

1. IDENTIFICATION

Product identifier **Product Name** Metals in Soil

Other means of identification

Product Code SPEI-001, SQCI-001
UN/ID no. Final product is not regulated.
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

Manufacturer Address

NSI Lab Solutions, Inc.
 7212 ACC Blvd.
 Raleigh, NC 27617

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)

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B

Label elements

Emergency Overview

Danger

Hazard statements

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H317: May cause an allergic skin reaction
 H340: May cause genetic defects
 H350: May cause cancer
 H360: May damage fertility or the unborn child



Appearance No information available **Physical state** Solid **Odor** No information available

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
 Avoid breathing dust/fume/gas/mist/vapors/spray
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see supplemental first aid on this label).
 IF ON SKIN: Wash with plenty of water and soap
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor

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

H412: Harmful to aquatic life with long lasting effects H402: Harmful to aquatic life

Unknown acute toxicity 109.262 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No.	Weight-%
Soil = 10% Hawthorn Bond Fireclay 40 mesh and 90% Quartz Sand	14808-60-7	>65
Calcium chloride dihydrate	10035-04-8	0-9.18
Iron (III) oxide	1309-37-1	0-7.15
Sodium nitrate	7631-99-4	0-5.55
Potassium chloride	7447-40-7	0-4.77
Aluminum oxide	1344-28-1	0-4.73
Boric acid	10043-35-3	0-0.46
Beryllium acetate, basic	19049-40-2	0-0.46
Manganese	7439-96-5	0-0.2
Barium sulfate	7727-43-7	0-0.17

Zinc oxide	1314-13-2	0-0.13
Potassium dichromate	7778-50-9	0-0.12
Copper (II) acetate	142-71-2	0-0.12

Vanadium pentoxide	1314-62-1	0-0.08
Strontium carbonate	1633-05-2	0-0.07
Lead (II) nitrate	10099-74-8	0-0.07
Cadmium sulfate	10124-36-4	0-0.07
Thallium nitrate	10102-45-1	0-0.06
Selenium dioxide	7446-08-4	0-0.06
Arsenic trioxide	1327-53-3	0-0.06
Tin (II) sulfate	7488-55-3	0-0.05
Nickel	7440-02-0	0-0.05
Cobalt	7440-48-4	0-0.04
Antimony trioxide	1309-64-4	0-0.04
Molybdenum	7439-98-7	0-0.03
Silver nitrate	7761-88-8	0-0.02
Mercury (II) oxide	21908-53-2	0-0.01
Magnesium oxide	1309-48-4	0-4

Refer to Certificate of Analysis for exact percentage concentration.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

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

_____ Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials None known based on information supplied.

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
Soil 14808-60-7	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-
Iron (III) oxide 1309-37-1	TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ fume and total dust Iron oxide (vacated) TWA: 5 mg/m ³ respirable fraction regulated under Rouge	IDLH: 2500 mg/m ³ Fe dust and fume TWA: 5 mg/m ³ Fe dust and fume
Sodium nitrate 7631-99-4	-	-	-
Potassium chloride 7447-40-7	-	-	-
Aluminum oxide 1344-28-1	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	-
Boric acid 10043-35-3	STEL: 6 mg/m ³ inhalable fraction TWA: 2 mg/m ³ inhalable fraction	-	-

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
Manganese 7439-96-5	TWA: 0.02 mg/m ³ respirable fraction TWA: 0.1 mg/m ³ inhalable fraction TWA: 0.02 mg/m ³ Mn respirable fraction TWA: 0.1 mg/m ³ Mn inhalable fraction	(vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 3 mg/m ³ fume (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ fume Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ fume TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ STEL: 3 mg/m ³ Mn
Barium sulfate	TWA: 5 mg/m ³ inhalable fraction,	TWA: 15 mg/m ³ total dust	TWA: 10 mg/m ³ total dust

7727-43-7	particulate matter containing no asbestos and <1% crystalline silica	TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 5 mg/m ³ respirable dust
Zinc oxide 1314-13-2	STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume
Potassium dichromate 7778-50-9	TWA: 0.05 mg/m ³ Cr	TWA: 5 µg/m ³ (vacated) Ceiling: 0.1 mg/m ³ Ceiling: 0.1 mg/m ³ CrO ₃ applies to any operations or sectors for which the Hexavalent Chromium standard [29 CFR 1910.1026] is stayed or is otherwise not in effect	IDLH: 15 mg/m ³ Cr(VI) TWA: 0.0002 mg/m ³ Cr
Copper (II) acetate 142-71-2	TWA: 1 mg/m ³ Cu dust and mist	-	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist
Vanadium pentoxide 1314-62-1	TWA: 0.05 mg/m ³ V inhalable fraction	-	IDLH: 35 mg/m ³ V dust and fume Ceiling: 0.05 mg/m ³ V dust and fume 15 min
Strontium carbonate 1633-05-2	-	-	-
Lead (II) nitrate 10099-74-8	TWA: 0.05 mg/m ³ Pb	TWA: 50 µg/m ³ Pb	IDLH: 100 mg/m ³ Pb TWA: 0.050 mg/m ³ Pb
Cadmium sulfate 10124-36-4	TWA: 0.01 mg/m ³ Cd TWA: 0.002 mg/m ³ Cd respirable fraction	-	IDLH: 9 mg/m ³ Cd dust and fume
Thallium nitrate 10102-45-1	TWA: 0.02 mg/m ³ Tl inhalable fraction S*	TWA: 0.1 mg/m ³ Tl (vacated) S*	IDLH: 15 mg/m ³ Tl TWA: 0.1 mg/m ³ Tl
Selenium dioxide 7446-08-4	TWA: 0.2 mg/m ³ Se	TWA: 0.2 mg/m ³ Se (vacated) TWA: 0.2 mg/m ³ Se	IDLH: 1 mg/m ³ Se TWA: 0.2 mg/m ³ except Selenium hexafluoride Se
Arsenic trioxide 1327-53-3	TWA: 0.01 mg/m ³ As	TWA: 10 µg/m ³ As	IDLH: 5 mg/m ³ As Ceiling: 0.002 mg/m ³ As 15 min
Tin (II) sulfate 7488-55-3	TWA: 2 mg/m ³ Sn except Tin hydride	TWA: 2 mg/m ³ Sn except oxides (vacated) TWA: 2 mg/m ³ Sn except oxides	IDLH: 100 mg/m ³ Sn TWA: 2 mg/m ³ except Tin oxides Sn
Nickel 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
Cobalt 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
Antimony trioxide 1309-64-4	TWA: 0.5 mg/m ³ Sb	TWA: 0.5 mg/m ³ Sb (vacated) TWA: 0.5 mg/m ³ Sb	IDLH: 50 mg/m ³ Sb TWA: 0.5 mg/m ³ Sb

Molybdenum 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
Silver nitrate 7761-88-8	TWA: 0.01 mg/m ³ Ag	TWA: 0.01 mg/m ³ Ag (vacated) TWA: 0.01 mg/m ³ Ag	IDLH: 10 mg/m ³ Ag TWA: 0.01 mg/m ³ Ag
Mercury (II) oxide 21908-53-2	TWA: 0.025 mg/m ³ Hg S*	(vacated) Ceiling: 0.1 mg/m ³ Hg	IDLH: 10 mg/m ³ Hg Ceiling: 0.1 mg/m ³ Hg TWA: 0.05 mg/m ³ except Organo alkyls Hg vapor
Magnesium oxide 1309-48-4	TWA: 10 mg/m ³ inhalable fraction	TWA: 15 mg/m ³ fume, total particulate (vacated) TWA: 10 mg/m ³ fume and total particulate	IDLH: 750 mg/m ³ fume

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special technical protective measures are necessary.

Skin and body protection No special technical protective measures are necessary.

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

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Odor	No information available
Appearance	No information available	Odor threshold	No information available
Color	No information available	Remarks • Method	No information available
Property	Values		
pH	No information 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	No information available		
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 data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions None

under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Eye contact No data available.

Skin contact H317: May cause allergic skin reaction.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Soil 14808-60-7	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-
Iron (III) oxide 1309-37-1	> 10000 mg/kg (Rat)	-	-
Sodium nitrate 7631-99-4	= 1267 mg/kg (Rat)	-	-
Potassium chloride 7447-40-7	= 2600 mg/kg (Rat)	-	-
Aluminum oxide 1344-28-1	> 5000 mg/kg (Rat)	-	-
Beryllium acetate, basic 19049-40-2	-	-	-
Boric acid 10043-35-3	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
Manganese 7439-96-5	= 9 g/kg (Rat)	-	-

Barium sulfate 7727-43-7	-	-	-
Zinc oxide 1314-13-2	> 5000 mg/kg (Rat)	-	-
Copper (II) acetate 142-71-2	= 501 mg/kg (Rat)	-	-
Potassium dichromate 7778-50-9	= 48 mg/kg (Rat) = 25 mg/kg (Rat)	= 1150 mg/kg (Rabbit) = 14 mg/kg (Rabbit)	-
Vanadium pentoxide 1314-62-1	= 10 mg/kg (Rat)	= 50 mg/kg (Rabbit)	= 4.29 mg/L (Rat) 4 h
Strontium carbonate 1633-05-2	-	-	-
Lead (II) nitrate 10099-74-8	= 93 mg/kg (Rat)	-	-
Cadmium sulfate 10124-36-4	= 357 mg/kg (Rat) = 280 mg/kg (Rat)	-	-
Thallium nitrate 10102-45-1	-	-	-
Arsenic trioxide 1327-53-3	= 20 mg/kg (Rat)	-	-
Selenium dioxide 7446-08-4	= 68.1 mg/kg (Rat) = 48 mg/kg (Ra)	= 4 mg/kg (Rabbit)	-
Tin (II) sulfate 7488-55-3	= 2207 mg/kg (Rat)	-	-
Nickel 7440-02-0	> 9000 mg/kg (Rat)	-	-
Cobalt 7440-48-4	= 6171 mg/kg (Rat)	-	> 10 mg/L (Rat) 1 h
Antimony trioxide 1309-64-4	> 34600 mg/kg (Rat)	-	-
Molybdenum 7439-98-7	-	-	-
Silver nitrate 7761-88-8	= 1173 mg/kg (Rat)	-	-
Mercury (II) oxide 21908-53-2	= 18 mg/kg (Rat)	= 315 mg/kg (Rat)	-
Magnesium oxide 1309-48-4	-	-	-

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 H350: May cause cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Soil 14808-60-7	-	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-	-
Iron (III) oxide 1309-37-1	-	Group 3	-	-
Sodium nitrate 7631-99-4	-	Group 2A	-	X
Potassium chloride 7447-40-7	-	-	-	-
Aluminum oxide 1344-28-1	-	-	-	-

Beryllium acetate, basic 19049-40-2	A1	Group 1	Known	X
Boric acid 10043-35-3	-	Group 2A	-	X
Manganese 7439-96-5	-	-	-	-
Barium sulfate 7727-43-7	-	-	-	-
Zinc oxide 1314-13-2	-	-	-	-
Copper (II) acetate 142-71-2	-	-	-	-
Potassium dichromate 7778-50-9	A1	Group 1	Known	X
Vanadium pentoxide 1314-62-1	A3	Group 2B	-	X
Strontium carbonate 1633-05-2	-	-	-	-
Lead (II) nitrate 10099-74-8	A3	Group 2A	Reasonably Anticipated	X
Cadmium sulfate 10124-36-4	A2	Group 1	Known	X
Thallium nitrate 10102-45-1	-	Group 2A	-	X
Arsenic trioxide 1327-53-3	A1	Group 1	Known	X
Selenium dioxide 7446-08-4	-	Group 3	-	-
Tin (II) sulfate 7488-55-3	-	-	-	-
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	X
Cobalt 7440-48-4	A3	Group 2B	Reasonably Anticipated	X
Antimony trioxide 1309-64-4	A2	Group 2B	-	X
Molybdenum 7439-98-7	-	-	-	-
Silver nitrate 7761-88-8	-	Group 2A	-	X
Mercury (II) oxide 21908-53-2	-	Group 3	-	-
Magnesium oxide 1309-48-4	-	-	-	-

Legend

Reproductive toxicity

H360 - May damage fertility or the unborn child. H340 - May cause genetic defects.

STOT - single exposure

No information available.

STOT - repeated exposure

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 (oral) 12,699.00

12. ECOLOGICAL INFORMATION

Ecotoxicity

121.682 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Soil 14808-60-7	-	-	-
SQC1-001, SPE1-001 Sulfadiazine hydrate 10035-04-8	Metals in Soil	-	Revision Date 17-Oct-2019
Iron (III) oxide 1309-37-1	-	-	-
Sodium nitrate 7631-99-4	-	2000: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 994.4 - 1107: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	-
Potassium chloride 7447-40-7	2500: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	- 1020: 96 h <i>Pimephales promelas</i> mg/L LC50 static 1060: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	83: 48 h <i>Daphnia magna</i> mg/L EC50 Static 825: 48 h <i>Daphnia magna</i> mg/L EC50
Aluminum oxide 1344-28-1	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-
Boric acid 10043-35-3	-	1020: 72 h <i>Carassius auratus</i> mg/L LC50 flow-through	- 153: 48 h <i>Daphnia magna</i> mg/L EC50
Manganese 7439-96-5	-	-	-
Barium sulfate 7727-43-7	-	-	-
Zinc oxide 1314-13-2	-	-	-
Copper (II) acetate 142-71-2	-	-	-
Potassium dichromate 7778-50-9	-	12.3: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static 320: 96 h <i>Lepomis macrochirus</i> mg/L LC50 139: 96 h <i>Cyprinus carpio</i> mg/L LC50 static 21.209 - 30.046: 96 h	-

		Oryzias latipes mg/L LC50 semi-static 14 - 20.9: 96 h <i>Pimephales promelas</i> mg/L LC50 static 113.6 - 155.7: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 23 - 41.2: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 26: 96 h <i>Morone saxatilis</i> mg/L LC50 static 65.6 - 137.6: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 24.81 - 34.55: 96 h <i>Poecilia reticulata</i> mg/L LC50 semi-static 15.41 - 30.36: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	
Vanadium pentoxide 1314-62-1	-	-	-
Strontium carbonate 1633-05-2	-	-	-
Lead (II) nitrate 10099-74-8	-	-	-
Cadmium sulfate 10124-36-4	-	-	-
Thallium nitrate 10102-45-1	-	-	-
Arsenic trioxide 1327-53-3	-	135: 96 h <i>Pimephales promelas</i> mg/L LC50 18.8 - 21.4: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 1000: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	3.9 - 4.5: 24 h <i>Daphnia magna</i> mg/L EC50 0.96: 96 h <i>Daphnia magna</i> mg/L LC50
Selenium dioxide 7446-08-4	-	-	-
Tin (II) sulfate 7488-55-3	-	-	-

Nickel 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
Cobalt 7440-48-4	-	100: 96 h Brachydanio rerio mg/L LC50 static	-
Antimony trioxide 1309-64-4	0.63 - 0.8: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.65 - 0.81: 96 h Pseudokirchneriella subcapitata mg/L EC50	1000: 96 h Brachydanio rerio mg/L LC50 static 80: 96 h Pimephales promelas mg/L LC50 static	1000: 48 h Daphnia magna mg/L EC50 361.5 - 496.0: 48 h Daphnia magna mg/L EC50 Static
Molybdenum 7439-98-7	-	-	-
Silver nitrate 7761-88-8	-	0.00512 - 0.00787: 96 h Poecilia reticulata mg/L LC50 semi-static 0.009 - 0.02: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.0064 - 0.0106: 96 h Pimephales promelas mg/L LC50 semi-static 0.0027: 96 h Cyprinus carpio mg/L LC50 semi-static 0.05 - 0.07: 96 h Lepomis macrochirus mg/L LC50 static 0.0075: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.00452 - 0.00638: 96 h Pimephales promelas mg/L LC50 flow-through 0.00181 - 0.00214: 96 h Pimephales promelas mg/L LC50 static 0.0242 - 0.0484: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.00839 - 0.1802: 96 h Oncorhynchus mykiss mg/L LC50 static 0.001339 - 0.001637: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.009: 96 h	0.0006: 48 h Daphnia magna mg/L EC50 0.0008 - 0.001: 48 h Daphnia magna mg/L EC50 Flow through 0.0008 - 0.0011: 48 h Daphnia magna mg/L EC50 Static

		Pimephales promelas mg/L LC50	
Mercury (II) oxide 21908-53-2	-	-	-
Magnesium oxide 1309-48-4	-	-	-

Persistence and degradability

No information available.

Bioaccumulation

No information available.

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
Soil 14808-60-7	-	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-	-
Iron (III) oxide 1309-37-1	-	-	-	-
Sodium nitrate 7631-99-4	-	-	-	-
Potassium chloride 7447-40-7	-	-	-	-

Aluminum oxide 1344-28-1	-	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-	-
Boric acid 10043-35-3	-	-	-	-
Manganese 7439-96-5	-	-	-	-
Barium sulfate 7727-43-7	-	-	-	-
Zinc oxide 1314-13-2	-	-	-	-
Copper (II) acetate 142-71-2	-	-	-	-
Potassium dichromate 7778-50-9	-	-	-	-
Vanadium pentoxide 1314-62-1	P120	-	-	-
Strontium carbonate 1633-05-2	-	-	-	-
Lead (II) nitrate 10099-74-8	-	-	-	-
Cadmium sulfate 10124-36-4	-	-	-	-
Thallium nitrate 10102-45-1	U217	-	-	U217
Arsenic trioxide 1327-53-3	P012	-	-	-
Selenium dioxide 7446-08-4	-	-	-	-
Ti				
n (II) sulfate				

7488-55-3				
Nickel 7440-02-0	-	Included in waste streams: F006, F039	-	-
Cobalt 7440-48-4	-	-	-	-
Antimony trioxide 1309-64-4	-	-	-	-
Molybdenum 7439-98-7	-	-	-	-
Silver nitrate 7761-88-8	-	-	-	-
Mercury (II) oxide 21908-53-2	-	-	-	-
Magnesium oxide 1309-48-4	-	-	-	-

Chemical Name	California Hazardous Waste Status
Soil 14808-60-7	-
Calcium chloride dihydrate 10035-04-8	-
Iron (III) oxide 1309-37-1	-
Sodium nitrate 7631-99-4	Toxic Ignitable Reactive
Potassium chloride 7447-40-7	-
Aluminum oxide 1344-28-1	-
Beryllium acetate, basic 19049-40-2	-

Boric acid 10043-35-3	Toxic
Manganese 7439-96-5	Ignitable powder
Barium sulfate 7727-43-7	-
Zinc oxide 1314-13-2	Toxic
Copper (II) acetate 142-71-2	Toxic
Potassium dichromate 7778-50-9	Toxic Corrosive Ignitable
Vanadium pentoxide 1314-62-1	-
Strontium carbonate 1633-05-2	-
Lead (II) nitrate 10099-74-8	Toxic Ignitable
Cadmium sulfate 10124-36-4	Toxic
Thallium nitrate 10102-45-1	-
Arsenic trioxide 1327-53-3	-
Selenium dioxide 7446-08-4	-
Tin (II) sulfate 7488-55-3	-
Nickel 7440-02-0	Toxic powder Ignitable powder
Cobalt 7440-48-4	Toxic powder Ignitable powder Toxic
Antimony trioxide 1309-64-4	-
Molybdenum 7439-98-7	Ignitable powder
Silver nitrate 7761-88-8	Toxic
Mercury (II) oxide 21908-53-2	Toxic Ignitable
Magnesium oxide 1309-48-4	-

14. TRANSPORT INFORMATION

DOT
UN/ID no.

Not regulated
Final product is not regulated.

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
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/NDL - 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 %
Soil - 14808-60-7	-
Calcium chloride dihydrate - 10035-04-8	-
Iron (III) oxide - 1309-37-1	-
Sodium nitrate - 7631-99-4	1.0
Potassium chloride - 7447-40-7	-
Aluminum oxide - 1344-28-1	1.0
Beryllium acetate, basic - 19049-40-2	0.1
Boric acid - 10043-35-3	-
Manganese - 7439-96-5	1.0
Barium sulfate - 7727-43-7	1.0
Zinc oxide - 1314-13-2	1.0

Copper (II) acetate - 142-71-2	1.0
Potassium dichromate - 7778-50-9	0.1
Vanadium pentoxide - 1314-62-1	1.0
Strontium carbonate - 1633-05-2	-
Lead (II) nitrate - 10099-74-8	0.1 1.0
Cadmium sulfate - 10124-36-4	0.1
Thallium nitrate - 10102-45-1	1.0
Arsenic trioxide - 1327-53-3	0.1
Selenium dioxide - 7446-08-4	1.0
Tin (II) sulfate - 7488-55-3	-
Nickel - 7440-02-0	0.1
Cobalt - 7440-48-4	0.1
Antimony trioxide - 1309-64-4	1.0
Molybdenum - 7439-98-7	-
Silver nitrate - 7761-88-8	1.0
Mercury (II) oxide - 21908-53-2	1.0
Magnesium oxide - 1309-48-4	-

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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Soil 14808-60-7	-	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-	-
Iron (III) oxide 1309-37-1	-	-	-	-
Sodium nitrate 7631-99-4	-	-	-	-
Potassium chloride 7447-40-7	-	-	-	-
Aluminum oxide 1344-28-1	-	-	-	-
Beryllium acetate, basic 19049-40-2	-	X	-	-
Boric acid 10043-35-3	-	-	-	-
Manganese 7439-96-5	-	-	-	-
Barium sulfate 7727-43-7	-	-	-	-
Zinc oxide 1314-13-2	-	X	-	-
Copper (II) acetate 142-71-2	100 lb	X	-	X
Potassium dichromate 7778-50-9	10 lb	X	-	X
Vanadium pentoxide 1314-62-1	1000 lb	-	-	X
Strontium carbonate 1633-05-2	-	-	-	-
Lead (II) nitrate 10099-74-8	10 lb	X	-	X
Cadmium sulfate 10124-36-4	-	X	-	-
Thallium nitrate	-	X	-	-
10102-45-1				
Arsenic trioxide 1327-53-3	1 lb	X	-	X
Selenium dioxide 7446-08-4	-	X	-	X
Tin (II) sulfate 7488-55-3	-	-	-	-
Nickel 7440-02-0	-	X	X	-
Cobalt 7440-48-4	-	-	-	-
Antimony trioxide 1309-64-4	1000 lb	X	-	X
Molybdenum 7439-98-7	-	-	-	-
Silver nitrate 7761-88-8	1 lb	X	-	X
Mercury (II) oxide 21908-53-2	-	X	-	-
Magnesium oxide 1309-48-4	-	-	-	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Soil 14808-60-7	-	-	-
Calcium chloride dihydrate 10035-04-8	-	-	-
Iron (III) oxide 1309-37-1	-	-	-
Sodium nitrate 7631-99-4	-	-	-
Potassium chloride 7447-40-7	-	-	-
Aluminum oxide 1344-28-1	-	-	-
Beryllium acetate, basic 19049-40-2	-	-	-
Boric acid 10043-35-3	-	-	-
Manganese 7439-96-5	-	-	-
Barium sulfate 7727-43-7	-	-	-
Zinc oxide 1314-13-2	-	-	-
Copper (II) acetate 142-71-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Potassium dichromate 7778-50-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Vanadium pentoxide 1314-62-1	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Strontium carbonate 1633-05-2	-	-	-
Lead (II) nitrate 10099-74-8	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Cadmium sulfate 10124-36-4	-	-	-
Thallium nitrate 10102-45-1	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Arsenic trioxide 1327-53-3	1 lb	1 lb	RQ 1 lb final RQ RQ 0.454 kg final RQ
Selenium dioxide 7446-08-4	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Tin (II) sulfate 7488-55-3	-	-	-
Nickel	100 lb	-	RQ 100 lb final RQ

7440-02-0			RQ 45.4 kg final RQ
Cobalt 7440-48-4	-	-	-
Antimony trioxide 1309-64-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Molybdenum 7439-98-7	-	-	-
Silver nitrate 7761-88-8	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ
Mercury (II) oxide 21908-53-2	-	500 lb	-
Magnesium oxide 1309-48-4	-	-	-

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Soil - 14808-60-7	-
Calcium chloride dihydrate - 10035-04-8	-
Iron (III) oxide - 1309-37-1	-
Sodium nitrate - 7631-99-4	-
Potassium chloride - 7447-40-7	-
Aluminum oxide - 1344-28-1	-
Beryllium acetate, basic - 19049-40-2	Carcinogen
Boric acid - 10043-35-3	-
Manganese - 7439-96-5	-
Barium sulfate - 7727-43-7	-
Zinc oxide - 1314-13-2	-
Copper (II) acetate - 142-71-2	-
Potassium dichromate - 7778-50-9	Carcinogen Developmental Female Reproductive Male Reproductive
Vanadium pentoxide - 1314-62-1	Carcinogen
Strontium carbonate - 1633-05-2	-
Lead (II) nitrate - 10099-74-8	Carcinogen
Cadmium sulfate - 10124-36-4	Carcinogen
Thallium nitrate - 10102-45-1	-
Arsenic trioxide - 1327-53-3	Carcinogen Developmental
Selenium dioxide - 7446-08-4	-
Tin (II) sulfate - 7488-55-3	-
Nickel - 7440-02-0	Carcinogen
Cobalt - 7440-48-4	Carcinogen
Antimony trioxide - 1309-64-4	Carcinogen
Molybdenum - 7439-98-7	-
Silver nitrate - 7761-88-8	-
Mercury (II) oxide - 21908-53-2	Developmental
Magnesium oxide - 1309-48-4	-

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Soil 14808-60-7	-	-	-
SQCI-001, SPEI-001 Metals in Soil	-	-	Revision Date 17-Oct-2019
Iron (III) oxide 1309-37-1	X	X	X
Sodium nitrate 7631-99-4	X	X	X
Potassium chloride 7447-40-7	-	-	-
Aluminum oxide	X	X	X

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1344-28-1			
Beryllium acetate, basic 19049-40-2	X	-	X
Boric acid 10043-35-3	X	-	-
Manganese 7439-96-5	X	X	X
Barium sulfate 7727-43-7	X	X	X
Zinc oxide 1314-13-2	X	X	X
Copper (II) acetate 142-71-2	X	X	X
Potassium dichromate 7778-50-9	X	X	X
Vanadium pentoxide 1314-62-1	X	X	X
Strontium carbonate 1633-05-2	-	-	-
Lead (II) nitrate 10099-74-8	X	X	X
Cadmium sulfate 10124-36-4	X	X	X
Thallium nitrate 10102-45-1	X	X	X
Arsenic trioxide 1327-53-3	X	X	X
Selenium dioxide 7446-08-4	X	X	X
Tin (II) sulfate 7488-55-3	-	X	-
Nickel 7440-02-0	X	X	X
Cobalt 7440-48-4	X	X	X
Antimony trioxide 1309-64-4	X	X	X
Molybdenum 7439-98-7	X	X	X
Silver nitrate 7761-88-8	X	X	X
Mercury (II) oxide 21908-53-2	X	X	X
Magnesium oxide 1309-48-4	X	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** 2 **Flammability** 0 **Instability** 0 **Physical and Chemical**

HMIS _____ **Health hazards** 3* **Flammability** 0 **Physical hazards** 0 **Properties -**
Chronic Hazard Star Legend * = *Chronic Health Hazard* **Personal protection** X

Issue Date 17-Oct-2019

Revision Date 17-Oct-2019

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.
