



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation VeriSpec[®] QC Standard 27

100 ppm: Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Si, Ag, Sr, Na, T

Product Number RV010667

Other Identifying Product Numbers RV010667-100N, RV010667-F100N

1.2. Recommended Use and Restrictions on Use

Calibration Standard

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
Skin Sensitization	Category 1	H317	P261,P272,P280,P302+P352, P333+P313,P321,P362+P364,P501
Carcinogenicity	Category 1B	H350	P201,P202,P280,P308+P313,P405, P501
Corrosive to Metals	Category 1	H290	P234,P390,P406
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 3	H402	P273,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 3	H412	P273,P501

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
H317	May cause an allergic skin reaction
H350	May cause cancer
H412	Harmful to aquatic life with long lasting effects

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
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original packaging.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
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.
P308+P313	If exposed or concerned: Get medical advice or attention.
P310	Immediately call a poison center or doctor.
P321	Specific treatment: Treat with calcium gluconate gel.
P362+P364	Take off contaminated clothing and wash it 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

5.3 percent of this mixture consists of ingredient(s) of unknown acute oral toxicity. 6 percent of this mixture consists of ingredient(s) of unknown acute 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	93.85
nitric acid	Nitric Acid	7697-37-2	5.00
beryllium dinitrate	Beryllium Nitrate; Nitric acid, beryllium salt (2:1)	13597-99-4	0.15
aluminum trinitrate	Aluminum Nitrate	13473-90-0	0.14
fluorane	Hydrofluoric Acid	7664-39-3	0.10
diazanium hexafluorosilicon(2-)	Ammonium Hexafluorosilicate (IV); Ammonium fluorosilicate	16919-19-0	< 0.1
boric acid	Boric Acid; orthoboric acid; boracic acid	10043-35-3	< 0.1
magnesium nitrate	Magnesium Nitrate; magnesium dinitrate	10377-60-3	< 0.1
chromium(3+) trinitrate	Chromium (III) Nitrate; Chromium(III) nitrate; Chromic nitrate	13548-38-4	< 0.1
iron(III) nitrate	Ferric Nitrate; iron trinitrate	10421-48-4	< 0.1
calcium nitrate	Calcium Nitrate; calcium dinitrate	10124-37-5	< 0.1
sodium nitrate	Sodium Nitrate; Nitric acid sodium salt (1:1)	7631-99-4	< 0.1
diazanium hexafluorotitanium(2-)	Ammonium Hexafluorotitanate; Ammonium titanium fluoride	16962-40-6	< 0.1
cobalt(II) nitrate	Cobalt (II) Nitrate; cobaltous nitrate; cobalt dinitrate	10141-05-6	< 0.1
manganese(II) nitrate	Manganese Nitrate; manganese dinitrate	10377-66-9	< 0.1
nickel (II) nitrate	Nickel (II) Nitrate; Nickel dinitrate; Nickel nitrate; Nickelous nitrate	13138-45-9	< 0.1
copper dinitrate	Cupric Nitrate	3251-23-8	< 0.1
zinc dinitrate	Zinc Nitrate; Nitric acid, zinc salt	7779-88-6	< 0.1
potassium nitrate	Potassium Nitrate; Nitric acid potassium salt (1:1)	7757-79-1	< 0.1
strontium nitrate	Strontium Nitrate; strontium(II) nitrate; strontium dinitrate	10042-76-9	< 0.1
azanium oxido(dioxo)vanadium	Ammonium Metavanadate	7803-55-6	< 0.1
cadmium nitrate	Cadmium Nitrate; cadmium dinitrate	10325-94-7	< 0.1
pentafluoromolybdenum	Molybdenum Pentafluoride	13819-84-6	< 0.1
pentafluoro-{I}⁵-stibane hydrofluoride	Fluoroantimonic Acid; Hexafluoroantimonyic acid	16950-06-4	< 0.1
barium nitrate	Barium Nitrate	10022-31-8	< 0.1

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arsoric acid	Arsenic Acid; Arsenic(V) acid	7778-39-4	< 0.1
selenous acid	Selenous Acid; Selenious acid	7783-00-8	< 0.1
lead(II) nitrate	Lead Nitrate; lead dinitrate	10099-74-8	< 0.1
silver nitrate	Silver Nitrate; Nitric acid, silver(1+) salt	7761-88-8	< 0.1
thallium(I) nitrate	Thallium (I) Nitrate; thallos nitrate	10102-45-1	< 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.

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

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.

4.2. Most Important Symptoms and Effects, Acute and Delayed

May cause cancer

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. Specific treatment: Treat with calcium gluconate gel.

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 in a Fire

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment and Precautions 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.

6.2. Cleanup and Containment Methods and Materials

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



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SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up.

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]
Lead Nitrate	10099-74-8	"50 µg/m3 TWA (as Pb)" As Lead, inorganic compounds [RR-00538-9]
Thallium (I) Nitrate	10102-45-1	"0.1 mg/m3 TWA (as Tl)" As Thallium, soluble compounds [RR-00048-6]
Nickel (II) Nitrate	13138-45-9	"1 mg/m3 TWA (as Ni)" As Nickel, soluble compounds [RR-00038-4]
Chromium (III) Nitrate	13548-38-4	"0.5 mg/m3 TWA (as Cr)" As Chromium(III) compounds [RR-03889-1]
Beryllium Nitrate	13597-99-4	"0.2 µg/m3 TWA (as Be)" As Beryllium compounds [RR-00557-2]
Ammonium Hexafluorosilicate (IV)	16919-19-0	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Fluoroantimonic Acid	16950-06-4	"0.5 mg/m3 TWA (as Sb)" As Antimony compounds [RR-00585-6]
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Hydrofluoric Acid	7664-39-3	3 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA; 5 mg/m3 TWA
Silver Nitrate	7761-88-8	"0.01 mg/m3 TWA (as Ag)" As Silver soluble compounds [RR-00041-9]
Arsenic Acid	7778-39-4	"10 µg/m3 TWA (as As)" As Arsenic, inorganic compounds [RR-00065-7]
Selenous Acid	7783-00-8	"0.2 mg/m3 TWA (as Se)" As Selenium compounds [RR-00612-2]

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

Chemical Name	CAS Number	Exposure Limit
Manganese Nitrate	10377-66-9	"5 mg/m3 Ceiling (as Mn)" As Manganese compounds [RR-00602-0]
Beryllium Nitrate	13597-99-4	"2 µg/m3 Ceiling (as Be)" As Beryllium compounds [RR-00557-2]

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

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

Chemical Name	CAS Number	Exposure Limit
Lead Nitrate	10099-74-8	"30 µg/m3 Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m3 TWA (as Pb)" As Lead, inorganic compounds [RR-00538-9]
Cadmium Nitrate	10325-94-7	"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]
Arsenic Acid	7778-39-4	"10 µg/m3 TWA (See 29 CFR 1910.1018; except Arsine, as As); 5 µg/m3 Action Level (as As)" As Inorganic arsenic compounds [RR-00065-7]

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

Chemical Name	CAS Number	Exposure Limit
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
Boric Acid	10043-35-3	6 mg/m3 STEL (inhalable particulate matter, listed under Borate compounds, inorganic)
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]
Boric Acid	10043-35-3	2 mg/m3 TWA (inhalable particulate matter, listed under Borate compounds, inorganic)
Lead Nitrate	10099-74-8	"0.05 mg/m3 TWA (as Pb)" As Lead inorganic compounds [RR-00538-9]
Thallium (I) Nitrate	10102-45-1	"0.02 mg/m3 TWA (inhalable particulate matter, as Tl)" As Thallium compounds [RR-00575-4]
Cobalt (II) Nitrate	10141-05-6	"0.02 mg/m3 TWA (inhalable particulate matter, as Co)" As Cobalt inorganic compounds [RR-02516-1]
Cadmium Nitrate	10325-94-7	"0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (respirable particulate matter, as Cd)" As Cadmium compounds [RR-00559-4]
Manganese Nitrate	10377-66-9	"0.02 mg/m3 TWA (respirable particulate matter, as Mn); 0.1 mg/m3 TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]
Ferric Nitrate	10421-48-4	"1 mg/m3 TWA (as Fe)" As Iron salts, soluble [RR-00521-0]
Nickel (II) Nitrate	13138-45-9	"0.1 mg/m3 TWA (inhalable particulate matter, as Ni)" As Nickel soluble inorganic compounds [RR-04616-2]
Beryllium Nitrate	13597-99-4	"0.00005 mg/m3 TWA (inhalable particulate matter, as Be)" As Beryllium compounds [RR-00557-2]
Ammonium Hexafluorosilicate (IV)	16919-19-0	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Fluoroantimonic Acid	16950-06-4	"0.5 mg/m3 TWA (as Sb)" As Antimony compounds [RR-00585-6]
Ammonium Hexafluorotitanate	16962-40-6	"2.5 mg/m3 TWA (as F)" As Fluorides [RR-02792-9]
Cupric Nitrate	3251-23-8	"1 mg/m3 TWA (dust and mist, as Cu)" As Copper compounds [RR-00595-8]
Hydrofluoric Acid	7664-39-3	0.5 ppm TWA (as F)
Nitric Acid	7697-37-2	2 ppm TWA
Silver Nitrate	7761-88-8	"0.01 mg/m3 TWA (as Ag)" As Silver soluble compounds [RR-00041-9]
Arsenic Acid	7778-39-4	"0.01 mg/m3 TWA (as As)" As Arsenic inorganic compounds [RR-00065-7]
Selenous Acid	7783-00-8	"0.2 mg/m3 TWA (as Se)" As Selenium compounds [RR-00612-2]

8.2. Engineering Controls

No specific controls are needed.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Wear protective gloves and eye protection.

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Skin Protection: Wear protective gloves and eye protection.

Eye Protection: Wear protective gloves and eye protection.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State: Liquid

Color: Data not available.

Odor: Data not available.

Odor Threshold: Data not available.

Melting/Freezing Point: Data not available.

Boiling Point/Range: Data not available.

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: Data not available.

Kinematic Viscosity: Data not available.

Solubility: Data not available.

Vapor Pressure: Data not available.

Evaporation Rate: Data not available.

Relative Density: 1.09

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.

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10.4. Hazardous Decomposition Products

None identified.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 3845 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Barium Nitrate	10022-31-8	Oral LD50 Rat 300 mg/kg (Source: ECHA)
Strontium Nitrate	10042-76-9	Oral LD50 Rat 2750 mg/kg (Source: NLM_CIP)
Boric Acid	10043-35-3	Oral LD50 Rat 2660 mg/kg (Source: JAPAN_GHS)
Lead Nitrate	10099-74-8	Oral LD50 Acute Toxicity Estimate 500 mg/kg (ECHA)
Thallium (I) Nitrate	10102-45-1	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: ECHA)
Calcium Nitrate	10124-37-5	Oral LD50 Rat 302 mg/kg (Source: NLM_CIP)
Cobalt (II) Nitrate	10141-05-6	Oral LD50 Rat 434 mg/kg (Source: Canada_WHMIS)
Cadmium Nitrate	10325-94-7	Oral LD50 Rat 300 mg/kg (Source: NLM_CIP)
Magnesium Nitrate	10377-60-3	Oral LD50 Rat >5000 mg/kg (no deaths occurred, Source: ECHA)
Nickel (II) Nitrate	13138-45-9	Oral LD50 1018 mg/kg (Source: Canada_WHMIS)
Chromium (III) Nitrate	13548-38-4	Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)
Beryllium Nitrate	13597-99-4	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: ECHA)
Ammonium Hexafluorosilicate (IV)	16919-19-0	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: EU_REACH)
Fluoroantimonic Acid	16950-06-4	Oral LD50 Acute Toxicity Estimate 500 mg/kg (ECHA)
Cupric Nitrate	3251-23-8	Oral LD50 Rat 794 mg/kg (Source: NLM_CIP)
Hydrofluoric Acid	7664-39-3	Oral LD50 Acute Toxicity Estimate 5 mg/kg (Source: Canada_WHMIS)
Potassium Nitrate	7757-79-1	Oral LD50 Rat >2000 mg/kg (no deaths occurred, Source: ECHA)
Silver Nitrate	7761-88-8	Oral LD50 Rat 1173 mg/kg (Source: NLM_CIP)
Arsenic Acid	7778-39-4	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: Canada_WHMIS)
Zinc Nitrate	7779-88-6	Oral LD50 Rat 1330 mg/kg (Source: Canada_WHMIS)
Selenous Acid	7783-00-8	Oral LD50 Acute Toxicity Estimate 100 mg/kg (Source: ECHA)
Ammonium Metavanadate	7803-55-6	Oral LD50 Rat 58100 µg/kg (Source: NLM_CIP)

Acute Toxicity - Dermal Exposure:

Not acutely toxic.

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Chemical Name	CAS Number	Toxicity
Cadmium Nitrate	10325-94-7	Dermal LD50 Acute Toxicity Estimate 1100 mg/kg (Source: ECHA)
Ammonium Hexafluorosilicate (IV)	16919-19-0	Dermal LD50 Acute Toxicity Estimate 300 mg/kg (Source: EU_REACH)
Potassium Nitrate	7757-79-1	Dermal LD50 Rat >5000 mg/kg (no deaths occurred, Source: ECHA)
Silver Nitrate	7761-88-8	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)
Arsenic Acid	7778-39-4	Dermal LD50 Acute Toxicity Estimate 1100 mg/kg (Source: Canada_WHMIS)
Ammonium Metavanadate	7803-55-6	Dermal LD50 Rat 2102 mg/kg (Source: NLM_HSDB)

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)
Strontium Nitrate	10042-76-9	Inhalation LC50 Rat >4.5 mg/L 4 h (death occurred (1 out of 10 tested animals), aerosol, Source: ECHA)
Lead Nitrate	10099-74-8	Inhalation LC50 Acute Toxicity Estimate 1.5 mg/L 4 h (Source: ECHA)
Thallium (I) Nitrate	10102-45-1	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)
Cadmium Nitrate	10325-94-7	Inhalation LC50 Acute Toxicity Estimate 1.5 mg/L 4 h (Source: ECHA)
Nickel (II) Nitrate	13138-45-9	Inhalation LC50 Acute Toxicity Estimate 1.5 mg/L 4 h (Source: ECHA)
Beryllium Nitrate	13597-99-4	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)
Ammonium Hexafluorosilicate (IV)	16919-19-0	Inhalation (Dust) LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: EU_REACH)
Fluoroantimonic Acid	16950-06-4	Inhalation LC50 Acute Toxicity Estimate 1.5 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)
Potassium Nitrate	7757-79-1	Inhalation LC50 Rat >0.527 mg/L 4 h (no deaths occurred, dust, Source: ECHA_API)
Silver Nitrate	7761-88-8	Inhalation LC50 Rat >750 µg/m3 4 h (no deaths occurred, aerosol, Source: ECHA_API)
Arsenic Acid	7778-39-4	Inhalation LC50 Acute Toxicity Estimate 1.5 mg/L 4 h (Source: Canada_WHMIS)
Selenous Acid	7783-00-8	Inhalation LC50 Acute Toxicity Estimate 0.5 mg/L 4 h (Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

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Chemical Name	CAS Number	Classification
Lead Nitrate	10099-74-8	Group 2A (Probably Carcinogenic to Humans) - Monograph 87 [2006]; Supplement 7 [1987]; Monograph 23 [1980]
Cobalt (II) Nitrate	10141-05-6	Group 2A (Probably Carcinogenic to Humans) - Monograph 131 [2023]; Monograph 86 [2006]; Monograph 52 [1991] As Cobalt(II) soluble salts
Cadmium Nitrate	10325-94-7	Group 1 (Carcinogenic to Humans) - Monograph 58 [1993] (listed under Cadmium and cadmium compounds)
Nickel (II) Nitrate	13138-45-9	Group 1 (Carcinogenic to Humans) - Monograph 49 [1990] (listed under Nickel and nickel compounds)
Chromium (III) Nitrate	13548-38-4	Group 3 (Not Classified) - Monograph 49 [1990]; Supplement 7 [1987]; Monograph 23 [1980]; Monograph 2 [1973]
Beryllium Nitrate	13597-99-4	Group 1 (Carcinogenic to Humans) - Monograph 58 [1993] (listed under Beryllium and beryllium compounds)
Ammonium Hexafluorosilicate (IV)	16919-19-0	Group 3 (Not Classified) - Supplement 7 [1987] (used in drinking-water); Monograph 27 [1982] As Fluorides, inorganic
Nitric Acid	7697-37-2	Group 1 (Carcinogenic to Humans) - Monograph 100F [2012]; Monograph 54 [1992] As Acid mists, strong inorganic
Arsenic Acid	7778-39-4	Group 1 (Carcinogenic to Humans) - Monograph 84 [2004] (listed under Arsenic in drinking water)
Selenous Acid	7783-00-8	Group 3 (Not Classified) - Supplement 7 [1987]; Monograph 9 [1975] As Selenium compounds

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Boric Acid	10043-35-3	Male Rat - Not Tested; Female Rat - Not Tested; Male Mice - No Evidence; Female Mice - No Evidence (TR-324)
Lead Nitrate	10099-74-8	Reasonably Anticipated To Be A Human Carcinogen (listed under Lead and lead compounds)
Cobalt (II) Nitrate	10141-05-6	Reasonably Anticipated To Be A Human Carcinogen (listed under Cobalt-related exposures)
Cadmium Nitrate	10325-94-7	"Known Human Carcinogen" As Cadmium compounds [RR-00559-4]
Nickel (II) Nitrate	13138-45-9	"Known Human Carcinogen" As Nickel compounds [RR-00800-4]
Beryllium Nitrate	13597-99-4	"Known Human Carcinogen" As Beryllium compounds [RR-00557-2]
Arsenic Acid	7778-39-4	"Known Human Carcinogen" As Arsenic, inorganic compounds [RR-00065-7]

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
Cadmium Nitrate	10325-94-7	"see 29 CFR 1910.1027" As Cadmium compounds [RR-00559-4]
Arsenic Acid	7778-39-4	"see 29 CFR 1910.1018 (except Arsine)" As Inorganic arsenic compounds [RR-00065-7]



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11.3 Additional Toxicology Information:

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause cancer.

SECTION 12: Ecological Information

12.1. Ecotoxicity

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Chemical Name	CAS Number	Species	Exposure	Toxicity
Boric Acid	10043-35-3	Avian	Dietary	LC50 5 Days Anas platyrhynchos >5620 ppm [Diet] (IUCLID); LC50 5 Days Colinus virginianus >5620 ppm [Diet] (IUCLID)
Strontium Nitrate	10042-76-9	Freshwater Fish	Acute	LC50 96 h Cyprinus carpio >97.45 mg/L [static] (ECHA)
Calcium Nitrate	10124-37-5	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 10000 mg/L [static]
Ammonium Hexafluorosilicate (IV)	16919-19-0	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 25.8 mg/L [static]
Sodium Nitrate	7631-99-4	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 2000 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 994.4 - 1107 mg/L [static] (EPA)
Silver Nitrate	7761-88-8	Freshwater Fish	Acute	LC50 96 h Poecilia reticulata 0.00512 - 0.00787 mg/L [semi-static] (EPA); LC50 96 h Lepomis macrochirus 0.009 - 0.02 mg/L [flow-through] (EPA); LC50 96 h Lepomis macrochirus 0.0242 - 0.0484 mg/L [semi-static] (EPA); LC50 96 h Lepomis macrochirus 0.05 - 0.07 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 0.001339 - 0.001637 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.0075 mg/L [semi-static] (EPA); LC50 96 h Oncorhynchus mykiss 0.00839 - 0.1802 mg/L [static] (EPA); LC50 96 h Pimephales promelas 0.00452 - 0.00638 mg/L [flow-through] (EPA); LC50 96 h Pimephales promelas 0.00181 - 0.00214 mg/L [static] (EPA); LC50 96 h Pimephales promelas 0.0064 - 0.0106 mg/L [semi-static] (EPA); LC50 96 h Pimephales promelas 0.009 mg/L (IUCLID); LC50 96 h Cyprinus carpio 0.0027 mg/L [semi-static] (EPA)
Arsenic Acid	7778-39-4	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 25.6 mg/L (IUCLID); LC50 96 h Lepomis macrochirus 43 - 59 mg/L [flow-through] (EPA); LC50 96 h Lepomis macrochirus 39 - 110 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 42.09 - 66.86 mg/L [static] (EPA)
Zinc Nitrate	7779-88-6	Freshwater Fish	Acute	LC50 96 h Cyprinus carpio 7.8 mg/L [static] (EPA)
Arsenic Acid	7778-39-4	Honeybee	Acute	Contact LD50 48 h Apis mellifera 7.7 µg/bee (NZ_CCID)

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Boric Acid	10043-35-3	Water Flea	Acute	EC50 48 h Daphnia magna 115 - 153 mg/L (EPA)
Hydrofluoric Acid	7664-39-3	Water Flea	Acute	EC50 48 h Daphnia species 270 mg/L (IUCLID)
Silver Nitrate	7761-88-8	Water Flea	Acute	EC50 48 h Daphnia magna 0.0006 mg/L (IUCLID); EC50 48 h Daphnia magna 0.0008 - 0.001 mg/L [Flow through] (EPA); EC50 48 h Daphnia magna 0.0008 - 0.0011 mg/L [Static] (EPA)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

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

Sizes: 100 mL

UN Number: UN3264

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

Hazard Class: 8

Packing Group: II

Hazard Label(s):





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

Sizes: 100 mL

UN Number: UN3264

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

Hazard Class: 8

Packing Group: II

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, hydrofluoric acid)

Hazard Class: 8

Packing Group: II

Hazard Label(s):



SECTION 15: Regulatory Information

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15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
Lead Nitrate	10099-74-8	"30 µg/m3 Action Level (See 29 CFR 1910.1025, as Pb); 50 µg/m3 TWA (See 29 CFR 1910.1025, as Pb)" As Lead, inorganic compounds [RR-00538-9]
Cadmium Nitrate	10325-94-7	"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]
Arsenic Acid	7778-39-4	"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]

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

Chemical Name	CAS Number	RQ	TPQ
Hydrofluoric Acid	7664-39-3	100 lb TPQ	100 lb EPCRA RQ
Nitric Acid	7697-37-2	1000 lb TPQ	1000 lb EPCRA RQ
Selenous Acid	7783-00-8	1000 lb lower TPQ; 10000 lb upper TPQ	10 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
Lead Nitrate	10099-74-8	10 lb final RQ; 4.54 kg final RQ
Thallium (I) Nitrate	10102-45-1	100 lb final RQ; 45.4 kg final RQ
Ferric Nitrate	10421-48-4	1000 lb final RQ; 454 kg final RQ
Nickel (II) Nitrate	13138-45-9	"100 lb final RQ; 45.4 kg final RQ" As Nickel nitrate [14216-75-2]
Beryllium Nitrate	13597-99-4	1 lb final RQ; 0.454 kg final RQ
Ammonium Hexafluorosilicate (IV)	16919-19-0	1000 lb final RQ; 454 kg final RQ
Cupric Nitrate	3251-23-8	100 lb final RQ; 45.4 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
Silver Nitrate	7761-88-8	1 lb final RQ; 0.454 kg final RQ
Arsenic Acid	7778-39-4	1 lb final RQ; 0.454 kg final RQ
Zinc Nitrate	7779-88-6	1000 lb final RQ; 454 kg final RQ
Selenous Acid	7783-00-8	10 lb final RQ; 4.54 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]
Strontium Nitrate	10042-76-9	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]
Lead Nitrate	10099-74-8	Emission Reporting	"not eligible for the de minimis exemption, listed under Chemical Category N420" As Inorganic lead compounds [RR-00538-9]; "not eligible for the de minimis exemption" As Lead compounds [RR-00630-4]; "1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]
Lead Nitrate	10099-74-8	Chemicals of Special Concern	"100 lb RT" As Lead compounds [RR-00630-4]
Thallium (I) Nitrate	10102-45-1	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Thallium as part of that chemical's infrastructure, listed under Chemical Category N760)" As Thallium compounds [RR-00575-4]
Calcium Nitrate	10124-37-5	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]
Cobalt (II) Nitrate	10141-05-6	Emission Reporting	"0.1 % de minimis concentration (includes any unique chemical substance that contains Cobalt as part of that chemical's infrastructure, listed under Chemical Category N096)" As Cobalt, inorganic compounds [RR-02516-1]

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Cadmium Nitrate	10325-94-7	Emission Reporting	"0.1 % de minimis concentration (includes any unique chemical substance that contains Cadmium as part of that chemical's infrastructure, listed under Chemical Category N078)" As Cadmium compounds [RR-00559-4]; "1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]
Magnesium Nitrate	10377-60-3	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]
Manganese Nitrate	10377-66-9	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]
Ferric Nitrate	10421-48-4	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]
Nickel (II) Nitrate	13138-45-9	Emission Reporting	"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]
Chromium (III) Nitrate	13548-38-4	Emission Reporting	"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]
Beryllium Nitrate	13597-99-4	Emission Reporting	"0.1 % de minimis concentration (includes any unique chemical substance that contains Beryllium as part of that chemical's infrastructure, listed under Chemical Category N050)" As Beryllium compounds [RR-00557-2]

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Ammonium Hexafluorosilicate (IV)	16919-19-0	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]
Fluoroantimonic Acid	16950-06-4	Emission Reporting	"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]
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]
Cupric Nitrate	3251-23-8	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Copper as part of that chemical's infrastructure except for CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only Hydrogen and/or Bromine and/or Chlorine that meet the molecular structure specified within the regulation, listed under Chemical Category N100)" As Copper compounds [RR-00595-8]
Sodium Nitrate	7631-99-4	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]
Hydrofluoric Acid	7664-39-3	Emission Reporting	1.0 % de minimis concentration
Nitric Acid	7697-37-2	Emission Reporting	1.0 % de minimis concentration
Potassium Nitrate	7757-79-1	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]
Silver Nitrate	7761-88-8	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that includes Silver as part of that chemical's infrastructure, listed under Chemical Category N740)" As Silver compounds [RR-00574-3]; "1.0 % de minimis concentration (reportable only when in aqueous solution, listed under Chemical Category N511)" As Nitrate compounds, water dissociable [RR-03804-0]



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Arsenic Acid	7778-39-4	Emission Reporting	"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]
Zinc Nitrate	7779-88-6	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Zinc as part of that chemical's infrastructure, listed under Chemical Category N982)" As Zinc compounds [RR-00578-7]
Selenous Acid	7783-00-8	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]
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
Strontium Nitrate	10042-76-9	Present
Lead Nitrate	10099-74-8	Present
Thallium (I) Nitrate	10102-45-1	Present
Cobalt (II) Nitrate	10141-05-6	Present
Magnesium Nitrate	10377-60-3	Present
Ferric Nitrate	10421-48-4	Present
Nickel (II) Nitrate	13138-45-9	Present
Beryllium Nitrate	13597-99-4	Present
Ammonium Hexafluorosilicate (IV)	16919-19-0	Present
Cupric Nitrate	3251-23-8	Present
Sodium Nitrate	7631-99-4	Present
Hydrofluoric Acid	7664-39-3	Extraordinarily hazardous
Nitric Acid	7697-37-2	Extraordinarily hazardous
Potassium Nitrate	7757-79-1	Present
Silver Nitrate	7761-88-8	Present
Arsenic Acid	7778-39-4	Present
Zinc Nitrate	7779-88-6	Present
Selenous Acid	7783-00-8	Extraordinarily hazardous
Ammonium Metavanadate	7803-55-6	Present

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Classified According to OSHA Hazard Communication Standard (HCS 2024)

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Barium Nitrate	10022-31-8	Environmental hazard
Strontium Nitrate	10042-76-9	Present
Lead Nitrate	10099-74-8	Environmental hazard
Thallium (I) Nitrate	10102-45-1	Environmental hazard
Cobalt (II) Nitrate	10141-05-6	Present
Cadmium Nitrate	10325-94-7	"Environmental hazard" As Cadmium compounds [RR-00559-4]
Magnesium Nitrate	10377-60-3	Present
Manganese Nitrate	10377-66-9	"Environmental hazard" As Manganese compounds [RR-00602-0]
Ferric Nitrate	10421-48-4	Environmental hazard
Nickel (II) Nitrate	13138-45-9	Environmental hazard
Chromium (III) Nitrate	13548-38-4	"Environmental hazard" As Chromium compounds [RR-00634-8]
Beryllium Nitrate	13597-99-4	Environmental hazard
Ammonium Hexafluorosilicate (IV)	16919-19-0	Environmental hazard
Fluoroantimonic Acid	16950-06-4	"Environmental hazard" As Antimony compounds [RR-00585-6]
Cupric Nitrate	3251-23-8	Environmental hazard
Sodium Nitrate	7631-99-4	Present
Hydrofluoric Acid	7664-39-3	Environmental hazard
Nitric Acid	7697-37-2	Environmental hazard
Potassium Nitrate	7757-79-1	Present
Silver Nitrate	7761-88-8	Environmental hazard
Arsenic Acid	7778-39-4	Environmental hazard
Zinc Nitrate	7779-88-6	Environmental hazard
Selenous Acid	7783-00-8	Environmental hazard
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
Strontium Nitrate	10042-76-9	sn 1743
Boric Acid	10043-35-3	"sn 0241" As Borate compounds, inorganic [RR-33876-1]
Lead Nitrate	10099-74-8	sn 1108
Thallium (I) Nitrate	10102-45-1	sn 1841
Calcium Nitrate	10124-37-5	sn 0324
Cobalt (II) Nitrate	10141-05-6	"sn 2222" As Cobalt compounds [RR-00107-0]; "sn 3722" As Nitrate compounds [RR-01770-9]
Cadmium Nitrate	10325-94-7	sn 4088
Magnesium Nitrate	10377-60-3	sn 1143
Manganese Nitrate	10377-66-9	"sn 2324" As Manganese compounds [RR-00602-0]; "sn 3722" As Nitrate compounds [RR-01770-9]
Ferric Nitrate	10421-48-4	sn 0924
Nickel (II) Nitrate	13138-45-9	sn 1347
Aluminum Nitrate	13473-90-0	sn 0061
Chromium (III) Nitrate	13548-38-4	sn 0435
Beryllium Nitrate	13597-99-4	sn 0225
Ammonium Hexafluorosilicate (IV)	16919-19-0	sn 0101
Fluoroantimonic Acid	16950-06-4	"sn 2223" As Antimony compounds [RR-00585-6]
Ammonium Hexafluorotitanate	16962-40-6	"sn 0936" As Fluorides [RR-02792-9]
Cupric Nitrate	3251-23-8	sn 0547
Sodium Nitrate	7631-99-4	"sn 3722" As Nitrate compounds [RR-01770-9]
Hydrofluoric Acid	7664-39-3	sn 3759
Nitric Acid	7697-37-2	sn 1356
Potassium Nitrate	7757-79-1	sn 1574
Silver Nitrate	7761-88-8	sn 1672
Arsenic Acid	7778-39-4	sn 0153
Zinc Nitrate	7779-88-6	sn 2036
Selenous Acid	7783-00-8	sn 2762
Ammonium Metavanadate	7803-55-6	sn 0104



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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Lead Nitrate	10099-74-8	"carcinogen, 10/1/1992" As Lead compounds [RR-00630-4]
Cadmium Nitrate	10325-94-7	"carcinogen, 10/1/1987" As Cadmium compounds [RR-00559-4]
Nickel (II) Nitrate	13138-45-9	"carcinogen, 5/7/2004" As Nickel compounds [RR-00800-4]
Nickel (II) Nitrate	13138-45-9	"developmental toxicity, 10/26/2018" As Nickel, soluble compounds [RR-00038-4]
Nickel (II) Nitrate	13138-45-9	"male reproductive toxicity, 10/26/18" As Nickel, soluble compounds [RR-00038-4]
Beryllium Nitrate	13597-99-4	"carcinogen, 10/1/1987" As Beryllium compounds [RR-00557-2]
Arsenic Acid	7778-39-4	"carcinogen, 2/27/1987" As Arsenic, inorganic compounds [RR-00065-7]
Arsenic Acid	7778-39-4	"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]

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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
Strontium Nitrate	10042-76-9	DSL	Present
Boric Acid	10043-35-3	DSL	Present
Lead Nitrate	10099-74-8	DSL	Present
Thallium (I) Nitrate	10102-45-1	NDSL	Present
Calcium Nitrate	10124-37-5	DSL	Present
Cobalt (II) Nitrate	10141-05-6	DSL	Present
Cadmium Nitrate	10325-94-7	DSL	Present
Magnesium Nitrate	10377-60-3	DSL	Present
Manganese Nitrate	10377-66-9	DSL	Present
Ferric Nitrate	10421-48-4	DSL	Present
Nickel (II) Nitrate	13138-45-9	DSL	Present
Aluminum Nitrate	13473-90-0	DSL	Present
Chromium (III) Nitrate	13548-38-4	DSL	Present
Beryllium Nitrate	13597-99-4	NDSL	Present
Ammonium Hexafluorosilicate (IV)	16919-19-0	DSL	Present
Fluoroantimonic Acid	16950-06-4	NDSL	Present
Ammonium Hexafluorotitanate	16962-40-6	NDSL	Present
Cupric Nitrate	3251-23-8	DSL	Present
Sodium Nitrate	7631-99-4	DSL	Present
Hydrofluoric Acid	7664-39-3	DSL	Present
Nitric Acid	7697-37-2	DSL	Present
Water	7732-18-5	DSL	Present
Potassium Nitrate	7757-79-1	DSL	Present
Silver Nitrate	7761-88-8	DSL	Present
Arsenic Acid	7778-39-4	DSL	Present
Zinc Nitrate	7779-88-6	DSL	Present
Selenous Acid	7783-00-8	DSL	Present
Ammonium Metavanadate	7803-55-6	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)
Strontium Nitrate	10042-76-9	Present (ACTIVE)
Boric Acid	10043-35-3	Present (ACTIVE)
Lead Nitrate	10099-74-8	Present (ACTIVE)
Thallium (I) Nitrate	10102-45-1	Present (ACTIVE)
Calcium Nitrate	10124-37-5	Present (ACTIVE)
Cobalt (II) Nitrate	10141-05-6	Present (ACTIVE)
Cadmium Nitrate	10325-94-7	Present (ACTIVE)
Magnesium Nitrate	10377-60-3	Present (ACTIVE)
Manganese Nitrate	10377-66-9	Present (ACTIVE)
Ferric Nitrate	10421-48-4	Present (ACTIVE)
Nickel (II) Nitrate	13138-45-9	Present (ACTIVE)
Aluminum Nitrate	13473-90-0	Present (ACTIVE)
Chromium (III) Nitrate	13548-38-4	Present (ACTIVE)
Beryllium Nitrate	13597-99-4	Present (ACTIVE)
Ammonium Hexafluorosilicate (IV)	16919-19-0	Present (ACTIVE)
Fluoroantimonic Acid	16950-06-4	Present (ACTIVE)
Ammonium Hexafluorotitanate	16962-40-6	Present (ACTIVE)
Cupric Nitrate	3251-23-8	Present (ACTIVE)
Sodium Nitrate	7631-99-4	Present (ACTIVE)
Hydrofluoric Acid	7664-39-3	Present (ACTIVE)
Nitric Acid	7697-37-2	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)
Potassium Nitrate	7757-79-1	Present (ACTIVE)
Silver Nitrate	7761-88-8	Present (ACTIVE)
Arsenic Acid	7778-39-4	Present (ACTIVE)
Zinc Nitrate	7779-88-6	Present (ACTIVE)
Selenous Acid	7783-00-8	Present (ACTIVE)
Ammonium Metavanadate	7803-55-6	Present (ACTIVE)

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Classified According to OSHA Hazard Communication Standard (HCS 2024)

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
Strontium Nitrate	10042-76-9	EINECS	233-131-9
Boric Acid	10043-35-3	EINECS	233-139-2
Lead Nitrate	10099-74-8	EINECS	233-245-9
Thallium (I) Nitrate	10102-45-1	EINECS	233-273-1
Calcium Nitrate	10124-37-5	EINECS	233-332-1
Cobalt (II) Nitrate	10141-05-6	EINECS	233-402-1
Cadmium Nitrate	10325-94-7	EINECS	233-710-6
Magnesium Nitrate	10377-60-3	EINECS	233-826-7
Manganese Nitrate	10377-66-9	EINECS	233-828-8
Ferric Nitrate	10421-48-4	EINECS	233-899-5
Nickel (II) Nitrate	13138-45-9	EINECS	236-068-5
Aluminum Nitrate	13473-90-0	EINECS	236-751-8
Chromium (III) Nitrate	13548-38-4	EINECS	236-921-1
Beryllium Nitrate	13597-99-4	EINECS	237-062-5
Ammonium Hexafluorosilicate (IV)	16919-19-0	EINECS	240-968-3
Fluoroantimonic Acid	16950-06-4	EINECS	241-023-8
Ammonium Hexafluorotitanate	16962-40-6	EINECS	241-036-9
Cupric Nitrate	3251-23-8	EINECS	221-838-5
Sodium Nitrate	7631-99-4	EINECS	231-554-3
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
Potassium Nitrate	7757-79-1	EINECS	231-818-8
Silver Nitrate	7761-88-8	EINECS	231-853-9
Arsenic Acid	7778-39-4	EINECS	231-901-9
Zinc Nitrate	7779-88-6	EINECS	231-943-8
Selenous Acid	7783-00-8	EINECS	231-974-7
Ammonium Metavanadate	7803-55-6	EINECS	232-261-3

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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]
Strontium Nitrate	10042-76-9	Present [35630]
Boric Acid	10043-35-3	Present [25550]
Lead Nitrate	10099-74-8	Present [35618]
Thallium (I) Nitrate	10102-45-1	Present [35642]
Calcium Nitrate	10124-37-5	Present [35587]
Cobalt (II) Nitrate	10141-05-6	Present [35594]
Cadmium Nitrate	10325-94-7	Present [35589]
Magnesium Nitrate	10377-60-3	Present [35608]
Manganese Nitrate	10377-66-9	Present [35610]
Ferric Nitrate	10421-48-4	Present [35632]
Nickel (II) Nitrate	13138-45-9	Present [35614]
Aluminum Nitrate	13473-90-0	Present [35607]
Chromium (III) Nitrate	13548-38-4	Present [35591]
Beryllium Nitrate	13597-99-4	Present [35616]
Ammonium Hexafluorosilicate (IV)	16919-19-0	Present [23294]
Ammonium Hexafluorotitanate	16962-40-6	Present [13288]
Cupric Nitrate	3251-23-8	Present [35633]
Sodium Nitrate	7631-99-4	Present [35612]
Hydrofluoric Acid	7664-39-3	Present [27221]
Nitric Acid	7697-37-2	Present [35578]
Water	7732-18-5	Present [32224]
Potassium Nitrate	7757-79-1	Present [35600]
Silver Nitrate	7761-88-8	Present [35648]
Arsenic Acid	7778-39-4	Present [29979]
Zinc Nitrate	7779-88-6	Present [35639]
Selenous Acid	7783-00-8	Present [36904]
Ammonium Metavanadate	7803-55-6	Present [12011]

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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]
Strontium Nitrate	10042-76-9	Annex 1	Present [KE-32235]
Boric Acid	10043-35-3	Annex 1	Present [KE-03499]
Lead Nitrate	10099-74-8	Annex 1	Present [KE-21907]
Lead Nitrate	10099-74-8	Annex 3	"Present (97-1-9)" As Lead compounds [RR-00630-4]
Thallium (I) Nitrate	10102-45-1	Annex 1	Present [KE-33727]
Calcium Nitrate	10124-37-5	Annex 1	Present [KE-04582]
Cobalt (II) Nitrate	10141-05-6	Annex 1	Present [KE-06102]
Cadmium Nitrate	10325-94-7	Annex 1	Present [KE-04416]
Cadmium Nitrate	10325-94-7	Annex 3	"Present (97-1-250)" As Cadmium compounds [RR-00559-4]
Magnesium Nitrate	10377-60-3	Annex 1	Present [KE-22725]
Manganese Nitrate	10377-66-9	Annex 1	Present [KE-23016]
Ferric Nitrate	10421-48-4	Annex 1	Present [KE-21136]
Nickel (II) Nitrate	13138-45-9	Annex 1	Present [KE-25844]
Aluminum Nitrate	13473-90-0	Annex 1	Present [KE-01007]
Chromium (III) Nitrate	13548-38-4	Annex 1	Present [KE-06019]
Beryllium Nitrate	13597-99-4	Annex 1	Present [KE-25914]
Ammonium Hexafluorosilicate (IV)	16919-19-0	Annex 1	Present [KE-01674]
Fluoroantimonic Acid	16950-06-4	Annex 3	"Present (97-1-176)" As Inorganic antimony compounds [RR-00554-9]
Ammonium Hexafluorotitanate	16962-40-6	Annex 1	Present [KE-01676]
Cupric Nitrate	3251-23-8	Annex 1	Present [KE-08929]
Cupric Nitrate	3251-23-8	Annex 2	"97-3-718 (1997-3-0718)" As Inorganic copper salts [RR-03690-8]
Sodium Nitrate	7631-99-4	Annex 1	Present [KE-31545]
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]
Potassium Nitrate	7757-79-1	Annex 1	Present [KE-29163]
Silver Nitrate	7761-88-8	Annex 1	Present [KE-31281]
Silver Nitrate	7761-88-8	Annex 3	"Present (97-1-92)" As Inorganic silver, salts [RR-04200-2]
Arsenic Acid	7778-39-4	Annex 1	Present [KE-01934]



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Arsenic Acid	7778-39-4	Annex 3	"Present (97-1-119)" As Arsenic compounds [RR-00625-7]
Zinc Nitrate	7779-88-6	Annex 1	Present [KE-35561]
Zinc Nitrate	7779-88-6	Annex 3	"Present (97-1-91)" As Inorganic zinc salts [RR-04199-6]
Selenous Acid	7783-00-8	Annex 1	Present [KE-30920]
Selenous Acid	7783-00-8	Annex 3	"Present (97-1-134)" As Selenium compounds [RR-00612-2]
Ammonium Metavanadate	7803-55-6	Annex 1	Present [KE-01756]

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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
Strontium Nitrate	10042-76-9	(1)-490
Boric Acid	10043-35-3	(1)-63
Lead Nitrate	10099-74-8	(1)-488
Thallium (I) Nitrate	10102-45-1	(1)-1170
Calcium Nitrate	10124-37-5	(1)-188
Cobalt (II) Nitrate	10141-05-6	(1)-266
Cadmium Nitrate	10325-94-7	(1)-201
Magnesium Nitrate	10377-60-3	(1)-464
Manganese Nitrate	10377-66-9	(1)-470
Ferric Nitrate	10421-48-4	(1)-355
Nickel (II) Nitrate	13138-45-9	(1)-485
Aluminum Nitrate	13473-90-0	(1)-20
Chromium (III) Nitrate	13548-38-4	(1)-281
Ammonium Hexafluorosilicate (IV)	16919-19-0	(1)-313
Ammonium Hexafluorotitanate	16962-40-6	(1)-1118
Cupric Nitrate	3251-23-8	(1)-296
Sodium Nitrate	7631-99-4	(1)-484
Hydrofluoric Acid	7664-39-3	(1)-306
Nitric Acid	7697-37-2	(1)-394
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Potassium Nitrate	7757-79-1	(1)-449
Silver Nitrate	7761-88-8	(1)-8
Arsenic Acid	7778-39-4	(1)-33
Zinc Nitrate	7779-88-6	(1)-491
Selenous Acid	7783-00-8	(1)-431
Ammonium Metavanadate	7803-55-6	(1)-407

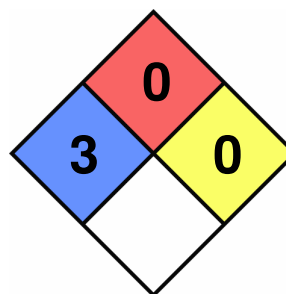
SECTION 16: Other Information

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

16.1 National Fire Protection Associate (NFPA) Rating

Health: 3
Flammability: 0
Reactivity 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
2026-05-22

DISCLAIMER

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