Safety Data Sheet

Issue date 21-Sep-2018 **Revision date** 21-Sep-2018 **Revision Number** 1

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 747 Cobalt Stick Rod Electrode
Other means of identification	CW1832
Recommended use	Electrode
Restrictions on use	Covered electrode for Shielded Metal Arc Welding (SMAW), These items are only intended for normal welding purposes

Supplier

Corporate Headquarters:
Cronatron, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Canadian Distribution Center:
Lawson Canada
7315 Rapistan Court
Mississauga, ON L5N 5Z4
(800) 323-5922

24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

2. HAZARD(S) IDENTIFICATION

Hazard Classification This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Symbol

Signal word DANGER

Hazard statements
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements

General

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use.

Prevention

P285 - In case of inadequate ventilation wear respiratory protection
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing and eye/face protection
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P362 - Take off contaminated clothing and wash before reuse

Response

General

P314 - Get medical advice/attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P321 - For Specific treatment see section 4 of this sds

Skin

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazard(s) Not Otherwise Classified (HNOC)

None known.

Physical Hazards Not Otherwise Classified (PHNOC)

When this product is used in a welding process the most important hazards are: heat, radiation, electric shock and welding fumes.

Unknown acute toxicity

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Mixture.

Chemical name	CAS-No	Weight %
Cobalt	7440-48-4	40-70
Chromium	7440-47-3	15-40
Calcium Carbonate	1317-65-3	5-10
Tungsten	7440-33-7	1-5
Titanium dioxide	13463-67-7	1-5
Sodium Silicate	1344-09-8	1-5
Silicon Dioxide (Crystalline Quartz)	14808-60-7	1-5
Silicon	7440-21-3	1-5
Nickel	7440-02-0	1-5
Iron	7439-89-6	1-5
Calcium Fluoride	7789-75-5	1-5
Manganese	7439-96-5	0.1-1

The specific identity and/or exact percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Necessary first-aid measures

General Information Call for medical aid. Employ First Aid techniques recommended by the Red Cross.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. Administer artificial respiration if not breathing. If breathing has stopped, contact emergency medical services immediately.

Ingestion Seek medical attention.

Skin contact Wash affected area with soap and water to remove dust or particles. If rash develops, see a physician. For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist.

Eye contact Flush with a large amount of fresh water for at least 15 minutes to remove dusts or fumes. For radiation burns due to arc flash, see physician.

Most important symptoms (acute) Not available.

Most important symptoms (over-exposure) Not available.

Indication of any immediate medical attention and special treatment needed In case of ELECTRIC SHOCK: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live wire parts or wires. If breathing has stopped, begin artificial respiration and obtain medical assistance immediately. If no detectable pulse, begin Cardiopulmonary Resuscitation. (CPR) and immediately call for medical aid.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Use the extinguishing media recommended for the burning material and fire situation.

Unsuitable extinguishing media Not available.

Specific hazards Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding. These products as shipped are non-hazardous, non-flammable, non-explosive, and non-reactive.

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Reasonably expected fume constituents of the fume could include complex oxides of iron. Chromium, cobalt and nickel oxides may also be present.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Solid objects may be picked up and placed in a container. Make sure the solid objects are at room temperature before handling. Gloves should be worn when handling to prevent cuts.

Methods and materials for containment and cleaning up Do not flush residue into waterways.

7. HANDLING AND STORAGE

Precautions for Before using this product, contact your doctor to determine if exposure to this product or

safe handling

use of this product will aggravate your medical conditions. Handle with care to avoid cuts and prevent the wire from piercing the skin. Wear gloves. Some individuals may develop an allergic reaction to certain materials. Keep all warning and identification labels on the product. Avoid exposure to dust and do not ingest. Gloves should be worn when handling to prevent cuts. Warn wearers of heart pacemakers or other medical electronic equipment vital to life that welding operations may impede the function of the medical device.

Conditions for safe storage, including any incompatibilities

Keep material sealed and dry before use. After using, keep remaining product sealed and dry and do not remove product identification label or warning label. Do not remove product identification label or warning label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Cobalt	0.1 mg/m³ TWA	0.02 mg/m³ TWA	0.05 mg/m³ TWA
Chromium	1 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA
Calcium Carbonate	15 mg/m³ TWA 5 mg/m³ TWA	-	10 mg/m³ TWA 5 mg/m³ TWA
Tungsten	-	3 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA
Titanium dioxide	15 mg/m³ TWA	10 mg/m³ TWA	-
Sodium Silicate	-	-	-
Silicon Dioxide (Crystalline Quartz)	50 µg/m³ TWA 50 µg/m³ TWA	0.025 mg/m³ TWA	0.05 mg/m³ TWA
Silicon	15 mg/m³ TWA 5 mg/m³ TWA	-	10 mg/m³ TWA 5 mg/m³ TWA
Nickel	1 mg/m³ TWA	1.5 mg/m³ TWA	0.015 mg/m³ TWA 0.015 mg/m³ TWA
Iron	-	-	-
Calcium Fluoride	2.5 mg/m³ TWA	2.5 mg/m³ TWA	-
Manganese	5 mg/m³ Ceiling	0.02 mg/m³ TWA 0.1 mg/m³ TWA	3 mg/m³ STEL 1 mg/m³ TWA 1 mg/m³ TWA

Appropriate engineering controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Read and understand the manufacturer's instructions and precautionary label on this product. Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV's in the workers breathing zone and the general area. Train welder to keep head out of fumes. Monitor fume levels and do not exceed permissible exposure limits or values. Wear head, hand and body protection which help prevent injury from radiation, sparks, heat, and electrical shock. See ANSI Z49.1. When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section 3. Fume and decomposition products, not the ingredients in the electrode, are important. Decomposition products include those originating from the volatilization, reaction or oxidation of the wire or rod plus those from the base metal and coating. These components are virtually always present as complex oxides and not as metals. Reasonably expected fume constituents of the fume could include complex oxides of iron and manganese.

Individual protection measures, such as personal protective equipment

Eye protection

Wear a helmet or face shield with a filter lens of shade 12 or darker. Provide screens and flash goggles to shield others.

Skin and body protection

Wear head, hand, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum, this includes welders' gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate themselves from work and ground, especially if clothing and gloves are wet.

Respiratory protection Use respirable fume respirator or air supplied respirator when welding in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's. Monitor fume levels and do not exceed permissible exposure limits or values. One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1.

Hygiene measures Do not eat, drink or smoke when using this product.

Canadian Province Occupational Exposure Limits

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
Cobalt	0.02 mg/m³ TWA	0.02 mg/m³ TWA 0.02 mg/m³ TWA	0.02 mg/m³ TWA	0.02 mg/m³ TWA	0.02 mg/m³ TWA 0.02 mg/m³ TWA	0.02 mg/m³ TWA	0.02 mg/m³ TWA 0.02 mg/m³ TWA	0.02 mg/m³ TWA 0.02 mg/m³ TWA	0.02 mg/m³ TWAEV 0.02 mg/m³ TWAEV	0.06 mg/m³ STEL 0.02 mg/m³ TWA 0.02 mg/m³ TWA
Chromium	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWAEV	1.5 mg/m³ STEL 0.5 mg/m³ TWA
Calcium Carbonate	10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA 3 mg/m³ TWA	-	10 mg/m³ TWA	-	-	-	-	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Tungsten	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	3 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	3 mg/m³ TWA 3 mg/m³ TWA	3 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	3 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ STEV 5 mg/m³ TWAEV	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA
Titanium dioxide	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Sodium Silicate	-	-	-	-	-	-	-	-	-	-
Silicon Dioxide (Crystalline Quartz)	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.1 mg/m³ TWA	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.10 mg/m³ TWA	0.025 mg/m³ TWA	0.1 mg/m³ TWAEV	0.05 mg/m³ TWA
Silicon	-	10 mg/m³ TWA 3 mg/m³ TWA	-	10 mg/m³ TWA	-	-	-	-	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Nickel	1.5 mg/m³ TWA	0.05 mg/m³ TWA	1.5 mg/m³ TWA	1 mg/m³ TWA	1.5 mg/m³ TWA	1.5 mg/m³ TWA	1 mg/m³ TWA	1.5 mg/m³ TWA	1 mg/m³ TWAEV	3 mg/m³ STEL 1.5 mg/m³ TWA
Iron	-	-	-	-	-	-	-	-	-	-
Calcium Fluoride	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWAEV	5 mg/m³ STEL 2.5 mg/m³ TWA
Manganese	0.2 mg/m³ TWA	0.2 mg/m³ TWA 0.2 mg/m³ TWA	0.02 mg/m³ TWA 0.1 mg/m³ TWA	0.2 mg/m³ TWA	0.02 mg/m³ TWA 0.1 mg/m³ TWA 0.02 mg/m³ TWA 0.1 mg/m³ TWA	0.02 mg/m³ TWA 0.1 mg/m³ TWA	0.2 mg/m³ TWA 0.02 mg/m³ TWA 0.1 mg/m³ TWA	0.02 mg/m³ TWA 0.1 mg/m³ TWA 0.02 mg/m³ TWA 0.1 mg/m³ TWA	0.2 mg/m³ TWAEV 0.2 mg/m³ TWAEV	0.6 mg/m³ STEL 0.2 mg/m³ TWA 0.2 mg/m³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Gray
Odor	None
Odor threshold	Not available
pH	Not applicable
Melting point/range °C	>1000
Melting point/range °F	>1800
Boiling point/range °C	Not available
Boiling point/range °F	Not available
Flash point °C / °F	Not available
Evaporation rate	Not available
Flammability (Solid, Gas)	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Vapor pressure	Not applicable
Vapor density	Not available
Relative density	Not available
Solubility	insoluble
Partition coefficient (n-octanol/water)	Not available
Autoignition temperature °C	Not available
Autoignition temperature °F	Not available
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	Contact with chemical substances like acids or strong bases could cause generation of gas.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Not available.

Conditions to avoid

Not available.

Incompatible materials

Contact with chemical substances like acids or strong bases could cause generation of gas.

Hazardous decomposition products

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may also be formed by radiation from the arc. Refer to applicable national exposure limits for the fume compounds. Reasonably expected fume constituents of the fume could include complex oxides of iron and manganese. The employer should contact an occupational health professional for doing fume monitoring to determine fumes emitted and to ensure compliance to the applicable country limits. Other country exposure limits may be different and the appropriate country standards should be used.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Dermal. Inhalation. Eyes.

Symptoms

Welding fumes cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include:. Coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and the amount of ventilation, position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (group 2B). Pre-existing respiratory or allergic conditions may be aggravated in some individuals (i.e. asthma, emphysema). Overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat or eyes. Primary route of entry is the respiratory system. Iron, iron oxide, manganese: remove from overexposure and apply artificial respiration if needed. Ingestion not an expected route of entry, but if ingested product could cause serious injury. Arc Rays can injure eyes. Spatter and molten metal can cause burn injuries. Electric shock can kill. Skin cancer has been reported from arc radiation. May cause an allergic skin reaction. Warn wearers of heart pacemakers or other medical electronic equipment vital to life that welding operations may impede the function of the medical device.

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

Primary route of entry is the respiratory system. Long term overexposure to iron fumes can cause deposits of iron in the lungs (siderosis). Lungs will clear in time when exposure to iron and its compounds cease. Long term exposure can lead to Manganism.The central nervous system is affected and symptoms include muscular weakness and tremor. Exposed workers should get quarterly medical examinations for manganism. Bronchitis and some lung fibrosis have been reported. Overexposure to fluorides can cause serious bone erosion, excessive calcification of the bone and calcification of the ribs, pelvis, and spinal column. May cause skin rash. Long term overexposure to nickel compounds may cause lung fibrosis, edema or pneumoconiosis. Long term overexposure to hexavalent chromium (CrVI) is reported to cause lung cancer in humans.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Cobalt	> 10 mg/L (Rat) 1 h	-	= 6171 mg/kg (Rat)
Chromium	-	-	-
Calcium Carbonate	-	-	-
Tungsten	-	-	-
Titanium dioxide	-	-	> 10000 mg/kg (Rat)
Sodium Silicate	-	> 4640 mg/kg (Rabbit)	= 1960 mg/kg (Rat)
Silicon Dioxide (Crystalline Quartz)	-	-	-
Silicon	-	-	= 3160 mg/kg (Rat)

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Nickel	-	-	> 9000 mg/kg (Rat)
Iron	-	-	= 30 g/kg (Rat)
Calcium Fluoride	-	-	= 4250 mg/kg (Rat)
Manganese	-	-	= 9 g/kg (Rat)

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA RTK Carcinogens	NTP
Cobalt	A3	Group 2B	Listed	Reasonably Anticipated
Chromium	A4	Group 3	-	-
Calcium Carbonate	-	-	-	-
Tungsten	-	-	-	-
Titanium dioxide	A4	Group 2B	Listed	-
Sodium Silicate	-	-	-	-
Silicon Dioxide (Crystalline Quartz)	A2	Group 1	Listed	Known
Silicon	-	-	-	-
Nickel	-	Group 1 Group 2B	Listed	Known Reasonably Anticipated
Iron	-	-	-	-
Calcium Fluoride	A4	Group 3	-	-
Manganese	A4	-	-	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Cobalt	-	IARC 2B	ACGIH A3	ACGIH A3	ACGIH A3	C3 carcinogen
Chromium	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Calcium Carbonate	-	-	-	-	-	-
Tungsten	-	-	-	-	-	-
Titanium dioxide	-	IARC 2B	ACGIH A4	ACGIH A4	ACGIH A4	-
Sodium Silicate	-	-	-	-	-	-
Silicon Dioxide (Crystalline Quartz)	A2 - Suspected Human Carcinogen	ACGIH A2 IARC 1	ACGIH A2	-	ACGIH A2	C2 carcinogen
Silicon	-	-	-	-	-	-
Nickel	-	IARC 2B	ACGIH A5	-	ACGIH A5	-
Iron	-	-	-	-	-	-
Calcium Fluoride	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Manganese	-	-	ACGIH A4	-	ACGIH A4	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Cobalt	-	100: 96 h Brachydanio rerio mg/L LC50 static
Chromium	-	-
Calcium Carbonate	-	-
Tungsten	-	-
Titanium dioxide	-	-
Sodium Silicate	-	301 - 478: 96 h Lepomis macrochirus mg/L LC50 3185: 96 h Brachydanio rerio mg/L LC50 semi-static
Silicon Dioxide (Crystalline Quartz)	-	-
Silicon	-	-
Nickel	0.18: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.174 - 0.311: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	1.3: 96 h Cyprinus carpio mg/L LC50 semi-static 100: 96 h Brachydanio rerio mg/L LC50 10.4: 96 h Cyprinus carpio mg/L LC50 static
Iron	-	13.6: 96 h Morone saxatilis mg/L LC50 static
Calcium Fluoride	-	-
Manganese	-	-

Persistence and degradability Not available.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Cobalt 7440-48-4	7440-48-4	-
Chromium 7440-47-3	7440-47-3	-
Calcium Carbonate 1317-65-3	1317-65-3	-
Tungsten 7440-33-7	7440-33-7	-
Titanium dioxide 13463-67-7	13463-67-7	-
Sodium Silicate 1344-09-8	1344-09-8	-
Silicon Dioxide (Crystalline Quartz) 14808-60-7	14808-60-7	-
Silicon 7440-21-3	7440-21-3	-
Nickel 7440-02-0	7440-02-0	-
Iron 7439-89-6	7439-89-6	-
Calcium Fluoride 7789-75-5	7789-75-5	-
Manganese 7439-96-5	7439-96-5	-

Mobility in soil Not available.

Other adverse effects Welding consumables and materials can degrade into the components used to manufacture the product. Avoid exposure to conditions that could lead to accumulation in soils and groundwater.

13. DISPOSAL CONSIDERATIONS

Disposal information Dispose of any grinding dust and waste resides in accordance with EPA or local regulations. Plastic materials, cardboard, and wire can be recycled. Do not flush residue into waterways.

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

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT
Proper shipping name Not regulated

TDG
Proper shipping name Not regulated

IATA
Proper shipping name Not regulated

IMDG/IMO
Proper shipping name Not regulated

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Cobalt	7440-48-4	-	-	-
Chromium	7440-47-3	-	-	-
Calcium Carbonate	1317-65-3	-	-	-
Tungsten	7440-33-7	-	-	-
Titanium dioxide	13463-67-7	-	-	-
Sodium Silicate	1344-09-8	-	-	-
Silicon Dioxide (Crystalline Quartz)	14808-60-7	-	-	-
Silicon	7440-21-3	-	-	-
Nickel	7440-02-0	-	-	-
Iron	7439-89-6	-	-	-
Calcium Fluoride	7789-75-5	-	-	-
Manganese	7439-96-5	-	-	-

Special Precautions Multi-modal shipping descriptions are provided for informational purposes and do not consider container size. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

15. REGULATORY INFORMATION

State regulations

U.S. state Right-to-Know regulations

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Cobalt	7440-48-4	X	X	X
Chromium	7440-47-3	X	X	X
Calcium Carbonate	1317-65-3	X	X	X
Tungsten	7440-33-7	X	X	X
Titanium dioxide	13463-67-7	X	X	X
Sodium Silicate	1344-09-8	-	-	-
Silicon Dioxide (Crystalline Quartz)	14808-60-7	X	X	X
Silicon	7440-21-3	X	X	X
Nickel	7440-02-0	X	X	X
Iron	7439-89-6	-	-	-
Calcium Fluoride	7789-75-5	-	X	-
Manganese	7439-96-5	X	X	X

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Cobalt	7440-48-4	Carcinogen
Chromium	7440-47-3	Carcinogen, Birth defects, reproductive harm
Calcium Carbonate	1317-65-3	-
Tungsten	7440-33-7	-
Titanium dioxide	13463-67-7	Carcinogen
Sodium Silicate	1344-09-8	-
Silicon Dioxide (Crystalline Quartz)	14808-60-7	Carcinogen
Silicon	7440-21-3	-
Nickel	7440-02-0	Carcinogen
Iron	7439-89-6	-
Calcium Fluoride	7789-75-5	-
Manganese	7439-96-5	-

California Proposition 65 — Warning: This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Cobalt	7440-48-4	-	0.1 %
Chromium	7440-47-3	5000 lb 2270 kg 10 lb 4.54 kg	1.0 %
Calcium Carbonate	1317-65-3	-	-
Tungsten	7440-33-7	-	-
Titanium dioxide	13463-67-7	-	-
Sodium Silicate	1344-09-8	-	-
Silicon Dioxide (Crystalline Quartz)	14808-60-7	-	-
Silicon	7440-21-3	-	-

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Nickel	7440-02-0	100 lb 45.4 kg	0.1 %
Iron	7439-89-6	-	-
Calcium Fluoride	7789-75-5	-	-
Manganese	7439-96-5	-	1.0 %

US EPA SARA 311/312 hazardous categorization Not available

International inventories All components of this product are listed on the following inventories: U.S.A. (TSCA 8(b)), Canada (DSL/NDSL) or are exempt.

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Cobalt	X	X	-
Chromium	X	X	-
Calcium Carbonate	X	X	-
Tungsten	X	X	-
Titanium dioxide	X	X	-
Sodium Silicate	X	X	-
Silicon Dioxide (Crystalline Quartz)	X	X	-
Silicon	X	X	-
Nickel	X	X	-
Iron	X	X	-
Calcium Fluoride	X	X	-
Manganese	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health 2
Flammability 0
Instability 0

HMIS

Health 2
Flammability 0
Physical hazards 0

Notice: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

Prepared by Regulatory Affairs

Issue date 21-Sep-2018

Revision date 21-Sep-2018

Revision note

Key to abbreviations

ACGIH (American Conference of Governmental Industrial Hygienists)
ATE (Average Toxicity Estimate)
DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
HMIS (Hazardous Materials Identification System)
IARC (International Agency for Research on Cancer)
IATA (International Air Transport Association)
IMDG/IMO (International Maritime Dangerous Goods/International Maritime Orgnaization)
NFPA (National Fire Protection Association)
NTP (National Toxicology Program)
OEL (Occupational Exposure Level)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
TSCA (Toxic Substance Control Act)
USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet