

Issue date 16-Jul-2018

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Revision Number 2

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 30 Copper and Steel Flux Coated Brazing Rod
Other means of identification	CW1005
Recommended use	Brazing Alloy
Restrictions on use	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

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 sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1
Hazardous to the aquatic environment	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
H400 - Very toxic to aquatic life

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
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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
P281 - Use personal protective equipment as required

Response

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
P363 - Wash contaminated clothing before reuse
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell.

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

Chemical name	CAS-No	Weight %
Copper	7440-50-8	44-55
Zinc	7440-66-6	25-35
Nickel	7440-02-0	5-15
Boric Acid	10043-35-3	1-11
Borax Glass	1303-96-4	2-8

4. FIRST-AID MEASURES

Necessary first-aid measures

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	Formation of toxic gases is possible during heating or in case of fire. Hazardous Thermal Decomposition Products: Copper oxides. Zinc oxide. Oxides of nickel. Oxides of Aluminum. Oxides of boron. Sodium 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. Dispose contaminated material as waste according to section 13. For water spill: Sodium Tetraborate Pentahydrate will cause localized contamination of surrounding waters based on the quantity dissolved in these waters. At high concentrations, some damage to local vegetation, fish, and other aquatic life may be expected. Advise the local water authority that none of the affected water should be used for irrigation or for potable water until natural dilution returns boron level to normal. See section 15 for further regulatory information.

7. HANDLING AND STORAGE

Precautions for safe handling	Keep container tightly closed and sealed until ready for use. Store in a cool, dry, and well-ventilated place. Ensure good ventilation or exhaustion at the workplace. Open and handle receptacle with care.
Conditions for safe storage, including any incompatibilities	Store away from oxidizers. Keep containers tightly closed and sealed until ready for use. Store at room temperature. Keep in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Copper	0.1 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	1 mg/m ³ TWA 0.1 mg/m ³ TWA 1 mg/m ³ TWA
Zinc	-	-	-
Nickel	1 mg/m ³ TWA	1.5 mg/m ³ TWA	0.015 mg/m ³ TWA 0.015 mg/m ³ TWA
Boric Acid	-	6 mg/m ³ STEL 2 mg/m ³ TWA	-
Borax Glass	-	6 mg/m ³ STEL 2 mg/m ³ TWA	5 mg/m ³ TWA 1 mg/m ³ TWA

Appropriate engineering controls

Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Avoid creating dust.

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	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland and Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
Copper	0.2 mg/m ³ TWA 1 mg/m ³ TWA	1mg/m ³ TW A 0.2mg/m ³ T WA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.6 mg/m ³ STEL 3 mg/m ³ STEL 0.2 mg/m ³ TWA 1 mg/m ³ TWA
Zinc	-	-	-	-	-	-	-	-	-	-
Nickel	1.5 mg/m ³ TWA	0.05mg/m ³ T WA	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 1 mg/m ³ TWA	3 mg/m ³ STEL 1.5 mg/m ³ TWA
Boric Acid	-	6mg/m ³ STE L 2mg/m ³ TW	2 mg/m ³ TWA 6 mg/m ³	-	6 mg/m ³ STEL 2 mg/m ³	6 mg/m ³ STEL 2 mg/m ³	6 mg/m ³ STEL 2 mg/m ³	6 mg/m ³ STEL 2 mg/m ³	-	6 mg/m ³ STEL 2 mg/m ³

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundl and & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatche wan - OEL
		A	STEL		TWA 2 mg/m³ TWA	TWA	TWA	TWA 2 mg/m³ TWA		TWA
Borax Glass	3 ppm STEL 1 mg/m³ TWA	6mg/m³ STE L 2mg/m³ TW A	2 mg/m³ TWA 6 mg/m³ STEL	5 mg/m³ TWA 1 mg/m³ TWA	6 mg/m³ STEL 2 mg/m³ TWA 2 mg/m³ TWA 2 mg/m³ TWA	6 mg/m³ STEL 2 mg/m³ TWA	6 mg/m³ STEL 2 mg/m³ TWA 2 mg/m³ TWA	6 mg/m³ STEL 2 mg/m³ TWA 2 mg/m³ TWA 2 mg/m³ TWA	5 mg/m³ TWA EV 1 mg/m³ TWA EV	6 mg/m³ STEL 2 mg/m³ TWA 2 mg/m³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Red
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 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 Boric oxide fumes.

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. 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. 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:
Copper	-	-	-
Zinc	-	-	= 630 mg/kg (Rat)
Nickel	> 10.2 mg/L (Rat) 1 h	-	> 9000 mg/kg (Rat)
Boric Acid	> 0.16 mg/L (Rat) 4 h => 2120 mg/m ³ (Rat) 4 h	> 2000 mg/kg (Rabbit) >= 2000 mg/kg (Rabbit)	= 2660 mg/kg (Rat) = 3765 mg/kg (Rat)
Borax Glass	> 2 mg/m ³ (Rat) 4 h	> 10000 mg/kg (Rabbit) > 2000 mg/kg (Rabbit)	= 2660 mg/kg (Rat) = 3493 mg/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
Copper	-	-	-	-
Zinc	-	-	-	-
Nickel	-	Group 1 Group 2B	Listed	Known Carcinogen Reasonably Anticipated Carcinogen
Boric Acid	A4	Group 2A	Listed	-
Borax Glass	A4	Group 2A	Listed	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Copper	-	-	-	-	-	-
Zinc	-	-	-	-	-	-
Nickel	-	IARC 2B	ACGIH A5	-	ACGIH A5	-
Boric Acid	-	-	ACGIH A4	-	ACGIH A4	-
Borax Glass	-	-	ACGIH A4	-	ACGIH A4	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Copper	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.3: 96 h Pimephales promelas mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.8: 96 h Cyprinus carpio mg/L LC50 static
Zinc	0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static 30: 96 h Cyprinus carpio mg/L LC50 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 2.66: 96 h Pimephales promelas mg/L LC50 static 3.5: 96 h Lepomis

Chemical name	Algae/aquatic plants	Fish
		macrochirus mg/L LC50 static 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 7.8: 96 h Cyprinus carpio mg/L LC50 static
Nickel	0.18: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.174 - 0.311: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	100: 96 h Brachydanio rerio mg/L LC50 10.4: 96 h Cyprinus carpio mg/L LC50 static 1.3: 96 h Cyprinus carpio mg/L LC50 semi-static
Boric Acid	-	1020: 72 h Carassius auratus mg/L LC50 flow-through
Borax Glass	2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 158: 96 h Desmodesmus subspicatus mg/L EC50	340: 96 h Limanda limanda mg/L LC50

Persistence and degradability Not available.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Copper 7440-50-8	7440-50-8	-
Zinc 7440-66-6	7440-66-6	-
Nickel 7440-02-0	7440-02-0	-
Boric Acid 10043-35-3	10043-35-3	-0.757 25 °C
Borax Glass 1303-96-4	1303-96-4	-

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. 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.

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
Copper	7440-50-8	X	-	X
Zinc	7440-66-6	-	-	-
Nickel	7440-02-0	-	-	-
Boric Acid	10043-35-3	-	-	-
Borax Glass	1303-96-4	-	-	-

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
Copper	7440-50-8	X	X	X
Zinc	7440-66-6	X	X	X
Nickel	7440-02-0	X	X	X
Boric Acid	10043-35-3	-	X	-
Borax Glass	1303-96-4	X	X	X

California Prop. 65

Sodium Tetraborate Pentahydrate is a hazardous waste in California and should be handled in accordance with state regulations.

Chemical name	CAS-No	California Prop. 65
Copper	7440-50-8	-
Zinc	7440-66-6	-
Nickel	7440-02-0	Carcinogen
Boric Acid	10043-35-3	-
Borax Glass	1303-96-4	-

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
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Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Copper	7440-50-8	5000 lb 2270 kg	1.0 %
Zinc	7440-66-6	454 kg 1000 lb	1.0 %
Nickel	7440-02-0	100 lb 45.4 kg	0.1 %
Boric Acid	10043-35-3	-	-
Borax Glass	1303-96-4	-	-

**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
Copper	X	X	-
Zinc	X	X	X
Nickel	X	X	-
Boric Acid	X	X	-
Borax Glass	X	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 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