

Issue date 01-Jun-2018

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Revision Number 2

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 7770 Multi-Purpose Hardfacing Buildup Stick Rod Electrode
Other means of identification	CW1879
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:
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7315 Rapistan Court
Mississauga, ON L5N 5Z4
(800) 323-5922

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

Website <https://www.lawsonproducts.com>

2. HAZARD(S) IDENTIFICATION

Hazard Classification This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), WHMIS 2015 and GHS Regulations.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Symbol



Signal word DANGER

Hazard statements
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation
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

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 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
P280 - Wear protective gloves/protective clothing and eye/face protection

Response

General

P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell.

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
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

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	35-45
Chromium	7440-47-3	15-25
Titanium dioxide	13463-67-7	5-15
Nickel	7440-02-0	5-15
Manganese	7439-96-5	1-11
Calcium Carbonate	1317-65-3	1-11
Feldspar	68476-25-5	1-11
Calcium Fluoride	7789-75-5	1-11
Potassium Silicate	1312-76-1	1-11

Hexavalent Chromium	18540-29-9	<0.001
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4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Ingestion	Immediate medical attention is required. Rinse mouth.
Skin contact	Flush skin with water. Seek medical attention if irritation occurs.
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	In case of fire, use water spray (fog), foam, dry chemical or carbon dioxide. Welding arcs and sparks can ignite combustible and flammable materials. 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 arcs and sparks can ignite combustible and flammable materials. Hazardous Thermal Decomposition Products: Chromium oxide. Calcium oxide. Oxides of nickel. Oxides of Aluminum. Iron Oxide. hydrogen fluoride.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Refer to protective measures listed in sections 7 and 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. Do not discard as refuse.

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	Keep material sealed and dry before use. Keep separate from chemical substances like

**storage, including any
incompatibilities**

acids and strong bases, which could cause chemical reactions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Iron	-	-	-
Chromium	1 mg/m ³ TWA	0.5 mg/m ³ TWA	0.5 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
Nickel	1 mg/m ³ TWA	1.5 mg/m ³ TWA	0.015 mg/m ³ TWA
Manganese	-	0.02 mg/m ³ TWA 0.1 mg/m ³ TWA	1 mg/m ³ TWA
Calcium Carbonate	15 mg/m ³ TWA 5 mg/m ³ TWA	-	10 mg/m ³ TWA 5 mg/m ³ TWA
Feldspar	-	-	-
Calcium Fluoride	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA
Potassium Silicate	-	-	-
Hexavalent Chromium	5 µg/m ³ TWA	-	0.0002 mg/m ³ 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 welder to keep head out of fumes. 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. Ensure all national/local regulations are observed.

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

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 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. A safety shower and eye wash station should be available for emergency use. Wash face, hands and any exposed skin thoroughly after handling.

Canadian Province Occupational Exposure Limits

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Iron	-	-	-	-	-	-	-	-	-	-
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
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 TWA TWA EV	10 mg/m ³ TWA

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Nickel	1.5 mg/m ³ TWA	0.05 mg/m ³ TWA	1.5 mg/m ³ TWA	1 mg/m ³ TWA	1.5 mg/m ³ TWA	1.5 mg/m ³ TWA	1 mg/m ³ TWA	1.5 mg/m ³ TWA	1 mg/m ³ TWA EV	1.5 mg/m ³ TWA
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 EV	0.2 mg/m ³ TWA
Calcium Carbonate	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 EV	10 mg/m ³ TWA
Feldspar	-	-	-	-	-	-	-	-	-	-
Calcium Fluoride	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA EV	2.5 mg/m ³ TWA
Potassium Silicate	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium	0.5 mg/m ³ TWA	-	-	-	-	-	-	-	-	0.5 mg/m ³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Odor	None
Odor threshold	Not available
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 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	No data available
Solubility	Not available
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 When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of the material 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 fume compounds, including those exposure limits for fume compounds found in section 3. Manganese has a low exposure limit, in some countries that may be easily exceeded. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. 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.

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).

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. May cause skin rash.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Iron	-	= 30 g/kg Rat	30 g/kg Rat
Chromium	-	-	-
Titanium dioxide	-	> 10000 mg/kg Rat	>10000 mg/kg Rat
Nickel	>10.2 mg/L Rat	> 9000 mg/kg Rat	>9000 mg/kg Rat
Manganese	-	= 9 g/kg Rat	9 g/kg Rat
Calcium Carbonate	-	-	-
Feldspar	-	-	-
Calcium Fluoride	-	= 4250 mg/kg Rat	4250 mg/kg Rat
Potassium Silicate	-	= 5700 mg/kg Rat	5700 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	-	-
Titanium dioxide	A4	Group 2B	Present	-
Nickel	A5	Group 1 Group 2B	Present	Known carcinogen
Manganese	A4	-	-	-
Calcium Carbonate	-	-	-	-
Feldspar	-	-	-	-
Calcium Fluoride	A4	Group 3	-	-
Potassium Silicate	-	-	-	-
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	-	-
Titanium dioxide	-	IARC 2B	ACGIH A4	ACGIH A4	ACGIH A4	-
Nickel	-	IARC 1 IARC 2B	ACGIH A5	-	ACGIH A5	-
Manganese	-	-	ACGIH A4	-	ACGIH A4	-
Calcium Carbonate	-	-	-	-	-	-
Feldspar	-	-	-	-	-	-
Calcium Fluoride	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Potassium Silicate	-	-	-	-	-	-
Hexavalent Chromium	-	IARC 1	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish LC50
Iron	-	= 13.6mg/L Morone saxatilis 96h
Chromium	-	-
Titanium dioxide	-	-
Nickel	=0.18mg/L Pseudokirchneriella subcapitata 72h	>100 mg/L Brachydanio rerio 96h

Chemical name	Algae/aquatic plants	Fish LC50
		=1.3 mg/L Cyprinus carpio 96h 96h
Manganese	-	> 3.6mg/L Oncorhynchus mykiss 96h
Calcium Carbonate	-	-
Feldspar	-	-
Calcium Fluoride	-	-
Potassium Silicate	-	301 - 478mg/L Lepomis macrochirus 96h = 3185mg/L Brachydanio rerio 96h
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
Titanium dioxide 13463-67-7	13463-67-7	-	-
Nickel 7440-02-0	7440-02-0	-	16
Manganese 7439-96-5	7439-96-5	-	59052
Calcium Carbonate 1317-65-3	1317-65-3	-	-
Feldspar 68476-25-5	68476-25-5	-	-
Calcium Fluoride 7789-75-5	7789-75-5	-	-
Potassium Silicate 1312-76-1	1312-76-1	-	no bioaccumulation expected
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 Dispose of any grinding dust and waste residues 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
Iron	7439-89-6	-	-	-
Chromium	7440-47-3	-	-	-
Titanium dioxide	13463-67-7	-	-	-
Nickel	7440-02-0	-	-	-
Manganese	7439-96-5	-	-	-
Calcium Carbonate	1317-65-3	-	-	-
Feldspar	68476-25-5	-	-	-
Calcium Fluoride	7789-75-5	-	-	-
Potassium Silicate	1312-76-1	-	-	-
Hexavalent Chromium	18540-29-9	-	-	-

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
Titanium dioxide	13463-67-7	X	X	X
Nickel	7440-02-0	X	X	X
Manganese	7439-96-5	X	X	X
Calcium Carbonate	1317-65-3	X	X	X
Feldspar	68476-25-5	-	X	X
Calcium Fluoride	7789-75-5	-	X	-
Potassium Silicate	1312-76-1	-	-	-
Hexavalent Chromium	18540-29-9	-	X	X

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Iron	7439-89-6	-
Chromium	7440-47-3	-
Titanium dioxide	13463-67-7	Carcinogen
Nickel	7440-02-0	Carcinogen
Manganese	7439-96-5	-
Calcium Carbonate	1317-65-3	-

Chemical name	CAS-No	California Prop. 65
Feldspar	68476-25-5	-
Calcium Fluoride	7789-75-5	-
Potassium Silicate	1312-76-1	-
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 %
Titanium dioxide	13463-67-7	-	-
Nickel	7440-02-0	100 lb 45.4 kg	0.1 %
Manganese	7439-96-5	-	1.0 %
Calcium Carbonate	1317-65-3	-	-
Feldspar	68476-25-5	-	1.0 %
Calcium Fluoride	7789-75-5	-	-
Potassium Silicate	1312-76-1	-	-
Hexavalent Chromium	18540-29-9	10 lb 4.54 kg	0.1 %

US EPA SARA 311/312 hazardous categorization

Not available

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	-
Titanium dioxide	X	-	X	-
Nickel	X	-	X	-
Manganese	X	-	X	-
Calcium Carbonate	X	-	-	X
Feldspar	X	-	-	X
Calcium Fluoride	X	-	X	X
Potassium Silicate	X	-	X	-
Hexavalent Chromium	-	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

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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