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Revision Number 3

1. IDENTIFICATION

Product identification

Product identifier	Certanium® 281 Martensitic Hardfacing Stick Rod Electrode
Other means of identification	P12037
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

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(800) 323-5922

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

Website <https://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.

Carcinogenicity	Category 2
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Symbol



Signal word WARNING

Hazard statements H351 - Suspected of causing cancer

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	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 P281 - Use personal protective equipment as required
Response	
General	P321 - For Specific treatment see section 4 of this sds P308 + P313 - IF exposed or concerned: 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)	None known.
Unknown acute toxicity	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Mixture.

Chemical name	CAS-No	Weight %
Iron	7439-89-6	65-75
Manganese	7439-96-5	1-11
Kaolin	1332-58-7	1-11
Chromium	7440-47-3	1-11
Cellulose	9004-34-6	1-11
Calcium Carbonate	1317-65-3	1-11
Titanium Dioxide	13463-67-7	1-11
Potassium Silicate	1312-76-1	1-11
Feldspar	68476-25-5	1-11
Black Iron Oxide - Magnetite	1309-38-2	1-5
Hexavalent Chromium	18540-29-9	<0.001

4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Ingestion	Rinse mouth. Contact physician or poison control center immediately.
Skin contact	Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention.
Most important symptoms	Not available.

(acute)

**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**

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**

Do not use water on molten metal. Large fires may be flooded with water from a safe distance.

Specific hazards

Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding. Welding arcs and sparks can ignite combustible and flammable materials. Hazardous Thermal Decomposition Products:.. Iron Oxide. Chromium oxide. Manganese 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.

**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. Do not discard as refuse.

7. HANDLING AND STORAGE

**Precautions for
safe handling**

Gloves should be worn when handling to prevent cuts. Avoid exposure to dust and do not ingest. Some individuals may develop an allergic reaction to certain materials.

**Conditions for safe
storage, including any
incompatibilities**

Incompatible with strong acids and bases. After using, keep remaining product sealed and dry and 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
Iron	-	-	-
Manganese	-	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	1 mg/m ³ TWA
Kaolin	15 mg/m ³ TWA 5 mg/m ³ TWA	2 mg/m ³ TWA	10 mg/m ³ TWA 5 mg/m ³ TWA
Chromium	1 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA
Cellulose	15 mg/m ³ TWA 5 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA 5 mg/m ³ TWA 1 mg/m ³ TWA

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Calcium Carbonate	15 mg/m ³ TWA 5 mg/m ³ TWA	-	10 mg/m ³ TWA 5 mg/m ³ TWA
Titanium Dioxide	15 mg/m ³ TWA	10 mg/m ³ TWA	2.4 mg/m ³ TWA 0.3 mg/m ³ TWA
Potassium Silicate	-	-	-
Feldspar	-	-	-
Black Iron Oxide - Magnetite	-	-	-
Hexavalent Chromium	5 µg/m ³ TWA	-	0.0002 mg/m ³ TWA

Appropriate engineering controls

The usual precautionary measures for handling chemicals should be followed. Keep away from food, beverages, and feed. 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. Wear protective equipment. Keep unprotected persons away. Avoid creating dust. Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits.

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

Do not use in areas without adequate ventilation. See ANSI Z49.1 - Safety in Welding, Cutting, and Allied Processes published by the American Welding Society or CSA W117.2 - Safety in Welding, Cutting, and Allied Processes published by the Canadian Standards Association. 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

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	-	-	-	-	-	-	-	-	-	-
Manganese	0.2 mg/m ³ TWA	0.2 mg/m ³ TWA 0.02 mg/m ³ TWA	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	0.2 mg/m ³ TWA	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	0.2 mg/m ³ TWA 0.1 mg/m ³ TWA	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	0.2 mg/m ³ TWA TWA EV	0.2 mg/m ³ TWA
Kaolin	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	5 mg/m ³ TWA TWA EV	2 mg/m ³ TWA
Chromium	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA TWA EV	0.5 mg/m ³ TWA
Cellulose	10 mg/m ³ TWA 5 mg/m ³ TWA	10 mg/m ³ TWA 3 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA TWA EV 5 mg/m ³ TWA EV	10 mg/m ³ TWA
Calcium Carbonate	10 mg/m ³	10 mg/m ³	-	10 mg/m ³	-	-	-	-	10 mg/m ³	10 mg/m ³

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
	TWA	TWA 3 mg/m ³ TWA		TWA					TWAEV	TWA
Titanium Dioxide	10 mg/m ³ TWA	10 mg/m ³ TWA 3 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWAEV	10 mg/m ³ TWA
Potassium Silicate	-	-	-	-	-	-	-	-	-	-
Feldspar	-	-	-	-	-	-	-	-	-	-
Black Iron Oxide - Magnetite	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium	0.5 mg/m ³ TWA	-	-	-	-	-	-	-	-	0.5 mg/m ³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Gray
Odor	Odorless
Odor threshold	Not applicable
pH	Not applicable
Melting point/range °C	850-1100
Melting point/range °F	1560-2000
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 g/cm ³
Solubility	insoluble
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. Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Conditions to avoid Keep away from acids.

Incompatible materials Oxidizing agents. Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate hydrogen gas which could create an explosive hazard.

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. Reasonably expected gaseous products would include: Ozone. Nitrogen oxides (NOx). carbon oxides. 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 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. Tin exposure may cause skin irritation. Eye contact may cause mechanical irritation. Inhalation of tin dust may cause respiratory tract and mucous membrane tract irritation due to mechanical action. It is poorly absorbed from the digestive tract. It can cause gastrointestinal tract disturbance which may be irritant or astringent on the stomach. Symptoms of copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis and coma. Silver may cause discoloration of the eyes and skin. (Argyria). Symptoms of systematic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis and coma. Signs and symptoms of zinc exposure are central nervous system depression, cough, chest pain and difficulty breathing. Exposure to high airborne concentrations can cause anesthetic effects. Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams.

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. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defect and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis, damage to the lungs, vomiting, diarrhea, abdominal pain and blood disorders. Excessive inhalation of zinc oxide fumes may produce symptoms known as "zinc shakes" which are flu-like and usually cease when the individual is removed from the source. Prolonged or repeated exposure can cause vomiting, diarrhea, lung irritation.

Prolonged inhalation of nickel above safe exposure limits may cause cancer.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Iron	-	= 30 g/kg Rat	30 g/kg Rat
Manganese	-	= 9 g/kg Rat	9 g/kg Rat
Kaolin	-	> 5000 mg/kg Rat >5000 mg/kg Rat	>5000 mg/kg Rat > 5000 mg/kg Rat
Chromium	-	-	-
Cellulose	>5800 mg/m ³ Rat	> 5 g/kg Rat >2000 mg/kg Rabbit	>5 g/kg Rat > 2 g/kg Rabbit
Calcium Carbonate	-	-	-
Titanium Dioxide	-	> 10000 mg/kg Rat	>10000 mg/kg Rat
Potassium Silicate	-	= 5700 mg/kg Rat	5700 mg/kg Rat
Feldspar	-	-	-
Black Iron Oxide - Magnetite	-	> 10000 mg/kg Rat	>10000 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	-	-	-	-
Manganese	A4	-	-	-
Kaolin	A4	-	-	-
Chromium	-	Group 3	-	-
Cellulose	-	Group 1	Present	Known carcinogen
Calcium Carbonate	-	-	-	-
Titanium Dioxide	A4	Group 2B	Present	-
Potassium Silicate	-	-	-	-
Feldspar	-	-	-	-
Black Iron Oxide - Magnetite	-	-	-	-
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	-	-	-	-	-	-
Manganese	-	-	ACGIH A4	-	ACGIH A4	-
Kaolin	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Chromium	-	-	-	ACGIH A4	-	-
Cellulose	-	-	-	-	-	-
Calcium Carbonate	-	-	-	-	-	-
Titanium Dioxide	-	IARC 2B	ACGIH A4	ACGIH A4	ACGIH A4	-
Potassium Silicate	-	-	-	-	-	-
Feldspar	-	-	-	-	-	-
Black Iron Oxide - Magnetite	-	-	-	-	-	-
Hexavalent Chromium	-	IARC 1	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish LC50
Iron	-	= 13.6mg/L <i>Morone saxatilis</i> 96h
Manganese	-	> 3.6mg/L <i>Oncorhynchus mykiss</i> 96h
Kaolin	-	-
Chromium	-	-
Cellulose	-	-
Calcium Carbonate	-	-
Titanium Dioxide	-	-
Potassium Silicate	-	301 - 478mg/L <i>Lepomis macrochirus</i> 96h = 3185mg/L <i>Brachydanio rerio</i> 96h
Feldspar	-	-
Black Iron Oxide - Magnetite	-	-
Hexavalent Chromium	-	=36.2 mg/L <i>Pimephales promelas</i> 96h =7.6 mg/L <i>Oncorhynchus mykiss</i> 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
Manganese 7439-96-5	7439-96-5	-	59052
Kaolin 1332-58-7	1332-58-7	-	-
Chromium 7440-47-3	7440-47-3	-	200
Cellulose 9004-34-6	9004-34-6	-	-
Calcium Carbonate 1317-65-3	1317-65-3	-	-
Titanium Dioxide 13463-67-7	13463-67-7	-	-
Potassium Silicate 1312-76-1	1312-76-1	-	no bioaccumulation expected
Feldspar 68476-25-5	68476-25-5	-	-

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
Black Iron Oxide - Magnetite 1309-38-2	1309-38-2	-	-
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 In massive form, welding rods present no hazards to the aquatic environment. 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	-	-	-
Manganese	7439-96-5	-	-	-
Kaolin	1332-58-7	-	-	-
Chromium	7440-47-3	-	-	-
Cellulose	9004-34-6	-	-	-
Calcium Carbonate	1317-65-3	-	-	-
Titanium Dioxide	13463-67-7	-	-	-
Potassium Silicate	1312-76-1	-	-	-
Feldspar	68476-25-5	-	-	-
Black Iron Oxide - Magnetite	1309-38-2	-	-	-
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	-	-	-
Manganese	7439-96-5	X	X	X
Kaolin	1332-58-7	X	X	X
Chromium	7440-47-3	X	X	X
Cellulose	9004-34-6	X	X	X
Calcium Carbonate	1317-65-3	X	X	X
Titanium Dioxide	13463-67-7	X	X	X
Potassium Silicate	1312-76-1	-	-	-
Feldspar	68476-25-5	-	X	X
Black Iron Oxide - Magnetite	1309-38-2	-	-	X
Hexavalent Chromium	18540-29-9	-	X	X

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Iron	7439-89-6	-
Manganese	7439-96-5	-
Kaolin	1332-58-7	-
Chromium	7440-47-3	-
Cellulose	9004-34-6	Carcinogen
Calcium Carbonate	1317-65-3	-
Titanium Dioxide	13463-67-7	Carcinogen
Potassium Silicate	1312-76-1	-
Feldspar	68476-25-5	-
Black Iron Oxide - Magnetite	1309-38-2	-
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	-	-
Manganese	7439-96-5	-	1.0 %
Kaolin	1332-58-7	-	-
Chromium	7440-47-3	5000 lb	1.0 %

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
		2270 kg 10 lb 4.54 kg	
Cellulose	9004-34-6	-	-
Calcium Carbonate	1317-65-3	-	-
Titanium Dioxide	13463-67-7	-	-
Potassium Silicate	1312-76-1	-	-
Feldspar	68476-25-5	-	1.0 %
Black Iron Oxide - Magnetite	1309-38-2	-	-
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	-
Manganese	X	-	X	-
Kaolin	X	-	X	-
Chromium	X	-	X	-
Cellulose	X	-	X	-
Calcium Carbonate	X	-	-	X
Titanium Dioxide	X	-	X	-
Potassium Silicate	X	-	X	-
Feldspar	X	-	-	X
Black Iron Oxide - Magnetite	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/NDL (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 Organization)
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