Safety Data Sheet

Issue date 12-Jul-2018 **Revision date** 30-Jan-2020 **Revision Number** 3

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 333 Dissimilar Steel TIG Wire
Other means of identification	CW1900
Recommended use	Welding Alloy
Restrictions on use	These items are only intended for normal welding purposes, For industrial use only

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 https://www.lawsonproducts.com

2. HAZARD(S) IDENTIFICATION

Hazard Classification

Solid metallic products are generally classified as 'articles' and do not constitute a hazardous material in solid form under the definitions of the OSHA Hazard Communication Standard (29 CFR 1910.1200). Any articles manufactured from these solid products would be generally classified as non-hazardous. Some hazardous elements contained in these products can be emitted under certain processing conditions such as but not limited to : burning, melting, cutting, sawing, brazing, grinding, machining, milling, and welding. Products in the solid state present no fire or explosion hazard. Small chips, fines, and dust may ignite readily, though. The following classification information is for the hazardous elements which may be released during processing.

Acute toxicity - Oral	Category 4
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1
Hazardous to the aquatic environment	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 3

Symbol

Signal word DANGER

Hazard statements

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

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
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing and eye/face protection

Response

General

P314 - Get medical advice/attention if you feel unwell.
P321 - For Specific treatment see section 4 of this sds

Skin

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Ingestion

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth

Spill

P391 - Collect spillage

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	60-65
Nickel	7440-02-0	15-20

Chromium	7440-47-3	15-20
Manganese	7439-96-5	5-8
Molybdenum	7439-98-7	1-5
Silicon	7440-21-3	0.15-4.5
Copper	7440-50-8	0.75-4
Niobium	7440-03-1	0.05-0.8

4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting. Seek medical attention immediately.

Skin contact Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention if irritation persists.

Most important symptoms (acute) Symptoms after inhalation:. Short term (acute) overexposure to the gases, fumes, and dusts may include irritation of the eyes, lungs, nose, and throat. Some toxic gases associated with welding may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty in breathing, frequent coughing or chest pains. The presence of chromium/chromate in fume can cause irritation of nasal membranes and skin. The presence of nickel compounds in fume can cause metallic taste, nausea, tightness of chest, fever, and allergic reaction. Excessive inhalation or ingestion of manganese can produce manganese poisoning. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait resembling Parkinsonism. These symptoms can become progressive and permanent if not treated. Excessive inhalation of fumes may cause 'Metal Fume Fever' with flu-like symptoms such as chills, fever, body aches, vomiting, sweating, etc. Symptoms after skin contact:. Causes skin irritation. Symptoms after eye contact:. Causes eye irritation. Symptoms after ingestion:. Not expected to present a significant hazard under anticipated conditions of normal use. Harmful if swallowed.

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 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Not available.

Specific hazards Thermal degradation may produce irritating or poisonous gases.

Special protective equipment for fire-fighters In the event of fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protective clothing and equipment, see section 8. Ensure adequate ventilation. Avoid release to the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods and materials for containment and cleaning up

Take up mechanically. Collect the material in labeled containers and dispose of according to local and regional authority requirements. See information in section 7 for safe handling. Use personal protection recommended in Section 8. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Welding may produce dust, fumes and gases hazardous to health. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, and well-ventilated place. Keep away from incompatible materials. Keep away from open flames, hot surfaces and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Iron	-	-	-
Nickel	1 mg/m³ TWA	1.5 mg/m³ TWA	0.015 mg/m³ TWA 0.015 mg/m³ TWA
Chromium	1 mg/m³ TWA	0.5 mg/m³ TWA	0.5 mg/m³ TWA
Manganese	-	0.02 mg/m³ TWA 0.1 mg/m³ TWA	1 mg/m³ TWA
Molybdenum	15 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	-
Silicon	15 mg/m³ TWA 5 mg/m³ TWA	-	10 mg/m³ TWA 5 mg/m³ TWA
Copper	0.1 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	1 mg/m³ TWA 0.1 mg/m³ TWA 1 mg/m³ TWA
Niobium	-	-	-

Appropriate engineering controls

Local exhaust and general ventilation must be adequate to meet exposure standards.

Individual protection measures, such as personal protective equipment

Eye protection

Wear helmet or face shield with filter lens of appropriate shade number. See ANSI/ASC Z49.1 Section 4.2. Provide protective screens and flash goggles,if necessary, to shield others.

Skin and body protection

Wear welding gloves. 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. Welders should not wear short sleeve shirts or short pants.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, a NIOSH/MSHA approved respirator is recommended. An organic vapor/acid gas respirator is recommended.

Hygiene measures

Wash hands after handling the product.

Canadian Province Occupational Exposure Limits

Chemical name	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK
Iron	-	-	-	-	-	-	-	-	-	-
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	1.5 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	0.5 mg/m³ TWA
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	0.2 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
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	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA
Silicon	-	10 mg/m³ TWA 3 mg/m³ TWA	-	10 mg/m³ TWA	-	-	-	-	10 mg/m³ TWAEV	10 mg/m³ TWA
Copper	0.2 mg/m³ TWA 1 mg/m³ TWA	1 mg/m³ TWA 0.2 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA	0.2 mg/m³ TWAEV 1 mg/m³ TWAEV	0.2 mg/m³ TWA 1 mg/m³ TWA
Niobium	-	-	-	-	-	-	-	-	-	-

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state Solid

Color Metallic

Odor Not available

Odor threshold Not available

pH Not applicable

Melting point/range °C Not available

Melting point/range °F Not available

Boiling point/range °C Not applicable

Boiling point/range °F Not applicable

Flash point °C / °F Not applicable

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 available

Relative density	Not available
Solubility	Not available
Partition coefficient (n-octanol/water)	Not applicable
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	Not available.
Chemical stability	Stable under normal conditions. When using it may produce fumes and gases.
Possibility of hazardous reactions	None under normal conditions of use.
Conditions to avoid	None known.
Incompatible materials	None known.
Hazardous decomposition products	Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and welding consumables 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). 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. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. New compounds not in the electrodes may form during use. Decomposition products include those originating from the volatilization, reaction or oxidation of the wire or rod plus those from the base metal and coating. Reasonably expected fume constituents of the fume could include complex oxides of iron, manganese, silicon, chromium, nickel, columbium, molybdenum, copper, carbon dioxide, carbon monoxide, ozone and nitrogen oxides. Some products will also contain antimony, barium, molybdenum, aluminum, columbium, magnesium, strontium, tungsten, and or zirconium. Fume limit for chromium, nickel, and or manganese may be reached before limit of 5 mg/m^3 of general welding fumes is reached. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may also be formed by radiation from the arc. 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. Improve ventilation if exposures are not below limits.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Dermal. Ingestion.

Symptoms May cause an allergic skin reaction. Harmful if swallowed.

Delayed and immediate effects as well as chronic effects from short and long-term exposure May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Iron	-	= 30 g/kg Rat	30 g/kg Rat
Nickel	>10.2 mg/L Rat	> 9000 mg/kg Rat	>9000 mg/kg Rat
Chromium	-	-	-
Manganese	-	= 9 g/kg Rat	9 g/kg Rat
Molybdenum	-	-	-
Silicon	-	= 3160 mg/kg Rat	3160 mg/kg Rat
Copper	-	-	-
Niobium	-	-	-

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	-	-	-	-
Nickel	A5	Group 1 Group 2B	Present	Known carcinogen
Chromium	-	Group 3	-	-
Manganese	A4	-	-	-
Molybdenum	-	-	-	-
Silicon	-	-	-	-
Copper	-	-	-	-
Niobium	-	-	-	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Iron	-	-	-	-	-	-
Nickel	-	IARC 1 IARC 2B	ACGIH A5	-	ACGIH A5	-
Chromium	-	-	-	ACGIH A4	-	-
Manganese	-	-	ACGIH A4	-	ACGIH A4	-
Molybdenum	-	-	-	-	-	-
Silicon	-	-	-	-	-	-
Copper	-	-	-	-	-	-

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Niobium	-	-	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life

Chemical name	Algae/aquatic plants	Fish LC50
Iron	-	= 13.6mg/L Morone saxatilis 96h
Nickel	=0.18mg/L Pseudokirchneriella subcapitata 72h	>100 mg/L Brachydanio rerio 96h =1.3 mg/L Cyprinus carpio 96h 96h
Chromium	-	-
Manganese	-	> 3.6mg/L Oncorhynchus mykiss 96h
Molybdenum	-	-
Silicon	-	-
Copper	0.0426 - 0.0535mg/L Pseudokirchneriella subcapitata 72h 0.031 - 0.054mg/L Pseudokirchneriella subcapitata 96h	0.0068 - 0.0156mg/L Pimephales promelas 96h < 0.3mg/L Pimephales promelas 96h = 0.052mg/L Oncorhynchus mykiss 96h = 0.112mg/L Poecilia reticulata 96h = 0.2mg/L Pimephales promelas 96h = 0.3mg/L Cyprinus carpio 96h = 0.8mg/L Cyprinus carpio 96h = 1.25mg/L Lepomis macrochirus 96h
Niobium	-	-

Persistence and degradability Not available.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)	Bioconcentration factor (BCF)
Iron 7439-89-6	7439-89-6	-	-
Nickel 7440-02-0	7440-02-0	-	-
Chromium 7440-47-3	7440-47-3	-	-
Manganese 7439-96-5	7439-96-5	-	-
Molybdenum 7439-98-7	7439-98-7	-	-
Silicon 7440-21-3	7440-21-3	-	-
Copper 7440-50-8	7440-50-8	-	-
Niobium 7440-03-1	7440-03-1	-	-

Mobility in soil Not available.

Other adverse effects Not available

13. DISPOSAL CONSIDERATIONS

Disposal information Dispose of all product, residues and clean-up materials in accordance with local, state, and federal regulations.

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	-	-	-
Nickel	7440-02-0	-	-	-
Chromium	7440-47-3	-	-	-
Manganese	7439-96-5	-	-	-
Molybdenum	7439-98-7	-	-	-
Silicon	7440-21-3	-	-	-
Copper	7440-50-8	X	-	X
Niobium	7440-03-1	-	-	-

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	-	-	-
Nickel	7440-02-0	X	X	X
Chromium	7440-47-3	X	X	X
Manganese	7439-96-5	X	X	X
Molybdenum	7439-98-7	X	X	X
Silicon	7440-21-3	X	X	X
Copper	7440-50-8	X	X	X
Niobium	7440-03-1	-	-	-

California Prop. 65 WARNING: This product contains a chemical(s) known to the state of California to cause cancer, birth defects or other reproductive harm

Chemical name	CAS-No	California Prop. 65
Iron	7439-89-6	-
Nickel	7440-02-0	Carcinogen
Chromium	7440-47-3	-
Manganese	7439-96-5	-
Molybdenum	7439-98-7	-
Silicon	7440-21-3	-
Copper	7440-50-8	-
Niobium	7440-03-1	-

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	-	-
Nickel	7440-02-0	100 lb 45.4 kg	0.1 %
Chromium	7440-47-3	5000 lb 2270 kg 10 lb 4.54 kg	1.0 %
Manganese	7439-96-5	-	1.0 %
Molybdenum	7439-98-7	-	-
Silicon	7440-21-3	-	-
Copper	7440-50-8	5000 lb 2270 kg	1.0 %
Niobium	7440-03-1	-	-

US EPA SARA 311/312 hazardous categorization Not applicable

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Iron	X	X	-
Nickel	X	X	-
Chromium	X	X	-
Manganese	X	X	-
Molybdenum	X	X	-
Silicon	X	X	-
Copper	X	X	-
Niobium	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health 1

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/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