

1. IDENTIFICATION

Product identifier **Product Name** WS Metals QC
Standard

Other means of identification

Product Code PEI-016-1,2
UNID no. 2031
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use For Laboratory Use Only.
Uses advised against No information available

Details of the supplier of the safety data sheet

Emergency telephone number

Company Phone Number 800-234-7837
FAX 919-789-3019
Website www.nsilabsolutions.com
E-mail address nsi@nsilabsolutions.com
Emergency Telephone 919-349-7322

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

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

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

H332: Harmful if inhaled
 H314: Causes severe skin burns and eye damage



Appearance Clear / Colorless to light yellow

Physical state Liquid

Odor Odorless

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

Specific treatment (see supplemental first aid 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

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

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

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

Hazards not otherwise classified (HNOC) Not applicable

Other Information

H411: Toxic to aquatic life with long lasting effects H402: Harmful to aquatic life

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	94-99
Nitric acid	7697-37-2	1-5
Iron metal	7439-89-6	0-0.04
Aluminum metal	7429-90-5	0-0.04
Barium nitrate	10022-31-8	0-0.025
Zinc metal	7440-66-6	0-0.02
Nickel metal	7440-02-0	0-0.02
Manganese acetate tetrahydrate	6156-78-1	0-0.02
Ammonium metavanadate	7803-55-6	0-0.02
Lead metal	7439-92-1	0-0.015
Silver metal	7440-22-4	0-0.01
Selenium metal	7782-49-2	0-0.01
Copper metal	7440-50-8	0-0.01
Cobalt metal	7440-48-4	0-0.01
Chromium metal	7440-47-3	0-0.01
Cadmium metal	7440-43-9	0-0.01
Arsenic metal	7440-38-2	0-0.009
Antimony metal	7440-36-0	0-0.009
Thallium metal	7440-28-0	0-0.008
Molybdenum metal	7439-98-7	0-0.006
Strontium nitrate	10042-76-9	0-0.005
Beryllium acetate, basic	19049-40-2	0-0.005

Refer to Certificate of Analysis for exact percentage and additional elements.

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or Safety Data Sheet, if possible).
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Consult a physician, if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms	The most important known symptoms and effects are described in Section 2 and/or Section 11.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and/or toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions 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 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment, as required. Do not get in eyes, on skin, or on clothing.

For emergency responders

Ensure adequate ventilation.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards See Section 12: ECOLOGICAL INFORMATION.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid breathing vapors or mists. For precautions, see Section 2.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.

Incompatible materials No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Water 7732-18-5	-	-	-
Nitric acid 7697-37-2	STEL: 4 ppm TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m ³ (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³
Iron metal 7439-89-6	-	-	-
Aluminum metal 7429-90-5	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ respirable fraction mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust TWA: 5 mg/m ³ Al
Barium nitrate 10022-31-8	TWA: 0.5 mg/m ³ Ba	TWA: 0.5 mg/m ³ Ba (vacated) TWA: 0.5 mg/m ³ Ba	IDLH: 50 mg/m ³ Ba TWA: 0.5 mg/m ³ Ba TWA: 0.5 mg/m ³ except Barium sulfate Ba
Zinc metal 7440-66-6	-	-	-
Nickel metal 7440-02-0	TWA: 1.5 mg/m ³ inhalable fraction	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ IDLH: 10 mg/m ³ Ni TWA: 0.015 mg/m ³ TWA: 0.015 mg/m ³ except Nickel carbonyl Ni
Manganese acetate tetrahydrate 6156-78-1	-	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn
Ammonium metavanadate 7803-55-6	-	-	Ceiling: 0.05 mg/m ³ V dust and fume 15 min
Lead metal 7439-92-1	TWA: 0.05 mg/m ³ TWA: 0.05 mg/m ³ Pb	TWA: 50 µg/m ³ TWA: 50 µg/m ³ Pb	IDLH: 100 mg/m ³ IDLH: 100 mg/m ³ Pb TWA: 0.050 mg/m ³ TWA: 0.050 mg/m ³ Pb
Silver metal 7440-22-4	TWA: 0.1 mg/m ³ dust and fume	TWA: 0.01 mg/m ³ (vacated) TWA: 0.01 mg/m ³	IDLH: 10 mg/m ³ dust TWA: 0.01 mg/m ³ dust
Selenium metal 7782-49-2	TWA: 0.2 mg/m ³ TWA: 0.2 mg/m ³ Se	TWA: 0.2 mg/m ³ Se (vacated) TWA: 0.2 mg/m ³ (vacated) TWA: 0.2 mg/m ³ Se	IDLH: 1 mg/m ³ IDLH: 1 mg/m ³ Se TWA: 0.2 mg/m ³ TWA: 0.2 mg/m ³ except Selenium hexafluoride Se
Copper metal 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist	IDLH: 100 mg/m ³ dust, fume and mist IDLH: 100 mg/m ³ Cu dust and

		(vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist
Cobalt metal 7440-48-4	TWA: 0.02 mg/m ³ TWA: 0.02 mg/m ³ Co	TWA: 0.1 mg/m ³ dust and fume (vacated) TWA: 0.05 mg/m ³ dust and fume	IDLH: 20 mg/m ³ dust and fume TWA: 0.05 mg/m ³ dust and fume
Chromium metal 7440-47-3	TWA: 0.5 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 250 mg/m ³ TWA: 0.5 mg/m ³
Cadmium metal 7440-43-9	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³ respirable fraction TWA: 0.01 mg/m ³ Cd TWA: 0.002 mg/m ³ Cd respirable fraction	TWA: 0.1 mg/m ³ fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 0.2 mg/m ³ dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 5 µg/m ³ (vacated) STEL: 0.3 ppm fume Ceiling: 0.3 mg/m ³ fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect Ceiling: 0.6 mg/m ³ dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect	IDLH: 9 mg/m ³ dust IDLH: 9 mg/m ³ Cd dust and fume
Arsenic metal 7440-38-2	TWA: 0.01 mg/m ³ TWA: 0.01 mg/m ³ As	TWA: 10 µg/m ³ As (vacated) TWA: 0.5 mg/m ³	IDLH: 5 mg/m ³ IDLH: 5 mg/m ³ As Ceiling: 0.002 mg/m ³ 15 min Ceiling: 0.002 mg/m ³ As 15 min
Antimony metal 7440-36-0	TWA: 0.5 mg/m ³ TWA: 0.5 mg/m ³ Sb	TWA: 0.5 mg/m ³ TWA: 0.5 mg/m ³ Sb (vacated) TWA: 0.5 mg/m ³ (vacated) TWA: 0.5 mg/m ³ Sb	IDLH: 50 mg/m ³ IDLH: 50 mg/m ³ Sb TWA: 0.5 mg/m ³ TWA: 0.5 mg/m ³ Sb
Thallium metal 7440-28-0	TWA: 0.02 mg/m ³ inhalable fraction TWA: 0.02 mg/m ³ TI inhalable fraction S*	(vacated) TWA: 0.1 mg/m ³ (vacated) S*	-
Molybdenum metal 7439-98-7	TWA: 10 mg/m ³ inhalable fraction TWA: 3 mg/m ³ respirable fraction TWA: 10 mg/m ³ Mo inhalable fraction TWA: 3 mg/m ³ Mo respirable fraction	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ (vacated) TWA: 10 mg/m ³ Mo	IDLH: 5000 mg/m ³ IDLH: 5000 mg/m ³ Mo
Strontium nitrate 10042-76-9	-	-	-
Beryllium acetate, basic 19049-40-2	TWA: 0.00005 mg/m ³ Be inhalable fraction	TWA: 2 µg/m ³ Be (vacated) TWA: 2 µg/m ³ Be (vacated) STEL: 25 µg/m ³ 30 min (vacated) Ceiling: 5 µg/m ³ Ceiling: 5 µg/m ³ Be	IDLH: 4 mg/m ³ Be Ceiling: 0.0005 mg/m ³ Be

Appropriate engineering controls

Engineering Controls

Handle in accordance with good industrial hygiene and safety practice.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Wash hands thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Odorless
Appearance	Clear / Colorless to light yellow	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available.	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	No information available	
Water solubility	Miscible in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stable under recommended storage conditions. **Possibility of Hazardous**

Reactions No information available.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

No information available.

Incompatible materials

No information available.

Hazardous Decomposition Products

Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Nitric acid 7697-37-2	-	-	= 130 mg/m ³ (Rat) 4 h = 67 ppm (Rat) 4 h
Aluminum metal 7429-90-5	-	-	-
Iron metal 7439-89-6	= 984 mg/kg (Rat)	-	-
Barium nitrate 10022-31-8	= 355 mg/kg (Rat)	-	-
Nickel metal 7440-02-0	> 9000 mg/kg (Rat)	-	-
Manganese acetate tetrahydrate 6156-78-1	= 3730 mg/kg (Rat)	-	-
Zinc metal 7440-66-6	-	-	-
Ammonium metavanadate 7803-55-6	= 58100 µg/kg (Rat) = 58.1 mg/kg (Rat)	= 2102 mg/kg (Rat)	= 7800 µg/m ³ (Rat) 4 h
Lead metal 7439-92-1	-	-	-
Silver metal 7440-22-4	> 2000 mg/kg (Rat)	-	-
Cadmium metal 7440-43-9	= 1140 mg/kg (Rat)	-	= 25 mg/m ³ (Rat) 30 min
Chromium metal 7440-47-3	-	-	-
Cobalt metal 7440-48-4	= 6171 mg/kg (Rat)	-	> 10 mg/L (Rat) 1 h
Copper metal 7440-50-8	-	-	-
Selenium metal 7782-49-2	= 6700 mg/kg (Rat)	-	-

Antimony metal 7440-36-0	= 7 g/kg (Rat)	-	-
Arsenic metal 7440-38-2	= 15 mg/kg (Rat) = 763 mg/kg (Rat)	-	-
Thallium metal 7440-28-0	-	-	-
Molybdenum metal 7439-98-7	-	-	-
Strontium nitrate 10042-76-9	= 2750 mg/kg (Rat) = 1892 mg/kg (Rat)	-	-
Beryllium acetate, basic 19049-40-2	-	-	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No components of this mixture at given concentrations are considered to be carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Other adverse effects No information available.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (inhalation-dust/mist) 2.60
ATEmix (inhalation-vapor) 1,340.00

12. ECOLOGICAL INFORMATION**Ecotoxicity**

0.126 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Water 7732-18-5	-	-	-
Nitric acid 7697-37-2	-	72: 96 h Gambusia affinis mg/L LC50	-
Aluminum metal 7429-90-5	-	-	-
Iron metal 7439-89-6	-	13.6: 96 h Morone saxatilis mg/L LC50 static	-
Barium nitrate 10022-31-8	-	-	-
Nickel metal 7440-02-0	0.174 - 0.311: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.18: 72 h Pseudokirchneriella subcapitata mg/L EC50	100: 96 h Brachydanio rerio mg/L LC50 10.4: 96 h Cyprinus carpio mg/L LC50 static 1.3: 96 h Cyprinus carpio mg/L LC50 semi-static	1: 48 h Daphnia magna mg/L EC50 Static 100: 48 h Daphnia magna mg/L EC50
Manganese acetate tetrahydrate 6156-78-1	-	-	-

Zinc metal 7440-66-6	0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 7.8: 96 h Cyprinus carpio mg/L LC50 static 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static 2.66: 96 h Pimephales promelas mg/L LC50 static 3.5: 96 h Lepomis macrochirus mg/L LC50 static 30: 96 h Cyprinus carpio mg/L LC50 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	0.139 - 0.908: 48 h Daphnia magna mg/L EC50 Static
Ammonium metavanadate 7803-55-6	-	1.5: 144 h Poecilia reticulata mg/L LC50	-
Lead metal 7439-92-1	-	0.44: 96 h Cyprinus carpio mg/L LC50 semi-static 1.17: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.32: 96 h Oncorhynchus mykiss mg/L LC50 static	600: 48 h water flea µg/L EC50
Silver metal 7440-22-4	-	0.00155 - 0.00293: 96 h Pimephales promelas mg/L LC50 static 0.064: 96 h Lepomis macrochirus mg/L LC50 static 0.0062: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	0.00024: 48 h Daphnia magna mg/L EC50 Static
Cadmium metal 7440-43-9	-	0.006: 96 h Oncorhynchus mykiss mg/L LC50 static 0.24: 96 h	0.0244: 48 h Daphnia magna mg/L EC50 Static
		Cyprinus carpio mg/L LC50 static 0.016: 96 h Oryzias latipes mg/L LC50 0.002: 96 h Cyprinus carpio mg/L LC50 21.1: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.0004 - 0.003: 96 h Pimephales promelas mg/L LC50 4.26: 96 h Cyprinus carpio mg/L LC50 semi-static 0.003: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	
Chromium metal 7440-47-3	-	-	-
Cobalt metal 7440-48-4	-	100: 96 h Brachydanio rerio mg/L LC50 static	-
Copper metal 7440-50-8	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.3: 96 h Pimephales promelas mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50	0.03: 48 h Daphnia magna mg/L EC50 Static
Selenium metal 7782-49-2	-	-	-
Antimony metal 7440-36-0	-	-	-
Arsenic metal 7440-38-2	-	-	-

Thallium metal 7440-28-0	-	-	-
Molybdenum metal 7439-98-7	-	-	-
Strontium nitrate 10042-76-9	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-

Persistence and degradability

No information available.

Bioaccumulation No

information available.

Chemical Name	Partition coefficient
Water 7732-18-5	-
Nitric acid 7697-37-2	-2.3

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Water 7732-18-5	-	-	-	-
Nitric acid 7697-37-2	-	-	-	-
Aluminum metal 7429-90-5	-	-	-	-
Iron metal 7439-89-6	-	-	-	-
Barium nitrate 10022-31-8	-	-	-	-
Nickel metal 7440-02-0	-	Included in waste streams: F006, F039	-	-
Manganese acetate tetrahydrate 6156-78-1	-	-	-	-
Zinc metal 7440-66-6	-	-	-	-
Ammonium metavanadate 7803-55-6	P119	-	-	-
Lead metal 7439-92-1	-	Included in waste streams: F035, F037, F038, F039, K002, K003, K005, K046, K048, K049, K051, K052, K061, K062, K069, K086, K100, K176	5.0 mg/L regulatory level	-
Silver metal 7440-22-4	-	Included in waste stream: F039	5.0 mg/L regulatory level	-
Cadmium metal 7440-43-9	-	Included in waste streams: F006, F039, K061, K069, K100	1.0 mg/L regulatory level	-
Chromium metal 7440-47-3	-	Included in waste streams: F032, F034, F035, F037, F038, F039	5.0 mg/L regulatory level	-

Cobalt metal 7440-48-4	-	-	-	-
Copper metal 7440-50-8	-	-	-	-
Selenium metal 7782-49-2	-	Included in waste stream: F039	1.0 mg/L regulatory level	-
Antimony metal 7440-36-0	-	Included in waste streams: F039, K021, K161, K177	-	-
Arsenic metal 7440-38-2	-	Included in waste streams: F032, F034, F035, F039, K031, K060, K084, K101, K102, K161, K171, K172, K176	5.0 mg/L regulatory level	-
Thallium metal 7440-28-0	-	Included in waste streams: F039, K178	-	-
Molybdenum metal 7439-98-7	-	-	-	-
Strontium nitrate 10042-76-9	-	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-	-
Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Water 7732-18-5	-	-	-	-
Nitric acid 7697-37-2	-	-	-	-
Chemical Name		California Hazardous Waste Status		
Water 7732-18-5		-		
Nitric acid 7697-37-2		Toxic Corrosive Ignitable		
Aluminum metal 7429-90-5		Ignitable powder		
Iron metal 7439-89-6		-		
Barium nitrate 10022-31-8		Toxic Ignitable		
Nickel metal 7440-02-0		Toxic powder Ignitable powder		
Manganese acetate tetrahydrate 6156-78-1		-		
Zinc metal 7440-66-6		Ignitable powder Toxic		
Ammonium metavanadate 7803-55-6		-		
Lead metal 7439-92-1		Toxic		
Silver metal 7440-22-4		Toxic		
Cadmium metal 7440-43-9		-		
Chromium metal 7440-47-3		Toxic Corrosive Ignitable		
Cobalt metal 7440-48-4		Toxic powder Ignitable powder Toxic		
Copper metal 7440-50-8		Toxic		
Selenium metal 7782-49-2		-		

Antimony metal 7440-36-0	Toxic
Arsenic metal 7440-38-2	-
Thallium metal 7440-28-0	-
Molybdenum metal 7439-98-7	Ignitable powder
Strontium nitrate 10042-76-9	Toxic Ignitable Reactive
Beryllium acetate, basic 19049-40-2	-

14. TRANSPORT INFORMATION

DOT This standard is packaged and shipped in accordance with 49 CFR 173.4: Hazardous Materials in Excepted Quantities.

UN/ID no. 2031
Proper shipping name Nitric acid
Hazard Class 8
Packing Group II

IATA

UN/ID no. 2031
Proper shipping name Nitric acid
Hazard Class 8
Packing Group II

IMDG

UN/ID no. 2031
Proper shipping name Nitric acid
Hazard Class 8 **Packing Group** II
EmS-No. F-A, S-B

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Not Listed
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Water - 7732-18-5	-
Nitric acid - 7697-37-2	1.0
Aluminum metal - 7429-90-5	1.0
Iron metal - 7439-89-6	-
Barium nitrate - 10022-31-8	1.0
Nickel metal - 7440-02-0	0.1
Manganese acetate tetrahydrate - 6156-78-1	1.0
Zinc metal - 7440-66-6	1.0
Ammonium metavanadate - 7803-55-6	1.0
Lead metal - 7439-92-1	0.1
Silver metal - 7440-22-4	1.0
Cadmium metal - 7440-43-9	0.1
Chromium metal - 7440-47-3	1.0
Cobalt metal - 7440-48-4	0.1
Copper metal - 7440-50-8	1.0
Selenium metal - 7782-49-2	1.0
Antimony metal - 7440-36-0	1.0
Arsenic metal - 7440-38-2	0.1
Thallium metal - 7440-28-0	1.0
Molybdenum metal - 7439-98-7	-
Strontium nitrate - 10042-76-9	1.0
Beryllium acetate, basic - 19049-40-2	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product, as supplied, does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Water 7732-18-5	-	-	-	-
Nitric acid 7697-37-2	1000 lb	-	-	X
Aluminum metal 7429-90-5	-	-	-	-
Iron metal 7439-89-6	-	-	-	-
Barium nitrate 10022-31-8	-	-	-	-
Nickel metal 7440-02-0	-	X	X	-
Manganese acetate tetrahydrate 6156-78-1	-	-	-	-
Zinc metal 7440-66-6	-	X	X	-
Ammonium metavanadate 7803-55-6	-	-	-	-
Lead metal 7439-92-1	-	X	X	-

Silver metal 7440-22-4	-	X	X	-
Cadmium metal 7440-43-9	-	X	X	-
Chromium metal 7440-47-3	-	X	X	-
Cobalt metal 7440-48-4	-	-	-	-
Copper metal 7440-50-8	-	X	X	-
Selenium metal 7782-49-2	-	X	X	-
Antimony metal 7440-36-0	-	X	X	-
Arsenic metal 7440-38-2	-	X	X	-
Thallium metal 7440-28-0	-	X	X	-
Molybdenum metal 7439-98-7	-	-	-	-
Strontium nitrate 10042-76-9	-	-	-	-
Beryllium acetate, basic 19049-40-2	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Water 7732-18-5	-	-	-
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ 454 kg final RQ
Aluminum metal 7429-90-5	-	-	-
Iron metal 7439-89-6	-	-	-
Barium nitrate 10022-31-8	-	-	-
Nickel metal 7440-02-0	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Manganese acetate tetrahydrate 6156-78-1	-	-	-
Zinc metal 7440-66-6	1000 lb	-	RQ 454 kg final RQ RQ 1000 lb final RQ
Ammonium metavanadate 7803-55-6	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Lead metal 7439-92-1	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Silver metal 7440-22-4	1000 lb 1 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
Cadmium metal 7440-43-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Chromium metal 7440-47-3	5000 lb 10 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ RQ 10 lb final RQ RQ 4.54 kg final RQ
Cobalt metal 7440-48-4	-	-	-
Copper metal 7440-50-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

Selenium metal 7782-49-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Antimony metal 7440-36-0	5000 lb 10 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ RQ 10 lb final RQ RQ 4.54 kg final RQ
Arsenic metal 7440-38-2	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ
Thallium metal 7440-28-0	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Molybdenum metal 7439-98-7	-	-	-
Strontium nitrate 10042-76-9	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Water - 7732-18-5	-
Nitric acid - 7697-37-2	-
Aluminum metal - 7429-90-5	-
Iron metal - 7439-89-6	-
Barium nitrate - 10022-31-8	-
Nickel metal - 7440-02-0	Carcinogen
Manganese acetate tetrahydrate - 6156-78-1	-
Zinc metal - 7440-66-6	-
Ammonium metavanadate - 7803-55-6	-
Lead metal - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Silver metal - 7440-22-4	-
Cadmium metal - 7440-43-9	Carcinogen Developmental Male Reproductive
Chromium metal - 7440-47-3	-
Cobalt metal - 7440-48-4	Carcinogen
Copper metal - 7440-50-8	-
Selenium metal - 7782-49-2	-
Antimony metal - 7440-36-0	-
Arsenic metal - 7440-38-2	Carcinogen
Thallium metal - 7440-28-0	-
Molybdenum metal - 7439-98-7	-
Strontium nitrate - 10042-76-9	-
Beryllium acetate, basic - 19049-40-2	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Nitric acid 7697-37-2	X	X	X
Aluminum metal 7429-90-5	X	X	X
Iron metal 7439-89-6	-	-	-
Barium nitrate 10022-31-8	X	X	X

Nickel metal 7440-02-0	X	X	X
Manganese acetate tetrahydrate 6156-78-1	X	-	X
Zinc metal 7440-66-6	X	X	X
Ammonium metavanadate 7803-55-6	X	X	X
Lead metal 7439-92-1	X	X	X
Silver metal 7440-22-4	X	X	X
Cadmium metal 7440-43-9	X	X	X
Chromium metal 7440-47-3	X	X	X
Cobalt metal 7440-48-4	X	X	X
Copper metal 7440-50-8	X	X	X
Selenium metal 7782-49-2	X	X	X
Antimony metal 7440-36-0	X	X	X
Arsenic metal 7440-38-2	X	X	X
Thallium metal 7440-28-0	X	X	X
Molybdenum metal 7439-98-7	X	X	X
Strontium nitrate 10042-76-9	X	X	X
Beryllium acetate, basic 19049-40-2	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA Health hazards 3 Flammability 0 Instability 0 Physical and Chemical Properties -

HMIS Health hazards 3* Flammability 0 Physical hazards 2 Personal protection X

Chronic Hazard Star Legend * = Chronic Health Hazard

Issue Date 09-Nov-2015

Revision Date 09-Nov-2015

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet