydanio rerio > 100 mg/L (IUCLID); LC50 96 h Cyprinus carpio 1.3 mg/L [semi-static] (EPA); LC50 96 h Cyprinus carpio 10.4 mg/L [static] (EPA)
Silver	7440-22-4	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 0.00155 - 0.00293 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 0.0062 mg/L [flow-through] (EPA); LC50 96 h Lepomis macrochirus 0.064 mg/L [static] (EPA)

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Cadmium	7440-43-9	Freshwater Fish	Acute	LC50 96 h Oncorhynchus mykiss 0.003 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.006 mg/L [static] (EPA); LC50 96 h Cyprinus carpio 0.002 mg/L (EPA); LC50 96 h Cyprinus carpio 4.26 mg/L [semi-static] (EPA); LC50 96 h Cyprinus carpio 0.24 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 21.1 mg/L [flow-through] (EPA); LC50 96 h Oryzias latipes 0.016 mg/L (EPA); LC50 96 h Pimephales promelas 0.0004 - 0.003 mg/L (EPA)
Cobalt	7440-48-4	Freshwater Fish	Acute	LC50 96 h Brachydanio rerio >100 mg/L [static] (IUCLID)
Copper	7440-50-8	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 0.0068 - 0.0156 mg/L (EPA); LC50 96 h Pimephales promelas <0.3 mg/L [static] (EPA); LC50 96 h Pimephales promelas 0.2 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.052 mg/L [flow-through] (EPA); LC50 96 h Lepomis macrochirus 1.25 mg/L [static] (EPA); LC50 96 h Cyprinus carpio 0.3 mg/L [semi-static] (EPA); LC50 96 h Cyprinus carpio 0.8 mg/L [static] (EPA); LC50 96 h Poecilia reticulata 0.112 mg/L [flow-through] (EPA)
Zinc	7440-66-6	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 2.16 - 3.05 mg/L [flow-through] (EPA); LC50 96 h Pimephales promelas 0.211 - 0.269 mg/L [semi-static] (EPA); LC50 96 h Pimephales promelas 2.66 mg/L [static] (EPA); LC50 96 h Cyprinus carpio 30 mg/L (EPA); LC50 96 h Cyprinus carpio 0.45 mg/L [semi-static] (EPA); LC50 96 h Cyprinus carpio 7.8 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 3.5 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 0.24 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.59 mg/L [semi-static] (EPA); LC50 96 h Oncorhynchus mykiss 0.41 mg/L [static] (EPA)
Tartaric Acid	87-69-4	Freshwater Fish	Acute	LC50 96 h Danio rerio >100 mg/L [static] (ECHA)
Lead	7439-92-1	Water Flea	Acute	EC50 48 h water flea 600 µg/L
Nickel	7440-02-0	Water Flea	Acute	EC50 48 h Daphnia magna >100 mg/L (IUCLID); EC50 48 h Daphnia magna 1 mg/L [Static] (EPA)

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Silver	7440-22-4	Water Flea	Acute	EC50 48 h Daphnia magna 0.00024 mg/L [Static] (EPA)
Cadmium	7440-43-9	Water Flea	Acute	EC50 48 h Daphnia magna 0.0244 mg/L [Static] (EPA)
Copper	7440-50-8	Water Flea	Acute	EC50 48 h Daphnia magna 0.03 mg/L [Static] (EPA)
Zinc	7440-66-6	Water Flea	Acute	EC50 48 h Daphnia magna 0.139 - 0.908 mg/L [Static] (EPA)
Hydrofluoric Acid	7664-39-3	Water Flea	Acute	EC50 48 h Daphnia species 270 mg/L (IUCLID)
Antimony	7440-36-0	Water Flea	Chronic	NOEC 21 d Daphnia magna 1.74 mg/L [semi-static] (reproduction, ECHA_API)

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

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
Lead	7439-92-1	30 µg/m3 Action Level (See 29 CFR 1910.1025); 50 µg/m3 TWA (See 29 CFR 1910.1025)
Beryllium	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	7440-43-9	5 µg/m3 TWA (See 29 CFR 1910.1027); 2.5 µg/m3 Action Level

15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Chemical Name	CAS Number	RQ	TPQ
Hydrochloric Acid	7647-01-0	500 lb TPQ (gas only)	5000 lb EPCRA RQ (gas only)
Hydrofluoric Acid	7664-39-3	100 lb TPQ	100 lb EPCRA RQ
Nitric Acid	7697-37-2	1000 lb TPQ	1000 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Tetrafluoroborate	13826-83-0	5000 lb final RQ; 2270 kg final RQ
Lead	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)
Mercury	7439-97-6	1 lb final RQ; 0.454 kg final RQ
Nickel	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	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	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)

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Antimony	7440-36-0	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
Arsenic	7440-38-2	1 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 0.454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
Beryllium	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	7440-43-9	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)
Copper	7440-50-8	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
Zinc	7440-66-6	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); 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)
Selenium Dioxide	7446-08-4	10 lb final RQ; 4.54 kg final RQ
Hydrochloric Acid	7647-01-0	5000 lb final RQ; 2270 kg final RQ
Hydrofluoric Acid	7664-39-3	100 lb final RQ; 45.4 kg final RQ
Nitric Acid	7697-37-2	1000 lb final RQ; 454 kg final RQ
Ammonium Metavanadate	7803-55-6	1000 lb final RQ; 454 kg final RQ

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15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Barium Nitrate	10022-31-8	Emission Reporting	"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]
Ammonium Tetrafluoroborate	13826-83-0	Emission Reporting	"1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]
Ammonium Hexafluorotitanate	16962-40-6	Emission Reporting	"1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Emission Reporting	1.0 % de minimis concentration
Manganese Acetate Tetrahydrate	6156-78-1	Emission Reporting	"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]
Lead	7439-92-1	Emission Reporting	not eligible for the de minimis exemption
Lead	7439-92-1	Chemicals of Special Concern	100 lb RT (this lower threshold does not apply to lead when it is contained in stainless steel, brass or bronze alloy)
Mercury	7439-97-6	Emission Reporting	not eligible for the de minimis exemption
Mercury	7439-97-6	Chemicals of Special Concern	10 lb RT
Nickel	7440-02-0	Emission Reporting	0.1 % de minimis concentration
Silver	7440-22-4	Emission Reporting	1.0 % de minimis concentration
Thallium	7440-28-0	Emission Reporting	1.0 % de minimis concentration
Antimony	7440-36-0	Emission Reporting	1.0 % de minimis concentration
Arsenic	7440-38-2	Emission Reporting	0.1 % de minimis concentration
Beryllium	7440-41-7	Emission Reporting	0.1 % de minimis concentration
Cadmium	7440-43-9	Emission Reporting	0.1 % de minimis concentration
Cobalt	7440-48-4	Emission Reporting	0.1 % de minimis concentration

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Copper	7440-50-8	Emission Reporting	1.0 % de minimis concentration
Zinc	7440-66-6	Emission Reporting	1.0 % de minimis concentration (dust or fume only)
Selenium Dioxide	7446-08-4	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Selenium as part of that chemical's infrastructure, listed under Chemical Category N725)" As Selenium compounds [RR-00612-2]
Hydrochloric Acid	7647-01-0	Emission Reporting	1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
Hydrofluoric Acid	7664-39-3	Emission Reporting	1.0 % de minimis concentration
Nitric Acid	7697-37-2	Emission Reporting	1.0 % de minimis concentration
Chromium Nitrate Nonahydrate	7789-02-8	Emission Reporting	"1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]; "1.0 % de minimis concentration (includes any unique chemical substance that contains Chromium as part of that chemical's infrastructure except for Chromite ore mined in the Transvaal Region of South Africa and the unreacted ore component of the Chromite ore processing residue (COPR), no de minimis concentration has been assigned to this chemical category, listed under Chemical Category N090)" As Chromium(III) compounds [RR-03889-1]
Cesium Nitrate	7789-18-6	Emission Reporting	"1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]
Ammonium Metavanadate	7803-55-6	Emission Reporting	"1.0 % de minimis concentration (listed under Chemical Category N770)" As Vanadium compounds [RR-00093-1]

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15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Barium Nitrate	10022-31-8	Present
Ammonium Tetrafluoroborate	13826-83-0	Present
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Teratogen
Lead	7439-92-1	Teratogen
Mercury	7439-97-6	Present
Molybdenum	7439-98-7	Present
Nickel	7440-02-0	Carcinogen; Extraordinarily hazardous
Silver	7440-22-4	Present
Thallium	7440-28-0	Present
Antimony	7440-36-0	Present
Arsenic	7440-38-2	Carcinogen; Extraordinarily hazardous
Beryllium	7440-41-7	Carcinogen; Extraordinarily hazardous
Cadmium	7440-43-9	Carcinogen; Extraordinarily hazardous
Cobalt	7440-48-4	Present
Copper	7440-50-8	Present
Zinc	7440-66-6	Present
Selenium Dioxide	7446-08-4	Present
Hydrochloric Acid	7647-01-0	Extraordinarily hazardous
Hydrofluoric Acid	7664-39-3	Extraordinarily hazardous
Nitric Acid	7697-37-2	Extraordinarily hazardous
Ammonium Metavanadate	7803-55-6	Present

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15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Barium Nitrate	10022-31-8	Environmental hazard
Ammonium Tetrafluoroborate	13826-83-0	Environmental hazard
Manganese Acetate Tetrahydrate	6156-78-1	"Environmental hazard" As Manganese compounds [RR-00602-0]
Lead	7439-92-1	Environmental hazard
Mercury	7439-97-6	Environmental hazard
Molybdenum	7439-98-7	Present
Nickel	7440-02-0	Environmental hazard; Special hazardous substance
Silver	7440-22-4	Environmental hazard
Thallium	7440-28-0	Environmental hazard
Antimony	7440-36-0	Environmental hazard
Arsenic	7440-38-2	Environmental hazard (including inorganic); Special hazardous substance
Beryllium	7440-41-7	Environmental hazard (dust; metal); Special hazardous substance
Cadmium	7440-43-9	Environmental hazard (dust; fume; metal; powder); Special hazardous substance (metal; powder)
Cobalt	7440-48-4	Environmental hazard; Present (fume)
Copper	7440-50-8	Environmental hazard (dust; fume; metal)
Zinc	7440-66-6	Environmental hazard
Selenium Dioxide	7446-08-4	Environmental hazard
Hydrochloric Acid	7647-01-0	Environmental hazard
Hydrofluoric Acid	7664-39-3	Environmental hazard
Nitric Acid	7697-37-2	Environmental hazard
Chromium Nitrate Nonahydrate	7789-02-8	"Environmental hazard" As Chromium compounds [RR-00634-8]
Ammonium Metavanadate	7803-55-6	Environmental hazard

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

Chemical Name	CAS Number	Regulatory Information
Barium Nitrate	10022-31-8	sn 0186
Ammonium Tetrafluoroborate	13826-83-0	sn 0100
Ammonium Hexafluorotitanate	16962-40-6	"sn 0936" As Fluorides [RR-02792-9]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	sn 1124
Manganese Acetate Tetrahydrate	6156-78-1	"sn 2324" As Manganese compounds [RR-00602-0]
Lead	7439-92-1	sn 1096
Mercury	7439-97-6	sn 1183
Molybdenum	7439-98-7	sn 1309
Nickel	7440-02-0	sn 1341
Silver	7440-22-4	sn 1669
Thallium	7440-28-0	sn 1840
Antimony	7440-36-0	sn 0141
Arsenic	7440-38-2	sn 0152
Beryllium	7440-41-7	sn 0222
Cadmium	7440-43-9	sn 0305
Cobalt	7440-48-4	sn 0520
Copper	7440-50-8	sn 0528
Zinc	7440-66-6	sn 2021
Selenium Dioxide	7446-08-4	sn 1651
Hydrochloric Acid	7647-01-0	sn 1012
Hydrofluoric Acid	7664-39-3	sn 3759
Nitric Acid	7697-37-2	sn 1356
Chromium Nitrate Nonahydrate	7789-02-8	"sn 0435" As Chromium nitrate [13548-38-4]; "sn 2245" As Chromium compounds [RR-00634-8]; "sn 3722" As Nitrate compounds [RR-01770-9]; "sn 2870" As Chromium(III) compounds [RR-03889-1]
Cesium Nitrate	7789-18-6	"sn 3722" As Nitrate compounds [RR-01770-9]
Ammonium Metavanadate	7803-55-6	sn 0104

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	developmental toxicity, 1/1/1991
Lead	7439-92-1	carcinogen, 10/1/1992
Lead	7439-92-1	developmental toxicity, 2/27/1987
Lead	7439-92-1	male reproductive toxicity, 2/27/87
Lead	7439-92-1	female reproductive toxicity 2/27/87
Lead	7439-92-1	15 µg/day NSRL (oral)
Mercury	7439-97-6	developmental toxicity, 7/1/1990
Nickel	7440-02-0	carcinogen, 10/1/1989 (metallic)
Arsenic	7440-38-2	0.06 µg/day NSRL (inhalation); 10 µg/day NSRL (except inhalation)
Beryllium	7440-41-7	carcinogen, 10/1/1987
Beryllium	7440-41-7	0.1 µg/day NSRL
Cadmium	7440-43-9	carcinogen, 10/1/1987
Cadmium	7440-43-9	developmental toxicity, 5/1/1997
Cadmium	7440-43-9	male reproductive toxicity, 5/1/97
Cadmium	7440-43-9	0.05 µg/day NSRL (inhalation)
Cobalt	7440-48-4	carcinogen, 7/1/1992 (powder)

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

Chemical Name	CAS Number	List	Status
Barium Nitrate	10022-31-8	DSL	Present
Ammonium Tetrafluoroborate	13826-83-0	DSL	Present
Strontium Carbonate	1633-05-2	DSL	Present
Ammonium Hexafluorotitanate	16962-40-6	NDSL	Present
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	DSL	Present
Manganese Acetate Tetrahydrate	6156-78-1	DSL	"Present" As Manganese(II) acetate [638-38-0]
Iron	7439-89-6	DSL	Present
Lead	7439-92-1	DSL	Present
Mercury	7439-97-6	DSL	Present
Molybdenum	7439-98-7	DSL	Present
Nickel	7440-02-0	DSL	Present
Silver	7440-22-4	DSL	Present
Thallium	7440-28-0	DSL	Present
Antimony	7440-36-0	DSL	Present
Arsenic	7440-38-2	DSL	Present
Beryllium	7440-41-7	DSL	Present
Cadmium	7440-43-9	DSL	Present
Cobalt	7440-48-4	DSL	Present
Copper	7440-50-8	DSL	Present
Zinc	7440-66-6	DSL	Present
Bismuth	7440-69-9	DSL	Present
Selenium Dioxide	7446-08-4	DSL	Present
Selenium Dioxide	7446-08-4	NDSL	"Present" As Selenium oxide [12640-89-0]
Hydrochloric Acid	7647-01-0	DSL	Present
Hydrofluoric Acid	7664-39-3	DSL	Present
Nitric Acid	7697-37-2	DSL	Present
Water	7732-18-5	DSL	Present
Chromium Nitrate Nonahydrate	7789-02-8	DSL	"Present" As Chromium nitrate [13548-38-4]
Cesium Nitrate	7789-18-6	DSL	Present
Ammonium Metavanadate	7803-55-6	DSL	Present
Tartaric Acid	87-69-4	DSL	Present

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15.10. United States of America Toxic Substances Control Act (TSCA) List

Chemical Name	CAS Number	Status
Barium Nitrate	10022-31-8	Present (ACTIVE)
Ammonium Tetrafluoroborate	13826-83-0	Present (ACTIVE)
Strontium Carbonate	1633-05-2	Present (ACTIVE)
Ammonium Hexafluorotitanate	16962-40-6	Present (ACTIVE)
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Present (ACTIVE)
Manganese Acetate Tetrahydrate	6156-78-1	"Present (ACTIVE)" As Acetic acid, manganese(2+) salt (2:1) [638-38-0]
Iron	7439-89-6	Present (ACTIVE)
Lead	7439-92-1	Present (ACTIVE)
Mercury	7439-97-6	Present [S; 12C] (ACTIVE)
Molybdenum	7439-98-7	Present (ACTIVE)
Nickel	7440-02-0	Present (ACTIVE)
Silver	7440-22-4	Present (ACTIVE)
Thallium	7440-28-0	Present (ACTIVE)
Antimony	7440-36-0	Present (ACTIVE)
Arsenic	7440-38-2	Present (ACTIVE)
Beryllium	7440-41-7	Present (ACTIVE)
Cadmium	7440-43-9	Present (ACTIVE)
Cobalt	7440-48-4	Present (ACTIVE)
Copper	7440-50-8	Present (ACTIVE)
Zinc	7440-66-6	Present (ACTIVE)
Bismuth	7440-69-9	Present (ACTIVE)
Selenium Dioxide	7446-08-4	Present (ACTIVE)
Hydrochloric Acid	7647-01-0	Present (ACTIVE)
Hydrofluoric Acid	7664-39-3	Present (ACTIVE)
Nitric Acid	7697-37-2	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)
Chromium Nitrate Nonahydrate	7789-02-8	"Present (ACTIVE)" As Nitric acid, chromium(3+) salt (3:1) [13548-38-4]
Cesium Nitrate	7789-18-6	Present (ACTIVE)
Ammonium Metavanadate	7803-55-6	Present (ACTIVE)
Tartaric Acid	87-69-4	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)

Chemical Name	CAS Number	List	Number
Barium Nitrate	10022-31-8	EINECS	233-020-5
Ammonium Tetrafluoroborate	13826-83-0	EINECS	237-531-4
Strontium Carbonate	1633-05-2	EINECS	216-643-7
Ammonium Hexafluorotitanate	16962-40-6	EINECS	241-036-9
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	EINECS	209-062-5
Manganese Acetate Tetrahydrate	6156-78-1	EINECS	"211-334-3" As Manganese di(acetate) [638-38-0]
Iron	7439-89-6	EINECS	231-096-4
Lead	7439-92-1	EINECS	231-100-4
Mercury	7439-97-6	EINECS	231-106-7
Molybdenum	7439-98-7	EINECS	231-107-2
Nickel	7440-02-0	EINECS	231-111-4
Silver	7440-22-4	EINECS	231-131-3
Thallium	7440-28-0	EINECS	231-138-1
Antimony	7440-36-0	EINECS	231-146-5
Arsenic	7440-38-2	EINECS	231-148-6
Beryllium	7440-41-7	EINECS	231-150-7
Cadmium	7440-43-9	EINECS	231-152-8
Cobalt	7440-48-4	EINECS	231-158-0
Copper	7440-50-8	EINECS	231-159-6
Zinc	7440-66-6	EINECS	231-175-3
Bismuth	7440-69-9	EINECS	231-177-4
Selenium Dioxide	7446-08-4	EINECS	231-194-7
Hydrochloric Acid	7647-01-0	EINECS	231-595-7
Hydrofluoric Acid	7664-39-3	EINECS	231-634-8
Nitric Acid	7697-37-2	EINECS	231-714-2
Water	7732-18-5	EINECS	231-791-2
Chromium Nitrate Nonahydrate	7789-02-8	EINECS	"236-921-1" As Chromium trinitrate [13548-38-4]
Cesium Nitrate	7789-18-6	EINECS	232-146-8
Ammonium Metavanadate	7803-55-6	EINECS	232-261-3
Tartaric Acid	87-69-4	EINECS	201-766-0

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15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Barium Nitrate	10022-31-8	Present [35583]
Ammonium Tetrafluoroborate	13826-83-0	Present [32539]
Strontium Carbonate	1633-05-2	Present [34148]
Ammonium Hexafluorotitanate	16962-40-6	Present [13288]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Present [34121]
Manganese Acetate Tetrahydrate	6156-78-1	Present [33072]
Iron	7439-89-6	Present [34355]
Lead	7439-92-1	Present [25764]
Mercury	7439-97-6	Present [13715]
Molybdenum	7439-98-7	Present [25031]
Nickel	7440-02-0	Present [25343]
Silver	7440-22-4	Present [40861]
Thallium	7440-28-0	Present [33902]
Antimony	7440-36-0	Present [34285]
Arsenic	7440-38-2	Present [29975]
Beryllium	7440-41-7	Present [25604]
Cadmium	7440-43-9	Present [13601]
Cobalt	7440-48-4	Present [13762]
Copper	7440-50-8	Present [34399]
Zinc	7440-66-6	Present [35873]
Bismuth	7440-69-9	Present [02992]
Selenium Dioxide	7446-08-4	Present [37644]
Hydrochloric Acid	7647-01-0	Present [37053]
Hydrofluoric Acid	7664-39-3	Present [27221]
Nitric Acid	7697-37-2	Present [35578]
Water	7732-18-5	Present [32224]
Chromium Nitrate Nonahydrate	7789-02-8	Present [21184]
Cesium Nitrate	7789-18-6	Present [35622]
Ammonium Metavanadate	7803-55-6	Present [12011]
Tartaric Acid	87-69-4	Present [21192] (listed under D-Tartaric acid)

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15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Barium Nitrate	10022-31-8	Annex 1	Present [KE-02070]
Barium Nitrate	10022-31-8	Annex 2	"97-3-693 (1997-3-0693)" As Barium compounds [RR-00555-0]
Ammonium Tetrafluoroborate	13826-83-0	Annex 1	Present [KE-01748]
Strontium Carbonate	1633-05-2	Annex 1	Present [KE-32213]
Ammonium Hexafluorotitanate	16962-40-6	Annex 1	Present [KE-01676]
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	Annex 1	Present [KE-22550]
Manganese Acetate Tetrahydrate	6156-78-1	Annex 1	"Present [KE-23009]" As Manganese(II) acetate [638-38-0]
Iron	7439-89-6	Annex 1	Present [KE-21059]
Lead	7439-92-1	Annex 1	Present [KE-21887]
Mercury	7439-97-6	Annex 1	Present [KE-23117]
Molybdenum	7439-98-7	Annex 1	Present [KE-25427]
Nickel	7440-02-0	Annex 1	Present [KE-25818]
Silver	7440-22-4	Annex 1	Present [KE-31261]
Thallium	7440-28-0	Annex 1	Present [KE-33716]
Antimony	7440-36-0	Annex 1	Present [KE-01834]
Antimony	7440-36-0	Annex 3	"Present (97-1-176)" As Inorganic antimony compounds [RR-00554-9]
Arsenic	7440-38-2	Annex 1	Present [KE-01933]
Beryllium	7440-41-7	Annex 1	Present [KE-02829]
Cadmium	7440-43-9	Annex 1	Present [KE-04397]
Cobalt	7440-48-4	Annex 1	Present [KE-06060]
Copper	7440-50-8	Annex 1	Present [KE-08896]
Zinc	7440-66-6	Annex 1	Present [KE-35518]
Bismuth	7440-69-9	Annex 1	Present [KE-03313]
Selenium Dioxide	7446-08-4	Annex 1	Present [KE-30926]
Selenium Dioxide	7446-08-4	Annex 3	"Present (97-1-134)" As Selenium compounds [RR-00612-2]
Hydrochloric Acid	7647-01-0	Annex 1	Present [KE-20189]
Hydrofluoric Acid	7664-39-3	Annex 1	Present [KE-20198]
Nitric Acid	7697-37-2	Annex 1	Present [KE-25911]
Water	7732-18-5	Annex 1	Present [KE-35400]
Chromium Nitrate Nonahydrate	7789-02-8	Annex 1	"Present [KE-06019]" As Chromium nitrate [13548-38-4]



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Cesium Nitrate	7789-18-6	Annex 1	Present [KE-05444]
Ammonium Metavanadate	7803-55-6	Annex 1	Present [KE-01756]
Tartaric Acid	87-69-4	Annex 1	Present [KE-10801]

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15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Barium Nitrate	10022-31-8	(1)-86
Ammonium Tetrafluoroborate	13826-83-0	(1)-47
Strontium Carbonate	1633-05-2	(1)-171
Ammonium Hexafluorotitanate	16962-40-6	(1)-1118
Lithium Carbonate, 6Li ₂ CO ₃	554-13-2	(1)-154
Manganese Acetate Tetrahydrate	6156-78-1	"(2)-693" As Manganese(II) acetate [638-38-0]
Iron	7439-89-6	- (exempt)
Lead	7439-92-1	- (exempt)
Mercury	7439-97-6	- (exempt)
Molybdenum	7439-98-7	- (exempt)
Nickel	7440-02-0	- (exempt)
Silver	7440-22-4	- (exempt)
Thallium	7440-28-0	- (exempt)
Antimony	7440-36-0	- (exempt)
Arsenic	7440-38-2	- (exempt)
Beryllium	7440-41-7	- (exempt)
Cadmium	7440-43-9	- (exempt)
Cobalt	7440-48-4	- (exempt)
Copper	7440-50-8	- (exempt)
Zinc	7440-66-6	- (exempt)
Bismuth	7440-69-9	- (exempt)
Selenium Dioxide	7446-08-4	(1)-546
Hydrochloric Acid	7647-01-0	(1)-215
Hydrofluoric Acid	7664-39-3	(1)-306
Nitric Acid	7697-37-2	(1)-394
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Chromium Nitrate Nonahydrate	7789-02-8	(1)-281
Cesium Nitrate	7789-18-6	(1)-1064
Ammonium Metavanadate	7803-55-6	(1)-407
Tartaric Acid	87-69-4	(2)-1456

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SECTION 16: Other Information

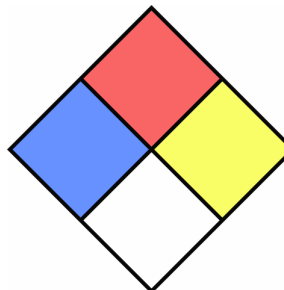
16.1 National Fire Protection Associate (NFPA) Rating

Health:

Flammability:

Reactivity

Special Hazard:



16.2 Document Revision

Last Revision Date:

2026-05-04

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