

SAFETY DATA SHEET

Preparation Date: 5/21/2014

Revision Date: 5/21/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: PM485
Product Name: PLASMA EMISSION STANDARD - ICP QUALITY CONTROL STANDARD, SOLUTION IV

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1

Label elements

Danger**Hazard statements**

Causes severe skin burns and eye damage

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see .? on this label)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Water 7732-18-5	7732-18-5	89.5-90.5	*
Nitric acid 7697-37-2	7697-37-2	9.5-10.5	*
Vanadium 7440-62-2	7440-62-2	0.01	*
Zinc 7440-66-6	7440-66-6	0.01	*
Silver nitrate 7761-88-8	7761-88-8	0.01	*
Selenium 7782-49-2	7782-49-2	0.01	*
Aluminum Nitrate, Nonahydrate 7784-27-2	7784-27-2	0.01	*

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chromium Nitrate nonahydrate 7789-02-8	7789-02-8	0.01	*
Potassium Carbonate, Anhydrous 584-08-7	584-08-7	0.01	*
Iron Metal 7439-89-6	7439-89-6	0.01	*
Lead 7439-92-1	7439-92-1	0.01	*
Barium Nitrate 10022-31-8	10022-31-8	0.01	*
Strontium Nitrate 10042-76-9	10042-76-9	0.01	*
Antimony Trioxide 1309-64-4	1309-64-4	0.01	*
Ammonium silicofluoride 16919-19-0	16919-19-0	0.01	*
Ammonium Hexafluorotitanate 16962-40-6	16962-40-6	0.01	*
Calcium Carbonate 471-34-1	471-34-1	0.01	*
Manganese Metal, powder 7439-96-5	7439-96-5	0.01	*
Nickel 7440-02-0	7440-02-0	0.01	*
Thallium 7440-28-0	7440-28-0	0.01	*
Arsenic 7440-38-2	7440-38-2	0.01	*
Sodium carbonate 497-19-8	497-19-8	0.00999	*
Ammonium Molybdate 13106-76-8	13106-76-8	0.00997	*
Boric Acid 10043-35-3	10043-35-3	0.0099	*
Beryllium 7440-41-7	7440-41-7	0.0099	*
Cadmium 7440-43-9	7440-43-9	0.0099	*
Cobalt 7440-48-4	7440-48-4	0.0099	*
Copper Metal 7440-50-8	7440-50-8	0.0099	*
Magnesium 7439-95-4	7439-95-4	0.0099	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.

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Eye Contact: Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Severe skin and eye irritation or burns. Dyspnea (Shortness of breath and difficulty breathing). Abdominal pain. Vomiting.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: No information available.

Specific hazards: No information available..

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk.

Methods for cleaning up Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Bases. Reducing agents. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Water - 7732-18-5	None	None	None	None
Nitric acid - 7697-37-2	2 ppm TWA 5 mg/m ³ TWA	2 ppm TWA 5 mg/m ³ TWA 4 ppm STEL 10 mg/m ³ STEL	4 ppm STEL 2 ppm TWA	No information available
Vanadium - 7440-62-2	= 0.1 mg/m ³ Ceiling = 0.5 mg/m ³ Ceiling	= 1 mg/m ³ TWA	None	None
Zinc - 7440-66-6	None	None	None	None
Silver nitrate - 7761-88-8	None	None	None	None
Selenium - 7782-49-2	None	= 0.2 mg/m ³ TWA	= 0.2 mg/m ³ TWA	None
Aluminum Nitrate, Nonahydrate - 7784-27-2	None	None	None	None
Chromium Nitrate nonahydrate - 7789-02-8	None	None	None	None

Potassium Carbonate, Anhydrous - 584-08-7	None	None	None	None
Iron Metal - 7439-89-6	None	None	None	None
Lead - 7439-92-1	50 µg/m³ TWA	0.050 mg/m³ TWA	0.05 mg/m³ TWA	None
Barium Nitrate - 10022-31-8	None	= 0.5 mg/m³ TWA Ba	None	None
Strontium Nitrate - 10042-76-9	None	None	None	None
Antimony Trioxide - 1309-64-4	None	None	None	None
Ammonium silicofluoride - 16919-19-0	None	None	None	None
Ammonium Hexafluorotitanate - 16962-40-6	None	None	None	None
Calcium Carbonate - 471-34-1	None	10 mg/m³ TWA 5 mg/m³ TWA	None	None
Manganese Metal, powder - 7439-96-5	5 mg/m³ Ceiling	1 mg/m³ TWA 3 mg/m³ STEL	0.02 mg/m³ TWA respirable fraction 0.1 mg/m³ TWA inhalable fraction	None
Nickel - 7440-02-0	1 mg/m³ TWA	0.015 mg/m³ TWA	1.5 mg/m³ TWA inhalable fraction	None
Thallium - 7440-28-0	None	None	= 0.1 mg/m³ TWA	None
Arsenic - 7440-38-2	None	0.002 mg/m³ Ceiling 15 min	0.01 mg/m³ TWA	None
Sodium carbonate - 497-19-8	None	None	None	None
Ammonium Molybdate - 13106-76-8	None	None	None	None
Boric Acid - 10043-35-3	None	None	= 6 mg/m³ STEL inhalable fraction	None
Beryllium - 7440-41-7	2 µg/m³ TWA 5 µg/m³ Ceiling	0.0005 mg/m³ Ceiling	0.00005 mg/m³ TWA inhalable fraction	None
Cadmium - 7440-43-9	= 0.1 mg/m³ TWA = 0.2 mg/m³ TWA = 5 µg/m³ TWA	None	= 0.002 mg/m³ TWA respirable fraction = 0.01 mg/m³ TWA	None
Cobalt - 7440-48-4	0.1 mg/m³ TWA	0.05 mg/m³ TWA	0.02 mg/m³ TWA	None
Copper Metal - 7440-50-8	= 0.1 mg/m³ TWA = 1 mg/m³ TWA	= 1 mg/m³ TWA	= 0.2 mg/m³ TWA fume = 1 mg/m³ TWA Cu dust and mist	None
Magnesium - 7439-95-4	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Water - 7732-18-5	None	None	None	None
Nitric acid - 7697-37-2	2 ppm TWA 5.2 mg/m³ TWA 4 ppm STEL 10 mg/m³ STEL	2 ppm TWA 4 ppm STEL	2 ppm TWA 4 ppm STEL	2 ppm TWA EV 5.2 mg/m³ TWA EV 4 ppm STEV 10 mg/m³ STEV
Vanadium - 7440-62-2	None	None	None	None
Zinc - 7440-66-6	None	None	None	None
Silver nitrate - 7761-88-8	None	None	None	None
Selenium - 7782-49-2	= 0.2 mg/m³ TWA	= 0.1 mg/m³ TWA	0.2 mg/m³ TWA	0.2 mg/m³ TWA EV
Aluminum Nitrate, Nonahydrate - 7784-27-2	None	None	None	None

Chromium Nitrate nonahydrate - 7789-02-8	None	None	None	None
Potassium Carbonate, Anhydrous - 584-08-7	None	None	None	None
Iron Metal - 7439-89-6	None	None	None	None
Lead - 7439-92-1	0.05 mg/m ³ TWA	0.05 mg/m ³ TWA	0.05 mg/m ³ TWA	0.05 mg/m ³ TWAEV
Barium Nitrate - 10022-31-8	None	None	None	None
Strontium Nitrate - 10042-76-9	None	None	None	None
Antimony Trioxide - 1309-64-4	None	None	None	0.5 mg/m ³ TWAEV Sb
Ammonium silicofluoride - 16919-19-0	None	None	None	None
Ammonium Hexafluorotitanate - 16962-40-6	None	None	None	None
Calcium Carbonate - 471-34-1	10 mg/m ³ TWA	None	None	10 mg/m ³ TWAEV total dust
Manganese Metal, powder - 7439-96-5	0.2 mg/m ³ TWA	0.2 mg/m ³ TWA	0.2 mg/m ³ TWA	0.2 mg/m ³ TWAEV total dust and fume
Nickel - 7440-02-0	1.5 mg/m ³ TWA	0.05 mg/m ³ TWA	1 mg/m ³ TWA inhalable	1 mg/m ³ TWAEV
Thallium - 7440-28-0	= 0.1 mg/m ³ TWA	= 0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWAEV
Arsenic - 7440-38-2	0.01 mg/m ³ TWA	0.01 mg/m ³ TWA	0.01 mg/m ³ TWA	0.1 mg/m ³ TWAEV
Sodium carbonate - 497-19-8	None	None	None	None
Ammonium Molybdate - 13106-76-8	None	None	None	None
Boric Acid - 10043-35-3	None	= 2 mg/m ³ TWA inhalable	2 mg/m ³ TWA inhalable Borate compounds, inorganic	None
Beryllium - 7440-41-7	0.002 mg/m ³ TWA 0.01 mg/m ³ STEL	0.002 mg/m ³ TWA 0.01 mg/m ³ STEL	0.002 mg/m ³ TWA	0.00015 mg/m ³ TWAEV
Cadmium - 7440-43-9	= 0.01 mg/m ³ TWA	= 0.002 mg/m ³ TWA respirable	0.01 mg/m ³ TWA 0.002 mg/m ³ TWA respirable	0.025 mg/m ³ TWAEV
Cobalt - 7440-48-4	0.02 mg/m ³ TWA	0.02 mg/m ³ TWA	0.02 mg/m ³ TWA	0.02 mg/m ³ TWAEV
Copper Metal - 7440-50-8	= 0.2 mg/m ³ TWA = 1 mg/m ³ TWA	= 1 mg/m ³ TWA dust and mist	0.2 mg/m ³ TWA fume 1 mg/m ³ TWA dust and mist	0.2 mg/m ³ TWAEV fume 1 mg/m ³ TWAEV dust and mist
Magnesium - 7439-95-4	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
Water 7732-18-5	None	None
Nitric acid 7697-37-2	4 ppm STEL 10 mg/m ³ STEL 2 ppm TWA 5.2 mg/m ³ TWA	2 ppm TWA 5 mg/m ³ TWA 4 ppm STEL 10 mg/m ³ STEL
Vanadium 7440-62-2	None	None
Zinc 7440-66-6	None	None
Silver nitrate 7761-88-8	None	None
Selenium 7782-49-2	0.1 mg/m ³ TWA	None

Aluminum Nitrate, Nonahydrate 7784-27-2	None	None
Chromium Nitrate nonahydrate 7789-02-8	None	None
Potassium Carbonate, Anhydrous 584-08-7	None	None
Iron Metal 7439-89-6	None	None
Lead 7439-92-1	0.15 mg/m ³ TWA	0.15 mg/m ³ TWA
Barium Nitrate 10022-31-8	None	None
Strontium Nitrate 10042-76-9	None	None
Antimony Trioxide 1309-64-4	probable carcinogen	0.5 mg/m ³ TWA 1 mg/m ³ TWA
Ammonium silicofluoride 16919-19-0	None	None
Ammonium Hexafluorotitanate 16962-40-6	None	None
Calcium Carbonate 471-34-1	10 mg/m ³ TWA	None
Manganese Metal, powder 7439-96-5	3 mg/m ³ STEL 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA 3 mg/m ³ STEL
Nickel 7440-02-0	1 mg/m ³ TWA	1 mg/m ³ TWA
Thallium 7440-28-0	None	None
Arsenic 7440-38-2	confirmed carcinogen	0.01 mg/m ³ TWA
Sodium carbonate 497-19-8	None	None
Ammonium Molybdate 13106-76-8	None	None
Boric Acid 10043-35-3	None	None
Beryllium 7440-41-7	probable carcinogen	0.002 mg/m ³ TWA
Cadmium 7440-43-9	probable carcinogen	= 0.002 mg/m ³ TWA = 0.01 mg/m ³ TWA
Cobalt 7440-48-4	0.05 mg/m ³ TWA	0.1 mg/m ³ TWA
Copper Metal 7440-50-8	0.2 mg/m ³ TWA 1 mg/m ³ TWA	= 0.2 mg/m ³ TWA = 1 mg/m ³ TWA
Magnesium 7439-95-4	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Face-shield.

Skin and body protection: Chemical resistant protective suit. Gloves. boots.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.	Appearance: No information available	Color: Colorless.
Odor: No information available	Taste No information available	Molecular/Formula weight: No information available
Flash point (°C): Not applicable	Flashpoint (°C/°F): The product is not flammable	Flash Point Tested according to: Not applicable
Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available	Autoignition Temperature (°C/°F): No information available
pH: No information available	Melting point/range(°C/°F): No information available	Boiling point/range(°C/°F): No information available
Decomposition temperature(°C/°F): No information available	Specific gravity: No information available	Density (g/cm3): No information available
Bulk density: No information available	Vapor pressure @ 20°C (kPa): No information available	Evaporation rate: No information available
Vapor density: No information available	VOC content (g/L): No information available	Odor threshold (ppm): No information available
Partition coefficient (n-octanol/water): No information available	Viscosity: No information available	Miscibility: No information available
Solubility: No information available		

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

Incompatible Materials: Bases. Reducing agents. Metals.

Hazardous decomposition products: Nitrogen oxides (NOx).

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Product code: PM485

Product name: PLASMA EMISSION
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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Inhalation. Ingestion.

Acute Toxicity

Component Information

Water - 7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Nitric acid - 7697-37-2

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 67 ppm Inhalation LC50 Rat 4 h
130 mg/m³ 4 h
7 mg/l 1 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = 430 mg/kg Oral LDL Rat

Vanadium - 7440-62-2

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Zinc - 7440-66-6

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Silver nitrate - 7761-88-8

LD50/oral/rat = 1173 mg/kg Oral LD50 Rat
LD50/oral/mouse = 50 mg/kg
LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 473 mg/kg LD50 Oral Guinea pig

Selenium - 7782-49-2

LD50/oral/rat = 6700 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Aluminum Nitrate, Nonahydrate - 7784-27-2

LD50/oral/rat = 3671 mg/kg Oral LD50 Rat
4280 mg/kg
LD50/oral/mouse = 3980 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Chromium Nitrate nonahydrate - 7789-02-8

LD50/oral/rat = 3250 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Potassium Carbonate, Anhydrous - 584-08-7

LD50/oral/rat = 1870 mg/kg Oral LD50 Rat
LD50/oral/mouse = 2570 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = 1.87 mg/kg Dermal LD50 Rat
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Iron Metal - 7439-89-6

LD50/oral/rat = 984 mg/kg Oral LD50 Rat (LOLI)
30000 mg/kg (RTECS)
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 20000 mg/kg Oral LD50 Guinea pig

Lead - 7439-92-1

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Barium Nitrate - 10022-31-8

LD50/oral/rat = = 355 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Strontium Nitrate - 10042-76-9

LD50/oral/rat = = 1892 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Antimony Trioxide - 1309-64-4

LD50/oral/rat = 34600 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Ammonium silicofluoride - 16919-19-0

LD50/oral/rat = No information available
LD50/oral/mouse = = 70 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Ammonium Hexafluorotitanate - 16962-40-6

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Calcium Carbonate - 471-34-1

LD50/oral/rat = 6450 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Manganese Metal, powder - 7439-96-5

LD50/oral/rat = 9000 mg/kg (RTECS)
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Nickel - 7440-02-0

LD50/oral/rat = >9000 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Thallium - 7440-28-0

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Arsenic - 7440-38-2

LD50/oral/rat = 15 mg/kg Oral LD50 Rat (LOLI)
763 mg/kg (RTECS)
LD50/oral/mouse = 145 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Sodium carbonate - 497-19-8

LD50/oral/rat = 4090 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 2300 mg/m³ Inhalation LC50 Rat 2 h

LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Ammonium Molybdate - 13106-76-8

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Boric Acid - 10043-35-3

LD50/oral/rat = = 2660 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = 2000 mg/kg Dermal LD50Rabbit
LD50/dermal/rat = No information available
LC50/inhalation/rat = 0.16 mg/L Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Beryllium - 7440-41-7

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Cadmium - 7440-43-9

LD50/oral/rat = = 2330 mg/kg Oral LD50 Rat (RTECS and EU Commission IUCLID dataset)
LD50/oral/mouse = 890 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 25 mg/m³ Inhalation LC50 Rat 30 min
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Cobalt - 7440-48-4

LD50/oral/rat = 6170 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 10 mg/L Inhalation LC50 Rat 1 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Copper Metal - 7440-50-8

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Magnesium - 7439-95-4

LD50/oral/rat = 230 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Severe skin irritation. Causes skin burns. May cause deep penetrating ulcers of the skin with a characteristic yellow to brownish discoloration.

Eye Contact: Severe eye irritation. Causes eye burns. May cause irreversible eye damage.

Inhalation Causes irritation and possible burns of the respiratory tract with burning pain in the nose and throat, coughing, sneezing, wheezing, shortness of breath and pulmonary edema. Other symptoms may include nausea, and vomiting.

Ingestion Causes serious gastrointestinal tract irritation or burns with nausea, vomiting, severe abdominal pain, and possible "coffee grounds" appearance of the vomitus. May cause perforation of the digestive tract..

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

Repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. It may also cause weight loss, and affect behavior/central nervous system (headache, dizziness, drowsiness, muscle contraction or spasticity, weakness, loss of coordination, mental confusion), and urinary system (kidney failure, decreased urinary output after several hours of uncorrected circulatory collapse).

Repeated exposure may cause discoloration and/or erosion of teeth (dental enamel).

Eye irritation and respiratory tract signs and symptoms resembling those of frequent upper respiratory viral infections have been associated with chronic nitric acid exposure.

Sensitization:

No information available

Mutagenic Effects:

No information available

Carcinogenic effects:

Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Nitric acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Vanadium	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Zinc	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Silver nitrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Selenium	Not listed	Group 3 - Supplement 7 [1987] Monograph 9 [1975] Supplement 7 [1987]	Not listed	Not listed	Not listed	Not listed
Aluminum Nitrate, Nonahydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Chromium Nitrate nonahydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium Carbonate, Anhydrous	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Iron Metal	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Lead	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Group 2B - Monograph 87 [2006] evaluates inorganic lead compounds as Group 2A and organic lead compounds as Group 3	Reasonably Anticipated To Be A Human Carcinogen	Present	Not listed	Not listed
Barium Nitrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Strontium Nitrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Antimony Trioxide	A2 Suspected Human Carcinogen	Group 2B - Monograph 47 [1989]	Not listed	Present	Not listed	Not listed
Ammonium silicofluoride	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonium Hexafluorotitanate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Calcium Carbonate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Manganese Metal, powder	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed	Not listed

Nickel	A5 Not Suspected as a Human Carcinogen	2B - Monograph 49 [1990] Supplement 7 [1987]	Reasonably Anticipated To Be A Human Carcinogen	Present	Not listed	Not listed
Thallium	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Arsenic	A1 Confirmed Human Carcinogen	Group 1 - Monograph 100C [2012] Monograph 84 [2004] in drinking water Supplement 7 [1987] Monograph 23 [1980]	Known Human Carcinogen Arsenic and Inorganic Arsenic Compounds	Present	Not listed	Not listed
Sodium carbonate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonium Molybdate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Boric Acid	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed	Not listed
Beryllium	A1 Confirmed Human Carcinogen	Group 1 - Monograph 100C [2012] Monograph 58 [1993] Supplement 7 [1987]	Known Human Carcinogen Beryllium and Beryllium Compounds	Present	Not listed	Not listed
Cadmium	A2 Suspected Human Carcinogen	Group 1 - Monograph 58 [1993] Supplement 7 [1987] Monograph 58 [1993]	Known Human Carcinogen	Present	Not listed	Not listed
Cobalt	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	IARC 2B - Monograph 86 [2006] without tungsten carbide Monograph 52 [1991] Monograph 86 [2006] without tungsten carbide	Not listed	Present	Not listed	Not listed
Copper Metal	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Magnesium	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity

No data is available

Reproductive Effects:
Developmental Effects:
Teratogenic Effects:

No information available
 May cause developmental effects based on animal data.
 No information available

Specific Target Organ Toxicity

STOT - single exposure
STOT - repeated exposure
Target Organs:

No information available
 No information available
 Skin. Eyes. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product code: PM485

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12. ECOLOGICAL INFORMATION

Ecotoxicity effects: Aquatic environment.

Zinc - 7440-66-6

Freshwater Algae Data: 0.09 - 0.125 mg/L EC50 Pseudokirchneriella subcapitata 72 h
0.11 - 0.271 mg/L EC50 Pseudokirchneriella subcapitata 96 h

Freshwater Fish Species Data: 0.24 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
0.45 mg/L LC50 Cyprinus carpio 96 h semi-static 1
3.5 mg/L LC50 Lepomis macrochirus 96 h static 1
0.211-0.269 mg/L LC50 Pimephales promelas 96 h semi-static 1
2.16-3.05 mg/L LC50 Pimephales promelas 96 h flow-through 1
0.41 mg/L LC50 Oncorhynchus mykiss 96 h static 1
7.8 mg/L LC50 Cyprinus carpio 96 h static 1
0.59 mg/L LC50 Oncorhynchus mykiss 96 h semi-static 1
2.66 mg/L LC50 Pimephales promelas 96 h static 1
30 mg/L LC50 Cyprinus carpio 96 h 1

Water Flea Data: 0.139 - 0.908 mg/L EC50 Daphnia magna 48 h

Silver nitrate - 7761-88-8

Freshwater Fish Species Data: 0.00181-0.00214 mg/L LC50 Pimephales promelas 96 h static 1
0.0064-0.0106 mg/L LC50 Pimephales promelas 96 h semi-static 1
0.001339-0.001637 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
0.009-0.02 mg/L LC50 Lepomis macrochirus 96 h flow-through 1
0.0242-0.0484 mg/L LC50 Lepomis macrochirus 96 h semi-static 1
0.0075 mg/L LC50 Oncorhynchus mykiss 96 h semi-static 1
0.00452-0.00638 mg/L LC50 Pimephales promelas 96 h flow-through 1
0.00512-0.00787 mg/L LC50 Poecilia reticulata 96 h semi-static 1
0.00839-0.1802 mg/L LC50 Oncorhynchus mykiss 96 h static 1
0.009 mg/L LC50 Pimephales promelas 96 h 1
0.05-0.07 mg/L LC50 Lepomis macrochirus 96 h static 1
0.0027 mg/L LC50 Cyprinus carpio 96 h semi-static 1

Water Flea Data: 0.0008 - 0.0011 mg/L EC50 Daphnia magna 48 h
0.0006 mg/L EC50 Daphnia magna 48 h
0.0008 - 0.001 mg/L EC50 Daphnia magna 48 h

Iron Metal - 7439-89-6

Freshwater Fish Species Data: 13.6 mg/L LC50 Morone saxatilis 96 h static 1
0.56 mg/L LC50 Cyprinus carpio 96 h semi-static 1

Lead - 7439-92-1

Freshwater Fish Species Data: 0.44 mg/L LC50 Cyprinus carpio 96 h semi-static 1
1.17 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
1.32 mg/L LC50 Oncorhynchus mykiss 96 h static 1

Water Flea Data: 600 µg/L EC50 water flea 48 h

Antimony Trioxide - 1309-64-4

Freshwater Algae Data: 0.63 - 0.8 mg/L EC50 Pseudokirchneriella subcapitata 72 h
0.65 - 0.81 mg/L EC50 Pseudokirchneriella subcapitata 96 h

Freshwater Fish Species Data: 1000 mg/L LC50 Brachydanio rerio 96 h static 1
80 mg/L LC50 Pimephales promelas 96 h static 1

Water Flea Data: 361.5 - 496.0 mg/L EC50 Daphnia magna 48 h
1000 mg/L EC50 Daphnia magna 48 h

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Zinc - 7440-66-6

Ammonium silicofluoride - 16919-19-0

Freshwater Fish Species Data: 25.8 mg/L LC50 Pimephales promelas 96 h static 1

Nickel - 7440-02-0

Freshwater Algae Data: 0.174 - 0.311 mg/L EC50 Pseudokirchneriella subcapitata 96 h
0.18 mg/L EC50 Pseudokirchneriella subcapitata 72 h

Freshwater Fish Species Data: 1.3 mg/L LC50 Cyprinus carpio 96 h semi-static 1
10.4 mg/L LC50 Cyprinus carpio 96 h static 1
100 mg/L LC50 Brachydanio rerio 96 h 1

Water Flea Data: 1 mg/L EC50 Daphnia magna 48 h
100 mg/L EC50 Daphnia magna 48 h

Sodium carbonate - 497-19-8

Freshwater Algae Data: 242 mg/L EC50 Nitzschia 120 h

Freshwater Fish Species Data: 310 - 1220 mg/L LC50 Pimephales promelas 96 h static 1
300 mg/L LC50 Lepomis macrochirus 96 h static 1

Water Flea Data: 265 mg/L EC50 Daphnia magna 48 h

Boric Acid - 10043-35-3

Freshwater Fish Species Data: 1020 mg/L LC50 Carassius auratus 72 h flow-through 1

Water Flea Data: 115 - 153 mg/L EC50 Daphnia magna 48 h

Cadmium - 7440-43-9

Freshwater Fish Species Data: 0.003 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
0.006 mg/L LC50 Oncorhynchus mykiss 96 h static 1
0.0004-0.003 mg/L LC50 Pimephales promelas 96 h 1
0.016 mg/L LC50 Oryzias latipes 96 h 1
4.26 mg/L LC50 Cyprinus carpio 96 h semi-static 1
21.1 mg/L LC50 Lepomis macrochirus 96 h flow-through 1
0.002 mg/L LC50 Cyprinus carpio 96 h 1
0.24 mg/L LC50 Cyprinus carpio 96 h static 1

Water Flea Data: 0.0244 mg/L EC50 Daphnia magna 48 h

Cobalt - 7440-48-4

Freshwater Fish Species Data: 100 mg/L LC50 Brachydanio rerio 96 h static 1

Copper Metal - 7440-50-8

Freshwater Algae Data: 0.031 - 0.054 mg/L EC50 Pseudokirchneriella subcapitata 96 h
0.0426 - 0.0535 mg/L EC50 Pseudokirchneriella subcapitata 72 h

Freshwater Fish Species Data: 0.0068 - 0.0156 mg/L LC50 Pimephales promelas 96 h 1
0.112 mg/L LC50 Poecilia reticulata 96 h flow-through 1
0.3 mg/L LC50 Pimephales promelas 96 h static 1
0.2 mg/L LC50 Pimephales promelas 96 h flow-through 1
0.8 mg/L LC50 Cyprinus carpio 96 h static 1
1.25 mg/L LC50 Lepomis macrochirus 96 h static 1
0.052 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
0.3 mg/L LC50 Cyprinus carpio 96 h semi-static 1

Water Flea Data: 0.03 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

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Mobility:

No information available

13. DISPOSAL CONSIDERATIONS**Disposal Methods****Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	None	None	None	None
Nitric acid	None	None	None	None
Vanadium	None	None	None	None
Zinc	None	None	None	None
Silver nitrate	None	None	None	None
Selenium	None	None	None	None
Aluminum Nitrate, Nonahydrate	None	None	None	None
Chromium Nitrate nonahydrate	None	None	None	None
Potassium Carbonate, Anhydrous	None	None	None	None
Iron Metal	None	None	None	None
Lead	None	None	None	None
Barium Nitrate	None	None	None	None
Strontium Nitrate	None	None	None	None
Antimony Trioxide	None	None	None	None
Ammonium silicofluoride	None	None	None	None
Ammonium Hexafluorotitanate	None	None	None	None
Calcium Carbonate	None	None	None	None
Manganese Metal, powder	None	None	None	None
Nickel	None	None	None	None
Thallium	None	None	None	None
Arsenic	None	None	None	None
Sodium carbonate	None	None	None	None
Ammonium Molybdate	None	None	None	None
Boric Acid	None	None	None	None
Beryllium	None	None	P015 powder	None
Cadmium	None	None	None	None
Cobalt	None	None	None	None
Copper Metal	None	None	None	None
Magnesium	None	None	None	None

14. TRANSPORT INFORMATION**DOT**

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: Not applicable
Packing Group: II
Marine Pollutant: No data available
ERG No: 157
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: UN2031

Product code: PM485

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14. TRANSPORT INFORMATION

Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

ADR

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: 8
Packing Group: II
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

IATA

UN-No: UN2031
Proper Shipping Name: Nitric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 8L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Water</i>	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
<i>Nitric acid</i>	Present	Present KE-25911	Present	Present (1)-394	Present	Present	Present 231-714-2
<i>Vanadium</i>	Present	Present KE-35266	Present	Not present	Present	Present	Present 231-171-1
<i>Zinc</i>	Present	Present KE-35518	Present	Not present	Present	Present	Present 231-175-3
<i>Silver nitrate</i>	Present	Present KE-31281	Present	Present (1)-8	Present	Present	Present 231-853-9
<i>Selenium</i>	Present	Present KE-30924	Present	Not present	Present	Present	Present 231-957-4
<i>Aluminum Nitrate, Nonahydrate</i>	Not Listed	Not present	Present	Present (1)-20	Present	Present	Not present
<i>Chromium Nitrate nonahydrate</i>	Not Listed	Not present	Not present	Present (1)-281	Present	Present	Not present
<i>Potassium Carbonate, Anhydrous</i>	Present	Present KE-29083	Present	Present (1)-153	Present	Present	Present 209-529-3
<i>Iron Metal</i>	Present	Present KE-21059	Present	Not present	Present	Present	Present 231-096-4
<i>Lead</i>	Present	Present KE-21887	Present	Present (1)-527	Present	Present	Present 231-100-4
<i>Barium Nitrate</i>	Present	Present KE-02070	Present	Present (1)-86	Present	Present	Present 233-020-5
<i>Strontium Nitrate</i>	Present	Present KE-32235	Present	Present (1)-490	Present	Present	Present 233-131-9
<i>Antimony Trioxide</i>	Present	Present KE-09846	Present	Present (1)-543	Present	Present	Present 215-175-0
<i>Ammonium silicofluoride</i>	Present	Present KE-01674	Present	Present (1)-313	Present	Present	Present 240-968-3
<i>Ammonium Hexafluorotitanate</i>	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present
<i>Calcium Carbonate</i>	Present	Present KE-04487	Present	Present (1)-122	Present	Present	Present 207-439-9
<i>Manganese Metal, powder</i>	Present	Present KE-22999	Present	Not present	Present	Present	Present 231-105-1
<i>Nickel</i>	Present	Present KE-25818	Present	Not present	Present	Present	Present 231-111-4
<i>Thallium</i>	Present	Present KE-33716	Present	Not present	Present	Present	Present 231-138-1
<i>Arsenic</i>	Present	Present KE-01933	Present	Not present	Present	Present	Present 231-148-6
<i>Sodium carbonate</i>	Present	Present KE-31380	Present	Present (1)-164	Present	Present	Present 207-838-8
<i>Ammonium Molybdate</i>	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present
<i>Boric Acid</i>	Present	Present KE-03499	Present	Present (1)-63	Present	Present	Present 233-139-2
<i>Beryllium</i>	Present	Present KE-02829	Present	Not present	Present	Present	Present 231-150-7
<i>Cadmium</i>	Present	Present KE-04397	Present	Not present	Present	Present	Present 231-152-8
<i>Cobalt</i>	Present	Present KE-06060	Present	Not present	Present	Present	Present 231-158-0
<i>Copper Metal</i>	Present	Present KE-08896	Present	Not present	Present	Present	Present 231-159-6
<i>Magnesium</i>	Present	Present KE-22673	Present	Not present	Present	Present	Present 231-104-6

U.S. Regulations

Nitric acid

Massachusetts RTK: Present

Massachusetts EHS: extraordinarily hazardous

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Nitric acid

New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
New Jersey TCPA - EHS: 15000lbTQ
450lbTQ
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Michigan PSM HHC: = 500 lb TQ 94.5% by weight or greater
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
1000 lb RQ
100 lb RQ
Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
454kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period
100lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere
California Directors List of Hazardous Substances: Present

Vanadium

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
California Directors List of Hazardous Substances: Present

Zinc

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
RI RTK - Hazardous Substances List: Present
Michigan - Critical Materials List: Present
New York Release Reporting - List of Hazardous Substances:
1000 lb RQ
100 lb RQ
Louisiana Reportable Quantity List for Pollutants: Listed
California Directors List of Hazardous Substances: Present

Silver nitrate

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
RI RTK - Hazardous Substances List: Present
New York Release Reporting - List of Hazardous Substances:
= 1 lb RQ
Louisiana Reportable Quantity List for Pollutants: Listed
California Directors List of Hazardous Substances: Present

Selenium

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
RI RTK - Hazardous Substances List: Present
Michigan - Critical Materials List: Present

Nitric acid

New York Release Reporting - List of Hazardous Substances:

= 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

Potassium Carbonate, Anhydrous

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1619

Iron Metal

California Directors List of Hazardous Substances: Present

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1375

Lead

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

10 lb RQ

Louisiana Reportable Quantity List for Pollutants: 10lbfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

4.54kgfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

California Directors List of Hazardous Substances: Present

Barium Nitrate

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Strontium Nitrate

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

Pennsylvania RTK: Present

RI RTK - Hazardous Substances List: Present

Antimony Trioxide

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

RI RTK - Hazardous Substances List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

1000 lb RQ

100 lb RQ

Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQ

454kgfinal RQ

California Directors List of Hazardous Substances: Present

Ammonium silicofluoride

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

New York Release Reporting - List of Hazardous Substances:

= 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

Calcium Carbonate

Nitric acid

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1191

Manganese Metal, powder

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

RI RTK - Hazardous Substances List: Present

Minnesota - Hazardous Substance List: Present

Louisiana Reportable Quantity List for Pollutants: 100lbRQno reporting required if diameter of solid metal pieces released is $\geq 100 \mu\text{m}$

California Directors List of Hazardous Substances: Present

Nickel

Massachusetts RTK: Present

Massachusetts EHS: carcinogen; extraordinarily hazardous

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Special hazardous substance

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

100 lb RQ

Louisiana Reportable Quantity List for Pollutants: 100lbfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

45.4kgfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

California Directors List of Hazardous Substances: Present

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1537

Thallium

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

New York Release Reporting - List of Hazardous Substances:

= 100 lb RQ

= 1000 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

Arsenic

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Special hazardous substance

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

1 lb RQ

10 lb RQ

Connecticut - Carcinogenic Substances: Present

Nitric acid

Louisana Reportable Quantity List for Pollutants: 1lbfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$
0.454kgfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

California Directors List of Hazardous Substances: Present

Sodium carbonate

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1742

Beryllium

Massachusetts RTK: Present

Massachusetts EHS: carcinogen; extraordinarily hazardous

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Special hazardous substance

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

10 lb RQ

Louisana Reportable Quantity List for Pollutants: 10lbfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

4.54kgfinal RQno reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is $\geq 100 \mu\text{m}$

California Directors List of Hazardous Substances: Present

Cadmium

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Special hazardous substance

Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

= 1 lb RQ

Louisana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

Cobalt

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Minnesota - Hazardous Substance List: Present

California Directors List of Hazardous Substances: Present

Copper Metal

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

New Jersey (EHS) List: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

RI RTK - Hazardous Substances List: Present

Michigan - Critical Materials List: Present

Minnesota - Hazardous Substance List: Present

Nitric acid

New York Release Reporting - List of Hazardous Substances:

= 5000 lb RQ

= 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present

Magnesium

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: Present

Pennsylvania RTK: Present

RI RTK - Hazardous Substances List: Present

California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Water	Not Listed	Not Listed	Not Listed	Not Listed
Nitric acid	Not Listed	Not Listed	Not Listed	Not Listed
Vanadium	Not Listed	Not Listed	Not Listed	Not Listed
Zinc	Not Listed	Not Listed	Not Listed	Not Listed
Silver nitrate	Not Listed	Not Listed	Not Listed	Not Listed
Selenium	Not Listed	Not Listed	Not Listed	Not Listed
Aluminum Nitrate, Nonahydrate	Not Listed	Not Listed	Not Listed	Not Listed
Chromium Nitrate nonahydrate	Not Listed	Not Listed	Not Listed	Not Listed
Potassium Carbonate, Anhydrous	Not Listed	Not Listed	Not Listed	Not Listed
Iron Metal	Not Listed	Not Listed	Not Listed	Not Listed
Lead	carcinogen	developmental toxicity	male reproductive toxicity	female reproductive toxicity
Barium Nitrate	Not Listed	Not Listed	Not Listed	Not Listed
Strontium Nitrate	Not Listed	Not Listed	Not Listed	Not Listed
Antimony Trioxide	carcinogen	Not Listed	Not Listed	Not Listed
Ammonium silicofluoride	Not Listed	Not Listed	Not Listed	Not Listed
Ammonium Hexafluorotitanate	Not Listed	Not Listed	Not Listed	Not Listed
Calcium Carbonate	Not Listed	Not Listed	Not Listed	Not Listed
Manganese Metal, powder	Not Listed	Not Listed	Not Listed	Not Listed
Nickel	carcinogen	Not Listed	Not Listed	Not Listed
Thallium	Not Listed	Not Listed	Not Listed	Not Listed
Arsenic	Not Listed	Not Listed	Not Listed	Not Listed
Sodium carbonate	Not Listed	Not Listed	Not Listed	Not Listed
Ammonium Molybdate	Not Listed	Not Listed	Not Listed	Not Listed
Boric Acid	Not Listed	Not Listed	Not Listed	Not Listed
Beryllium	carcinogen	Not Listed	Not Listed	Not Listed
Cadmium	carcinogen	developmental toxicity	male reproductive toxicity	Not Listed
Cobalt	carcinogen	Not Listed	Not Listed	Not Listed
Copper Metal	Not Listed	Not Listed	Not Listed	Not Listed
Magnesium	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Water	None	None	None	None	None
Nitric acid	1000 lb final RQ 454 kg final RQ	1000 lb TPQ	None	None	1.0 % de minimis concentration
Vanadium	None	None	None	None	= 1.0 % de minimis concentration
Zinc	454 kg final RQ 1000 lb final RQ	None	None	None	1.0 % de minimis concentration
Silver nitrate	= 0.454 kg final RQ	None	None	None	None

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Selenium	= 100 lb final RQ = 45.4 kg final RQ	None	None	None	= 1.0 % de minimis concentration
Aluminum Nitrate, Nonahydrate	None	None	None	None	None
Chromium Nitrate nonahydrate	None	None	None	None	None
Potassium Carbonate, Anhydrous	None	None	None	None	None
Iron Metal	None	None	None	None	None
Lead	10 lb final RQ 4.54 kg final RQ	None	None	None	0.1 % Supplier notification limit 0.1 % de minimis concentration
Barium Nitrate	None	None	None	None	None
Strontium Nitrate	None	None	None	None	None
Antimony Trioxide	1000 lb final RQ 454 kg final RQ	None	None	None	None
Ammonium silicofluoride	= 1000 lb final RQ	None	None	None	None
Ammonium Hexafluorotitanate	None	None	None	None	None
Calcium Carbonate	None	None	None	None	None
Manganese Metal, powder	None	None	None	None	1.0 % de minimis concentration
Nickel	100 lb final RQ 45.4 kg final RQ	None	None	None	0.1 % de minimis concentration
Thallium	= 1000 lb final RQ = 454 kg final RQ	None	None	None	= 1.0 % de minimis concentration
Arsenic	1 lb final RQ 0.454 kg final RQ	None	None	None	0.1 % de minimis concentration
Sodium carbonate	None	None	None	None	None
Ammonium Molybdate	None	None	None	None	None
Boric Acid	None	None	None	None	None
Beryllium	10 lb final RQ 4.54 kg final RQ	None	None	None	0.1 % de minimis concentration
Cadmium	= 10 lb final RQ	None	None	None	= 0.1 % de minimis concentration
Cobalt	None	None	None	None	0.1 % de minimis concentration
Copper Metal	= 2270 kg final RQ	None	None	None	= 1.0 % de minimis concentration
Magnesium	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	Not Applicable	Not Applicable
Nitric acid	Not Applicable	Not Applicable
Vanadium	Not Applicable	Not Applicable
Zinc	Not Applicable	Not Applicable
Silver nitrate	Not Applicable	Not Applicable
Selenium	Not Applicable	Not Applicable
Aluminum Nitrate, Nonahydrate	Not Applicable	Not Applicable
Chromium Nitrate nonahydrate	Not Applicable	Not Applicable
Potassium Carbonate, Anhydrous	Not Applicable	Not Applicable
Iron Metal	Not Applicable	Not Applicable
Lead	Not Applicable	Effective 2/28/08, Sunset 4/28/08 reporting requirements apply only to manufacturers and importers of consumer products intended for use by children who also manufacture or import Lead or Lead compounds
Barium Nitrate	Not Applicable	Not Applicable
Strontium Nitrate	Not Applicable	Not Applicable
Antimony Trioxide	Not Applicable	10/04/1982 10/04/1992
Ammonium silicofluoride	Not Applicable	Not Applicable

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Ammonium Hexafluorotitanate</i>	Not Applicable	Not Applicable
<i>Calcium Carbonate</i>	Not Applicable	Not Applicable
<i>Manganese Metal, powder</i>	Not Applicable	Not Applicable
<i>Nickel</i>	Not Applicable	Not Applicable
<i>Thallium</i>	Not Applicable	06/01/1987 06/01/1997
<i>Arsenic</i>	Not Applicable	Not Applicable
<i>Sodium carbonate</i>	Not Applicable	Not Applicable
<i>Ammonium Molybdate</i>	Not Applicable	Not Applicable
<i>Boric Acid</i>	Not Applicable	Not Applicable
<i>Beryllium</i>	Not Applicable	Not Applicable
<i>Cadmium</i>	Not Applicable	Not Applicable
<i>Cobalt</i>	Not Applicable	06/01/1987 06/01/1997
<i>Copper Metal</i>	Not Applicable	Not Applicable
<i>Magnesium</i>	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

E Corrosive material

Water

Uncontrolled product according to WHMIS classification criteria

Nitric acid

C E including 61.3%, 67.18%, 70%

E 0.63%, 6.3%

Silver nitrate

C E

E 1.7%, 3.4%

C E

Selenium

Uncontrolled product according to WHMIS classification criteria including amorphous and crystalline

Aluminum Nitrate, Nonahydrate

C D2B

Chromium Nitrate nonahydrate

C

Potassium Carbonate, Anhydrous

D2B E

Iron Metal

Uncontrolled product according to WHMIS classification criteria

Lead

D2A

Barium Nitrate

C D1A D2B

Antimony Trioxide

D2A

Ammonium silicofluoride

D1B D2A

Calcium Carbonate

Uncontrolled product according to WHMIS classification criteria

Manganese Metal, powder

D2A including powder

Nickel

D2A D2B

B6 D2A Raney

Arsenic

D1A D2A

Sodium carbonate

D2B E

Boric Acid

D2A

Water**Beryllium**

D2A D2B
B4 D1A D2A D2B powder

Cadmium

D1A D2A

Cobalt

D2A D2B

Copper Metal

Uncontrolled product according to WHMIS classification criteria

Magnesium

B4 B6

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Nitric acid	1 %
Vanadium	1 %
Silver nitrate	1 %
Selenium	0.1 %
Potassium Carbonate, Anhydrous	1 %
Lead	0.1 %
Barium Nitrate	1 %
Antimony Trioxide	1 %
Manganese Metal, powder	1 %
Nickel	0.1 %
Thallium	1 %
Arsenic	0.1 %
Sodium carbonate	1 %
Boric Acid	1 %
Beryllium	0.1 %
Cadmium	0.1 %
Cobalt	0.1 %
Copper Metal	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Water	Present	Not Listed
Nitric acid	Present	Not Listed
Vanadium	Present	Not Listed
Zinc	Present	Not Listed
Silver nitrate	Present	Not Listed
Selenium	Present	Not Listed
Aluminum Nitrate, Nonahydrate	Not Listed	Not Listed
Chromium Nitrate nonahydrate	Not Listed	Not Listed
Potassium Carbonate, Anhydrous	Present	Not Listed
Iron Metal	Present	Not Listed
Lead	Present	Not Listed
Barium Nitrate	Present	Not Listed
Strontium Nitrate	Present	Not Listed
Antimony Trioxide	Present	Not Listed
Ammonium silicofluoride	Present	Not Listed
Ammonium Hexafluorotitanate	Not Listed	Not Listed
Calcium Carbonate	Present	Not Listed
Manganese Metal, powder	Present	Not Listed
Nickel	Present	Not Listed
Thallium	Present	Not Listed
Arsenic	Present	Not Listed
Sodium carbonate	Present	Not Listed
Ammonium Molybdate	Not Listed	Not Listed
Boric Acid	Present	Not Listed

Beryllium	Present	Not Listed
Cadmium	Present	Not Listed
Cobalt	Present	Not Listed
Copper Metal	Present	Not Listed
Magnesium	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	Not listed	Not listed
Nitric acid	Not listed	Not listed
Vanadium	Not listed	Not listed
Zinc	Not listed	Not listed
Silver nitrate	Not listed	Not listed
Selenium	Not listed	Not listed
Aluminum Nitrate, Nonahydrate	Not listed	Not listed
Chromium Nitrate nonahydrate	Not listed	Not listed
Potassium Carbonate, Anhydrous	Not listed	Not listed
Iron Metal	Not listed	Not listed
Lead	Present	Not listed
Barium Nitrate	Not listed	Not listed
Strontium Nitrate	Not listed	Not listed
Antimony Trioxide	Not listed	Not listed
Ammonium silicofluoride	Not listed	Not listed
Ammonium Hexafluorotitanate	Not listed	Not listed
Calcium Carbonate	Not listed	Not listed
Manganese Metal, powder	Not listed	Not listed
Nickel	Not listed	Not listed
Thallium	Not listed	Not listed
Arsenic	Not listed	Not listed
Sodium carbonate	Not listed	Not listed
Ammonium Molybdate	Not listed	Not listed
Boric Acid	Not listed	Not listed
Beryllium	Not listed	Not listed
Cadmium	Not listed	Not listed
Cobalt	Not listed	Not listed
Copper Metal	Not listed	Not listed
Magnesium	Not listed	Not listed

EU Classification

R-phrase(s)

R34 - Causes burns.

S-phrase(s)

S23 - Do not breathe gas/fumes/vapor/spray.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 - Wear suitable protective clothing.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 1/2 - Keep locked up and out of the reach of children.

Components	Classification	Concentration Limits:	Safety Phrases
Water		No information	
Nitric acid	C;R35 O;R8	20%≤C C;R35 5%≤C<20% C;R34 70%≤C O;R8	S(1/2)-S23-S26-S36-S45
Vanadium		No information	
Zinc	F;R15-17	No information	

Silver nitrate	C;R34 N;R50-53	No information	S(1/2)-S26-S45-S60-S61
Selenium	R33 R53 T;R23/25	No information	S(1/2)-S20/21-S28-S45
Aluminum Nitrate, Nonahydrate		No information	
Chromium Nitrate nonahydrate		No information	
Potassium Carbonate, Anhydrous		No information	
Iron Metal		No information	
Lead	N;R50-53 NE R33 Repr. Cat.1;R61 Repr. Cat.3;R62 Xn;R20/22	0.5%<=C<1% T;R61-33 1%<=C<5% T;R61-20/22-33 5%<=C T;R61-20/22-33-62	S53-S45-S60-S61
Barium Nitrate		No information	
Strontium Nitrate		No information	
Antimony Trioxide	Carc.Cat.3; R40	No information	S2 S22 S36/37
Ammonium silicofluoride	T;R23/24/25	1%<=C<10% Xn;R20/21/22 10%<=C T;R23/24/25	S(1/2)-S26-S45
Ammonium Hexafluorotitanate		No information	
Calcium Carbonate		No information	
Manganese Metal, powder		No information	
Nickel	Carc. Cat.3;R40 R43	No information	S2 S36/37/39 S45
Thallium	R33 R53 T+;R26/28	No information	S1/2 S13 S28 S45 S61
Arsenic	T; R23/25 N; R50-53	No information	S1/2 S20/21 S28 S45 S60 S61
Sodium carbonate	Xi;R36	No information	S2 S22 S26
Ammonium Molybdate		No information	
Boric Acid	Repr.Cat.2; R60-61	No information	S53 S45
Beryllium	Carc. Cat.2;R49 R43 T+;R26 T;R25-48/23 Xi;R36/37/38	No information	S53-S45
Cadmium	T+; R26 Carc.Cat.2; R45 T; R48/23/25 N; R50-53 Repr.Cat.3; R62-63 Muta.Cat.3; R68	No information	S53 S45 S60 S61
Cobalt	R42/43 R53	No information	S(2)-S22-S24-S37
Copper Metal		No information	

Magnesium	F;R15-17	No information	S(2)-S7/8-S43
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The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive.



16. OTHER INFORMATION

16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	3
Fire Hazard	0
Reactivity	0



See Section 8.

Preparation Date: 5/21/2014
Revision Date: 5/21/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet