Safety Data Sheet

Issue date 06-Aug-2018 **Revision date** 14-Dec-2022 **Revision Number** 2

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 7230 Carbide Hardfacing Stick Rod Electrode
Other means of identification	CW1910
Recommended use	Brazing Alloy, Welding Alloy
Restrictions on use	For industrial use only, 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)

Website www.lawsonproducts.com

2. HAZARD(S) IDENTIFICATION

Hazard Classification This product is normally not considered hazardous as shipped. Avoid contact with eyes. Avoid inhalation of dust from the product. When this product is used in a welding process the most important hazards are: heat, radiation, electric shock and welding fumes.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2

Symbol

Signal word WARNING

Hazard statements
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H351 - Suspected of causing cancer

Precautionary statements

General P102 - Keep out of reach of children

Prevention
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash skin thoroughly after handling
P280 - Wear protective gloves/protective clothing and eye/face protection
P281 - Use personal protective equipment as required

Response

General P308 + P313 - IF exposed or concerned: Get medical advice/attention

Eyes
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Skin
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Inhalation P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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) None known.

Unknown acute toxicity None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Mixture.

Chemical name	CAS-No	Weight %
Iron	7439-89-6	40-70
Chromium	7440-47-3	15-40
Tungsten	7440-33-7	1-5
Quartz (Crystalline Silica)	14808-60-7	1-5
Niobium	7440-03-1	3-7
Molybdenum	7439-98-7	3-7
Carbon	7440-44-0	3-7
Calcium carbonate	1317-65-3	0.5-5
Vanadium	7440-62-2	0.5-1.5
Manganese	7439-96-5	< 1
Calcium Fluoride	14542-23-5	0.5-1.5
Hexavalent Chromium	18540-29-9	<0.1

4. FIRST-AID MEASURES

Necessary first-aid measures

General Information	For electrocution, stop powder to the equipment or remove the victim from contact with live circuits, if this can be done without risk to yourself. Get immediate medical advice/attention.
Inhalation	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention immediately.
Skin contact	Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
Eye contact	Flush with plenty of water for at least 15 minutes. Get medical attention.

Most important symptoms (acute)	Not available.
Most important symptoms (over-exposure)	Not available.
Indication of any immediate medical attention and special treatment needed	Not available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray. Alcohol resistant foam. Dry chemical. Carbon dioxide (CO2). Use the extinguishing media recommended for the burning material and fire situation.
Unsuitable extinguishing media	Not applicable.
Specific hazards	Welding arcs and sparks can ignite combustible and flammable materials. Hazardous Thermal Decomposition Products:. Chromium oxide. Manganese oxide. Iron Oxide. hydrogen fluoride. Calcium oxide. Oxides of carbon. Tungsten oxide. molybdenum oxide. Niobium oxide. vanadium oxide.
Special protective equipment for fire-fighters	Firefighters should wear NIOSH/MSHA approved (or equivalent) self-contained pressure-demand breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection recommended in Section 8. For waste disposal, see section 13 of the SDS.
Methods and materials for containment and cleaning up	Solid objects may be picked up and placed in a container. Make sure the solid objects are at room temperature before handling. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Dispose contaminated material as waste according to section 13.

7. HANDLING AND STORAGE

Precautions for safe handling	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.
Conditions for safe storage, including any	Keep in a dry, cool and well-ventilated place. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

incompatibilities

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	California - PELs	ACGIH OEL (TWA)	NIOSH - TWA
Iron	-			
Chromium	TWA: 1 mg/m³	0.5 mg/m³ PEL	0.5 mg/m³ TWA	0.5 mg/m³ TWA
Tungsten	-	5 mg/m³ PEL 5 mg/m³ PEL (as W)	3 mg/m³ TWA	5 mg/m³ TWA 5 mg/m³ TWA
Quartz (Crystalline Silica)	50 µg/m³ TWA	0.05 mg/m³ PEL (total dust); 0.1 mg/m³ PEL (respirable dust)	0.025 mg/m³ TWA	0.05 mg/m³ TWA
Niobium	-			
Molybdenum	15 mg/m³ TWA	3 mg/m³ PEL (respirable fraction) 10 mg/m³ PEL (total dust, as Mo)	10 mg/m³ TWA 3 mg/m³ TWA	
Carbon	-			
Calcium carbonate	15 mg/m³ TWA 5 mg/m³ TWA	5 mg/m³ PEL (respirable fraction, listed under Particulates not otherwise regulated); 10 mg/m³ PEL (total dust, listed under Particulates not otherwise regulated)		10 mg/m³ TWA 5 mg/m³ TWA
Vanadium	-			1 mg/m³ TWA
Manganese	-	0.2 mg/m³ PEL (fume)	0.02 mg/m³ TWA 0.1 mg/m³ TWA	1 mg/m³ TWA
Calcium Fluoride	2.5 mg/m³ TWA	2.5 mg/m³ PEL (as F)	2.5 mg/m³ TWA	2.5 mg/m³ TWA
Hexavalent Chromium	5 µg/m³ TWA	0.005 mg/m³ PEL (as Cr)		0.0002 mg/m³ TWA

Appropriate engineering controls

Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep workplace and protective clothing clean and dry. Train the welder not to touch live electrical parts and to insulate himself from work and ground. Check condition of protective clothing and equipment on a regular basis. Provide adequate ventilation to keep exposure limits below PEL.

Individual protection measures, such as personal protective equipment

Eye protection

Welder's helmet or face shield with color absorbing lenses. Shield and filter to provide protection from harmful UV radiation, infrared and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin and body protection

Wear impervious gloves to prevent contact with the skin. Heat-resistant protective clothing. Wear safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry. Clothing should be selected to suit the level, duration and purpose of the welding activity.

Respiratory protection

Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventilation is not sufficient to keep exposure values within safe limits.

Hygiene measures

Keep away from food, drink and animal feeding stuffs. Wash hands after handling the product. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of workday. Store protective clothing separately. Maintain an ergonomically appropriate working environment. Keep unnecessary and unprotected personnel from entering the area. Wear protective equipment.

Canadian Province Occupational Exposure Limits

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Iron	-	-	-	-	-	-	-	-	-	-
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	0.5 mg/m³ TWA
Tungsten	5 mg/m³ TWA	3 mg/m³ TWA	3 mg/m³ TWA	5 mg/m³ TWA	3 mg/m³ TWA	3 mg/m³ TWA	3 mg/m³ TWA	3 mg/m³ TWA	5 mg/m³ TWAEV	5 mg/m³ TWA 5 mg/m³ TWA
Quartz (Crystalline Silica)	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
Niobium	-	-	-	-	-	-	-	-	-	-
Molybdenum	10 mg/m³ TWA 3 mg/m³ TWA	3 mg/m³ TWA 10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWAEV 3 mg/m³ TWAEV 10 mg/m³ TWAEV 3 mg/m³ TWAEV	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA
Carbon	-	-	-	-	-	-	-	-	-	-
Calcium carbonate	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	-	10 mg/m³ TWA	-	-	-	-	10 mg/m³ TWAEV	10 mg/m³ TWA
Vanadium	-	-	-	-	-	-	-	-	-	-
Manganese	0.2 mg/m³ TWA	0.2 mg/m³ TWA 0.02 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 TWA 0.2 mg/m³ TWA
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	2.5 mg/m³ TWA
Hexavalent Chromium	0.5 mg/m³ TWA	-	-	-	-	-	-	-	-	0.5 mg/m³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state Solid

Color Black

Odor Odorless

Odor threshold Not applicable

pH Not applicable

Melting point/range °C 850 - 1100 °C

Melting point/range °F 1560 - 2000 °F

Boiling point/range °C Not available

Boiling point/range °F Not available

Flash point °C / °F Not available

Evaporation rate Not applicable

Flammability (Solid, Gas)	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	6 - 9
Solubility	Insoluble in water
Partition coefficient (n-octanol/water)	No data available
Autoignition temperature °C	Not applicable
Autoignition temperature °F	Not applicable
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal storage conditions.
Possibility of hazardous reactions	Contact with chemical substances like acids or strong bases could cause generation of gas.
Conditions to avoid	Contact with chemical substances like acids or strong bases could cause generation of gas.
Incompatible materials	Incompatible with acids.
Hazardous decomposition products	When this product is used in a welding process, hazardous decomposition products would include those from volatilization, reaction or oxidation of the materials listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for the fume compounds. Fume limit for chromium, nickel, and or manganese may be reached before limit of 5 mg/m^3 of general welding fumes is reached. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Dermal. Inhalation. Ingestion.
Symptoms	Inhalation of welding fumes and gases can be dangerous to your health. Welding fumes cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being used. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (group 2B). Overexposure to brazing and soldering fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Repeated or prolonged exposure to respirable crystalline silica may cause chronic lung injury (silicosis). Silicosis is a disabling pulmonary fibrosis characterized by fibrotic changes and military nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion and increased susceptibility to tuberculosis. May cause sensitization by skin contact.

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

Overexposure to brazing and soldering fumes may affect pulmonary function. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. Prolonged inhalation of crystalline silica above safe exposure limits can cause cancer. Prolonged inhalation of vanadium compounds may cause pneumonia and may affect the kidneys, respiratory system, skin and eyes (chronic symptoms of vanadium toxicity).

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Iron	-	= 30 g/kg Rat	30 g/kg Rat
Chromium	-	-	-
Tungsten	-	>2000 mg/kg Rat	> 2000 mg/kg Rat
Quartz (Crystalline Silica)	-	-	-
Niobium	>5.45 mg/L Rat	>2000 mg/kg Rat	> 2000 mg/kg Rat
Molybdenum	>5.84 mg/L Rat	>2000 mg/kg Rat	> 2000 mg/kg Rat
Carbon	-	> 10000 mg/kg Rat	>10000 mg/kg Rat
Calcium carbonate	no data available	-	6450 mg/kg (Rat)
Vanadium	-	> 2000 mg/kg Rat	>2000 mg/kg Rat
Manganese	>5.14 mg/L Rat	= 9 g/kg Rat	9 g/kg Rat
Calcium Fluoride	>5070 mg/m³ Rat	= 4250 mg/kg Rat	4250 mg/kg Rat
Hexavalent Chromium	-	-	-

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 Carcinogens	NTP
Iron	-	-	-	-
Chromium	-	Group 3	-	-
Tungsten	-	-	-	-
Quartz (Crystalline Silica)	A2	Group 1	Present	Known carcinogen
Niobium	-	-	-	-
Molybdenum	-	-	-	-
Carbon	-	-	-	-
Calcium carbonate	-	-	-	-
Vanadium	-	-	-	-
Manganese	A4	-	-	-
Calcium Fluoride	A4	Group 3	-	-

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA Carcinogens	NTP
Hexavalent Chromium	-	Group 1	Present	Known carcinogen

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Iron	-	-	-	-	-	-
Chromium	-	-	-	ACGIH A4	-	-
Tungsten	-	-	-	-	-	-
Quartz (Crystalline Silica)	A2 - Suspected Human Carcinogen	IARC 1 ACGIH A2	ACGIH A2	-	ACGIH A2	C2 carcinogen
Niobium	-	-	-	-	-	-
Molybdenum	-	-	-	-	-	-
Carbon	-	-	-	-	-	-
Calcium carbonate	-	-	-	-	-	-
Vanadium	-	-	-	-	-	-
Manganese	-	-	ACGIH A4	-	ACGIH A4	-
Calcium Fluoride	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Hexavalent Chromium	-	IARC 1 ACGIH A1	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish LC50
Iron	-	-
Chromium	-	-
Tungsten	-	-
Quartz (Crystalline Silica)	-	-
Niobium	-	-
Molybdenum	-	-
Carbon	-	-
Calcium carbonate	-	-
Vanadium	-	-
Manganese	-	> 3.6mg/L Oncorhynchus mykiss 96h
Calcium Fluoride	-	-
Hexavalent Chromium	-	=36.2 mg/L Pimephales promelas 96h =7.6 mg/L Oncorhynchus mykiss 96h

Persistence and degradability The welding rods consist of elements that cannot degrade any further in the environment.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
Iron 7439-89-6	7439-89-6	-	140000
Chromium 7440-47-3	7440-47-3	-	200
Tungsten	7440-33-7	-	-

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
7440-33-7			
Quartz (Crystalline Silica) 14808-60-7	14808-60-7	-	-
Niobium 7440-03-1	7440-03-1	-	-
Molybdenum 7439-98-7	7439-98-7	-	-
Carbon 7440-44-0	7440-44-0	-	0.14
Calcium carbonate 1317-65-3	1317-65-3	-	-
Vanadium 7440-62-2	7440-62-2	-	-
Manganese 7439-96-5	7439-96-5	-	59052
Calcium Fluoride 14542-23-5	14542-23-5	-	-
Hexavalent Chromium 18540-29-9	18540-29-9	-	-

Mobility in soil Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

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. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

13. DISPOSAL CONSIDERATIONS

Disposal information Collect, transport, store or dispose in accordance with local, state, provincial and federal regulations. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste.

Contaminated packaging Dispose in accordance with local, state and federal regulations.

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
Iron	7439-89-6	-	-	-

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Chromium	7440-47-3	-	-	-
Tungsten	7440-33-7	-	-	-
Quartz (Crystalline Silica)	14808-60-7	-	-	-
Niobium	7440-03-1	-	-	-
Molybdenum	7439-98-7	-	-	-
Carbon	7440-44-0	-	-	-
Calcium carbonate	1317-65-3	-	-	-
Vanadium	7440-62-2	-	-	-
Manganese	7439-96-5	-	-	-
Calcium Fluoride	14542-23-5	-	-	-
Hexavalent Chromium	18540-29-9	-	-	-

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
Iron	7439-89-6	-	-	-
Chromium	7440-47-3	X	X	X
Tungsten	7440-33-7	X	X	X
Quartz (Crystalline Silica)	14808-60-7	X	X	X
Niobium	7440-03-1	-	-	-
Molybdenum	7439-98-7	X	X	X
Carbon	7440-44-0	-	-	-
Calcium carbonate	1317-65-3	X	X	X
Vanadium	7440-62-2	X	X	X
Manganese	7439-96-5	X	X	X
Calcium Fluoride	14542-23-5	-	X	-
Hexavalent Chromium	18540-29-9	-	X	X

California Prop. 65

WARNING: This product contains a chemical(s) known to the state of California to cause cancer

Chemical name	CAS-No	California Prop. 65
Iron	7439-89-6	-
Chromium	7440-47-3	-
Tungsten	7440-33-7	-
Quartz (Crystalline Silica)	14808-60-7	Carcinogen
Niobium	7440-03-1	-
Molybdenum	7439-98-7	-
Carbon	7440-44-0	-
Calcium carbonate	1317-65-3	-

Chemical name	CAS-No	California Prop. 65
Vanadium	7440-62-2	-
Manganese	7439-96-5	-
Calcium Fluoride	14542-23-5	-
Hexavalent Chromium	18540-29-9	Carcinogen Developmental Female Reproductive Male Reproductive

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Iron	7439-89-6	-	-
Chromium	7440-47-3	5000 lb 2270 kg 10 lb 4.54 kg	1.0 %
Tungsten	7440-33-7	-	-
Quartz (Crystalline Silica)	14808-60-7	-	-
Niobium	7440-03-1	-	-
Molybdenum	7439-98-7	-	-
Carbon	7440-44-0	-	-
Calcium carbonate	1317-65-3	-	-
Vanadium	7440-62-2	-	1.0 %
Manganese	7439-96-5	-	1.0 %
Calcium Fluoride	14542-23-5	-	-
Hexavalent Chromium	18540-29-9	10 lb 4.54 kg	0.1 %

US EPA SARA 311/312 hazardous categorization Not applicable

TSCA and Canadian Inventories

Chemical name	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification	DSL	NDSL
Iron	X	-	X	-
Chromium	X	-	X	-
Tungsten	X	-	X	-
Quartz (Crystalline Silica)	X	-	X	-
Niobium	X	-	X	-
Molybdenum	X	-	X	-
Carbon	X	-	X	-
Calcium carbonate	X	-	-	X
Vanadium	X	-	X	-
Manganese	X	-	X	-
Calcium Fluoride	X	-	X	X
Hexavalent Chromium	-	X	-	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health	Not available
Flammability	Not available
Instability	Not available

HMIS

Health	Not available
Flammability	Not available
Physical hazards	Not available

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

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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