Material Safety Data Sheet

Revision Date *26-Sep-2012*

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code CW1898
Product name Cronatig 333T
Recommended Use Welding Alloy

Supplier
Cronatron, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Hazardous fumes are generated by welding, soldering or brazing. Exposure to welding related processes, materials, fumes or gases might be linked to certain neurological and physical disorders and cancer. Protect yourself and others at all times. A NIOSH approved, proper fitting and well-maintained respirator should be worn at all times while using this product. Keep your head out of the fumes and gases. Use adequate ventilation and/or exhaust to keep fumes and gases from your breathing zone and the general area. Keep others without proper respiratory protection away from the fumes and gases and your work zone while using this product..

Aggravated Medical Conditions
Pre-existing respiratory conditions may be aggravated by exposure to welding fumes.

Principal Routes of Exposure
Inhalation of welding fumes.

General Welding Statement
Fumes and gases can be dangerous to your health. Arc Rays can injure eyes and burn skin. Electric shock can kill. Train the welder not to touch live electrical parts and to insulate himself from work and ground . The ACGIH and OSHA have set the exposure level for welding fumes at 5 mg/m^3 . Some gaseous products from the welding process such as chromium and/or nickel can reach their PEL before the General Exposure Limit of 5 mg/ cu.m for welding fumes is reached. . Welding fumes must be considered as possible carcinogens under OSHA 29 CFR 1910.1200.

Potential health effects

Eyes May cause eye discoloration . Direct contact will cause the following effects:. Irritation. Risk of serious damage to eyes. Conjunctivitis. Causes burns.

Skin Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Contact causes severe skin irritation and possible burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation Short term overexposure to welding fumes may result in dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Long term exposure may lead to iron deposits in the lungs and is believed by some investigators to affect pulmonary function. Inhalation of magnesium and copper fumes can cause metal fume fever . Initial symptoms of metal fume fever can include sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, and tiredness . Respiratory irritation. Chest discomfort. Dry throat. Long term overexposure to nickel compounds may cause lung fibrosis, edema or pneumoconiosis. Chronic overexposure to copper dust may cause tiredness, stuffiness, diarrhea, vomiting, discoloration of the skin and eyes, kidney and liver disorder. Central nervous system damage. Sensitization. Bone erosion. Iron deposits in the lungs may cause siderosis. It is believed by some investigators to affect pulmonary function .

Ingestion Irritation of the gastrointestinal system.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This section covers the materials from which these products are manufactured. The fumes and gases produced when welding with normal use of these products are covered in section 10.

Chemical Name	CAS-No	Weight %
Iron	7439-89-6	40-70
Chromium	7440-47-3	15-40
Nickel	7440-02-0	7-18
Manganese	7439-96-5	1-5
Molybdenum	7439-98-7	0.1-1.0
Copper	7440-50-8	0.1-1.0
Silica, Amphorous Silica Fused	60676-86-0	.01-1.0
Carbon Black	1333-86-4	0.1-1.0

4. FIRST AID MEASURES

Red Cross Employ First Aid techniques recommended by the Red Cross.
Eye contact Flush with plenty of water for at least 15 minutes. Immediate medical attention is required.

Skin contact Wash area thoroughly with soap and water. Seek medical attention if irritation persists.

Ingestion Call a physician or Poison Control Center immediately.

Inhalation Remove to fresh air. Provide oxygen or artificial respiration if necessary.

Notes to physician Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash point °C None
Flash point °F None
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media
Product is nonflammable. Use extinguishing media appropriate to surrounding fire. Water spray. Halons. Dry chemical powder. Carbon dioxide (CO2). Foam. ABC-type fire extinguisher .

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards
Welding arcs and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding.

Hazardous decomposition products
See Section 10.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions
No information available.

Methods for cleaning up
Clean up promptly by sweeping or vacuum.

7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Avoid breathing vapors from heated material .

Storage
Keep in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Silica, Amphorous Silica Fused	-	-	-	-
Nickel	1 mg/m^3	-	0.2 mg/m^3 inhalable fraction	-
Molybdenum	-	-	10 mg/m^3 3 mg/m^3	-
Manganese	-	5 mg/m^3	0.2 mg/m^3	-
Copper	0.1 mg/m^3	-	0.2 mg/m^3 1 mg/m^3	-
Carbon Black	3.5 mg/m^3	-	3 mg/m^3	-
Chromium	1 mg/m^3	-	0.5 mg/m^3	-
Iron	-	-	5.0 mg/m^3 as iron oxide respirable fraction	-

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area.

Hygiene measures
When using, do not eat, drink or smoke.

Respiratory protection
Use respirable fume respirator (P100) or supplied air when welding in confined spaces, or where local exhaust does not keep the exposure below TLV. Train welder to keep head out of fumes.

Hand Protection
Welder's gloves.

Eye protection
Wear helmet or face shield with filter lens. As a rule of thumb, start with a shade which is too dark to see the work area. Then go to the next lighter shade which gives sufficient view of the work area . Provide protective screens and flash goggles,if necessary, to shield others.

Skin and body protection
Sufficient to provide protection from radiation,heat, sparks and electrical shock.May include arm and shoulder protectors,aprons and dark substantial clothing. See ANSI Z49.1.

Other Protective Equipment
Wear head, hand and body protection which help prevent injury from radiation, sparks, heat, and electrical shock. See ANSI Z49.1 . A safety shower and eye wash station should be available for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Solid
Color No information available
Odor None
Odor Threshold Not Applicable
pH Not Applicable

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity	7.86
Vapor pressure	Not Applicable
Vapor density	Not Applicable
Evaporation Rate	Not Applicable
Water solubility	Insoluble in water
Partition Coefficient (n-octanol/water)	Not Applicable
Boiling point/range °C	3000
Boiling point/range °F	5432
Melting point/range °C	1535
Melting point/range °F	2795
Flash point °C	None
Flash point °F	None

10. STABILITY AND REACTIVITY

Stability
Stable

Conditions to avoid
Avoid extreme temperatures.

Incompatability
Strong acids. Strong bases. Strong oxidizers. Halogens.

Hazardous Decomposition Products
Welding fumes cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being 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), number of welders and volume of work area . Contaminants in the atmosphere such as chlorinated hydrocarbon vapors from cleaning and degreasing operations . The amount and type of ventilation, the position of the welder's head with respect to the fume plume . When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section 3. 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 decomposition products from normal use of these products include the oxides of the material listed in the ingredients section, as well as carbon monoxide, carbon dioxide, ozone and nitrogen oxides. 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.

Polymerization
Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Component Information

Chemical Name	LD50 (oral,rat)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat)
Silica, Amphorous Silica Fused 60676-86-0	-	-	-
Nickel 7440-02-0	9000 mg/kg	-	-
Molybdenum 7439-98-7	-	-	-
Manganese 7439-96-5	9 g/kg	-	-
Copper 7440-50-8	-	-	-
Carbon Black 1333-86-4	15400 mg/kg	3 g/kg	-
Chromium 7440-47-3	-	-	-
Iron 7439-89-6	984 mg/kg	-	-

Synergistic Products None known

Specific Hazards The ACGIH recommended general limit for welding fume NOC (Not Otherwise Classified) is 5 mg/m^3. Copper dust and fume affect the respiratory system, lungs, skin, liver and eyes. 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.

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects

Welding fumes must be considered as possible carcinogens under OSHA 29 CFR 1910.1200. Chromium VI compounds are required by OSHA to be carcinogenic. Long term exposure to chromium and chromium III oxide dust can cause scaling redness itchiness and a burning sensation of the skin. Chromium, cobalt, nickel metals and compounds are listed in the NTP annual report on Carcinogens and found to be potential carcinogens in the IARC Monographs and listed by OSHA/ ACGIH as potential carcinogens. Nickel and its compounds are required to be considered carcinogenic by OSHA. Long term overexposure to nickel compounds may cause lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated higher incidence of lung and nasal cancers.

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Silica, Amphorous Silica Fused	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Nickel	A5	Group 2B	Not Listed	Reasonably Anticipated To Be A Human Carcinogen	Listed
Molybdenum	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Manganese	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Copper	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Black	A3	Group 2B	Not Listed	Not Listed	Listed
Chromium	A4	Not Listed	Not Listed	Not Listed	Not Listed
Iron	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Nickel

Water Flea Data

Daphnia magna EC50=1 mg/L (48 h)

Daphnia magna EC50>100 mg/L (48 h)

Copper

Water Flea Data

Daphnia magna EC50=0.03 mg/L (48 h)

Carbon Black

Water Flea Data

Daphnia magna EC50>5600 mg/L (24 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products

Landfill or incinerate in accordance with EPA and local regulations.

14. TRANSPORTATION INFORMATION

DOT

Not Regulated.

TDG

Not Regulated

15. REGULATORY INFORMATION

Chemical Name	US EPA SARA 313 Emission Reporting
Nickel	Listed
Manganese	Listed
Copper	Listed
Chromium	Listed

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Silica, Amphorous Silica Fused	Not Listed	Not Listed	Not Listed
Nickel	Listed	Listed	Carcinogen
Molybdenum	Not Listed	Listed	Not Listed
Manganese	Not Listed	Listed	Not Listed
Copper	Not Listed	Listed	Not Listed
Carbon Black	Not Listed	Listed	Carcinogen
Chromium	Not Listed	Listed	Not Listed
Iron	Not Listed	Not Listed	Not Listed

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

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Silica, Amphorous Silica Fused	X	X	-	X
Nickel	X	X	-	X
Molybdenum	X	X	-	X
Manganese	X	X	-	X
Copper	X	X	-	X
Carbon Black	X	X	-	X
Chromium	X	X	-	X
Iron	X	X	-	X

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 0
Physical Hazard - 0

Prepared By V. Shargorodsky, Regulatory Affairs Engineer

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.