Stainless Steel material-Grade 3xx Series, 4xx series, 630/17-4PH

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Stainless Steel material-Grade 3xx Series, 4xx series, 630/17-4PH

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Manufacturing

1.3. Details of the supplier of the safety data sheet

Magellan Corporation

1650 Lake Cook Rd.

Deerfield, IL 60015

1.4. Emergency telephone number

Emergency number : 847-205-1155

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Note: Steel products in their solid state under normal conditions, do not present an inhalation, ingestion or skin hazard. However, operations resulting in fume or particulate formation such as welding, sawing, brazing, grinding and machining may present health hazards. Molten steel also is hazardous. The following classification applies to steel processing.

Classification (GHS-US)

Skin Sens. 1 H317
Carc. 1B H350
STOT RE 1 H372

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H317 - May cause an allergic skin reaction
H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - If on skin: Wash with plenty of water/…
P308 + P313 - If exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Iron oxide (Fe2O3)	(CAS No) 1309-37-1	60 - 90	Not classified
Chromium	(CAS No) 7440-47-3	15 - 20	Not classified
Nickel	(CAS No) 7440-02-0	3 - 13	Skin Sens. 1, H317 Carc. 1B, H350 STOT RE 1, H372
Copper	(CAS No) 7440-50-8	0.4 - 5	Not classified
Molybdenum	(CAS No) 7439-98-7	0.5 - 2.5	Not classified
Manganese	(CAS No) 7439-96-5	1 - 2	Not classified
Silicon	(CAS No) 7440-21-3	0.75 - 1	Not classified
Niobium	(CAS No) 7440-03-1	0 - 0.6	Not classified
Tantalum	(CAS No) 7440-25-7	0 - 0.45	Not classified
Sulfur	(CAS No) 7704-34-9	0.02 - 0.35	Skin Irrit. 2, H315
Carbon	(CAS No) 7440-44-0	0.03 - 0.15	Not classified
Nitrogen	(CAS No) 7727-37-9	0 - 0.1	Not classified
Aluminum	(CAS No) 7429-90-5	0 - 0.1	Not classified
Titanium	(CAS No) 7440-32-6	0 - 0.1	Not classified
Cobalt	(CAS No) 7440-48-4	0 - 0.1	Carc. 2, H351
Tungsten	(CAS No) 7440-33-7	0 - 0.1	Not classified
Vanadium	(CAS No) 7440-62-2	0 - 0.1	Not classified
Phosphorus elemental	(CAS No) 7723-14-0	0.04 - 0.06	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. SEEK MEDICAL ATTENTION.

First-aid measures after skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes.

First-aid measures after eye contact : Flush eyes with plenty of water or saline for at least 15 minutes. If irritation develops, SEEK MEDICAL ATTENTION.

First-aid measures after ingestion : Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness. It is characterized by a sweet or metallic taste in the mouth, accompanied by dryness and irritation of the throat, cough, shortness of breath, pulmonary edema, general malaise, weakness, fatigue, muscle and joint pains, blurred vision, fever and chills. Typical symptoms last from 12 to 48 hours.

Symptoms/injuries after skin contact : Dusts or particulates may cause mechanical irritation due to abrasion. Coated steel may cause skin irritation in sensitive individuals (see Section 16 for additional information.) Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

Symptoms/injuries after eye contact : Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

Symptoms/injuries after ingestion : Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use Class D extinguishing agents on dusts, fines or molten metal. Use coarse water spray on chips and turnings.

Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Small chips, turnings, dust and fines from processing may be readily ignitable.

Explosion hazard : Dust or fines dispersed in the air can be explosive. Even a minor dust cloud can explode violently. Chips, dust or fines in contact with water can generate flammable/explosive hydrogen gas. Hydrogen gas could present an explosion hazard in confined or poorly ventilated spaces. Fines and dust in contact with certain metal oxides (e.g., rust). Molten metal in contact with water/moisture or other metal oxides (e.g., rust). Moisture entrapped by molten metal can be explosive.

5.3. Advice for firefighters

Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with the skin and the eyes.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

None.

6.3. Methods and material for containment and cleaning up

For containment : No special measures required.

Methods for cleaning up : Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid generating dust. Avoid contact with sharp edges or heated metal. If processing of these products includes operations where dust or extremely fine particulate is generated, obtain and follow the safety procedures and equipment guides contained in National Fire Protection Association (NFPA) guidelines. Cover and reseal partially empty containers. Use non-sparking handling equipment. Provide grounding and bonding where necessary to prevent accumulation of static charges during dust handling and transfer operations. Local ventilation and vacuum systems must be designed to handle explosive dusts. Dry vacuums and electrostatic precipitators must not be used. Avoid all ignition sources. Good housekeeping practices must be maintained.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Product should be kept dry.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iron oxide (Fe2O3) (1309-37-1)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³

Iron oxide (Fe2O3) (1309-37-1)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

Nickel (7440-02-0)		
USA ACGIH	ACGIH TWA (mg/m³)	1.5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³

Chromium (7440-47-3)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³

Copper (7440-50-8)		
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³

Aluminum (7429-90-5)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

Manganese (7439-96-5)		
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	5 mg/m³

Molybdenum (7439-98-7)		
USA ACGIH	ACGIH TWA (mg/m³)	3 mg/m³

Silicon (7440-21-3)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

Nitrogen (7727-37-9)

Cobalt (7440-48-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³

Tungsten (7440-33-7)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³

Vanadium (7440-62-2)		
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	0.1 mg/m³

Tantalum (7440-25-7)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Local exhaust and general ventilation must be adequate to meet exposure standards.

Hand protection : Wear impervious gloves to avoid repeated or prolonged skin contact with residual oils and to avoid any skin injury.

Eye protection : Wear safety glasses/goggles to avoid eye contact.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Thermal hazard protection	:	Personnel who handle and work with **molten metal** should utilize primary protective clothing like face shields, fire resistant tapper's jackets, leggings, spats and similar equipment to prevent burn injuries. In addition to primary protection, secondary or day-to-day work clothing that is fire resistant and sheds metal splash is recommended for use with molten metal.
General	:	Minimize breathing **oil vapors and mist**. Remove oil contaminated clothing; launder or dry-clean before reuse. Remove oil contaminated shoes and thoroughly clean and dry before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of the work period. Oil coating is readily removed from skin with waterless hand cleaners followed by a thorough washing with soap and water.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Bar
Color	:	Grey-back metallic
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	generally 2400-2800ºF
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Specific gravity	:	7.5 - 8.5
Solubility	:	No data available
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions of use, storage, and transportation as shipped.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Steel at temperatures above the melting point may liberate fumes containing oxides of iron and alloying elements. Avoid generation of airborne fume.

10.5. Incompatible materials

Reacts with strong acids to form hydrogen gas. Do not store near oxidizers.

10.6. Hazardous decomposition products

Metallic fumes may be produced during welding, burning, grinding, and possibly machining.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General Product Information

The primary component of this product is iron. Long-term exposure to iron dusts or fumes can result in a condition called siderosis which is considered to be a benign pneumoconiosis. Symptoms may include chronic bronchitis, emphysema, and shortness of breath upon exertion. Penetration of iron particles in the skin or eye may cause an exogenous or ocular siderosis which may be characterized by a red-brown pigmentation of the affected area. Ingestion overexposures to iron may affect the gastrointestinal, nervous, and hematopoietic system and the liver.

When this product is welded, fumes are generated. Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of the metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen (Group 2B). There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxins, e.g., lead which may be present in the coating material of this product.

Breathing fumes or dusts of this product may result in metal fume fever, which is an illness produced by inhaling metal oxides. These oxides are produced by heating various metals including magnesium, manganese, chromium, aluminum, and iron. This product may contain small amounts of manganese. Prolonged exposure to manganese dusts or fumes is associated with "manganism", a Parkinson-like syndrome characterized by a variety of neurological symptoms including muscle spasms, gait disturbances, tremors, and psychoses.

This product may contain small amounts of chromium. Prolonged and repeated overexposure to chromium dusts or fumes may cause skin ulcers, nasal irritation and ulceration, kidney damage and cancer of the respiratory system. Chromium is skin sensitizer. Cancer is generally attributed to the hexavalent (+6) form of chromium which is listed as a carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of nickel. Prolonged and repeated contact with nickel may cause sensitization dermatitis. Inhalation of nickel compounds has caused lung damage as well as sinus, nasal and lung cancer in laboratory animals. Nickel is a listed carcinogen by NTP and IARC.

Acute toxicity : Not classified

Iron oxide (Fe2O3) (1309-37-1)	
LD50 oral rat	> 10000 mg/kg

Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg

Carbon (7440-44-0)	
LD50 oral rat	> 10000 mg/kg

Sulfur (7704-34-9)	
LD50 oral rat	> 3000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 9.23 mg/l/4h

Manganese (7439-96-5)	
ATE US (oral)	9000000.00000000 mg/kg

Silicon (7440-21-3)

Phosphorus elemental (7723-14-0)	
LD50 oral rat	3.03 mg/kg
LD50 dermal rat	100 mg/kg
LC50 inhalation rat (mg/l)	4.3 mg/l (Exposure time: 1 h)

Cobalt (7440-48-4)	
LD50 oral rat	6170 mg/kg
LC50 inhalation rat (mg/l)	> 10 mg/l (Exposure time: 1 h)
ATE US (oral)	6170.00000000 mg/kg

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Iron oxide (Fe2O3) (1309-37-1)	
IARC group	3 - Not classifiable

Nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Chromium (7440-47-3)	
IARC group	3 - Not classifiable

Cobalt (7440-48-4)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Nickel (7440-02-0)	
LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	0.18 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC50 fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 2	0.174 - 0.311 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Sulfur (7704-34-9)	
LC50 fish 1	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
LC50 fish 2	< 14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Copper (7440-50-8)	
LC50 fish 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 1	0.0426 - 0.0535 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 other aquatic organisms 2	0.031 - 0.054 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Phosphorus elemental (7723-14-0)	
LC50 fish 1	0.0017 - 0.0035 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	0.001 - 0.004 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	0.025 - 0.037 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Cobalt (7440-48-4)	
LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Phosphorus elemental (7723-14-0)	
BCF fish 1	< 200

Cobalt (7440-48-4)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	0.1 %

Chromium (7440-47-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

Aluminum (7429-90-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Manganese (7439-96-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

Phosphorus elemental (7723-14-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	100 (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)
SARA Section 313 - Emission Reporting	1.0 % (yellow or white)

Cobalt (7440-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	0.1 %

Vanadium (7440-62-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 % (except when contained in an alloy)

15.2. US State regulations

Nickel (7440-02-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)

Nickel (7440-02-0)				
Yes				

Cobalt (7440-48-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

Iron oxide (Fe2O3) (1309-37-1)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Nickel (7440-02-0)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Sulfur (7704-34-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Chromium (7440-47-3)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Copper (7440-50-8)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Aluminum (7429-90-5)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Manganese (7439-96-5)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Molybdenum (7439-98-7)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Silicon (7440-21-3)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Phosphorus elemental (7723-14-0)

U.S. - Massachusetts - Right To Know List

Phosphorus elemental (7723-14-0)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Nitrogen (7727-37-9)
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Cobalt (7440-48-4)
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Titanium (7440-32-6)
U.S. - New Jersey - Right to Know Hazardous Substance List

Tungsten (7440-33-7)
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Vanadium (7440-62-2)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Tantalum (7440-25-7)
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H350	May cause cancer
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product