

Material Safety Data Sheet

Revision Date 15-Oct-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code CW9369
Product name IHSP Electrode
Recommended Use Electrode

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

Non-flammable as supplied. 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

Eyes. Skin. 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. The ACGIH and OSHA have set the exposure level for welding fumes at 5 mg/m³. 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. .

Potential health effects

Eyes Eye contact may cause mechanical irritation.

Skin Prolonged skin contact may cause skin irritation.

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 fume with chromium (VI) compounds can cause irritation of the respiratory tract, lung damage and asthma-like symptoms. Prolonged over exposure to molybdenum may cause loss of appetite, weight loss, loss of muscle coordination, difficulty breathing and anemia. Long term overexposure to nickel compounds may cause lung fibrosis, edema or pneumoconiosis. Initial symptoms of metal fume fever can include sweating, shivering, headache, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, and tiredness. Chronic fluoride absorption can result in osseous fluorosis, increased radiographic density of the bones and mottling of teeth. Respirable Crystalline Silica, (Quartz) can cause silicosis, a fibrous scarring of the lungs and possibly cancer.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

3. COMPOSITION / INFORMATION ON INGREDIENTS

The fumes and gases produced when welding with normal use of these products are covered in section 10.

Chemical Name	CAS-No	Weight %
Nickel	7440-02-0	40-70
Chromium	7440-47-3	15-40
Molybdenum	7439-98-7	5-10
Calcium Carbonate	1317-65-3	5-10
Sodium Silicate	1344-09-8	1-5
Titanium dioxide	13463-67-7	1-5
Sodium aluminum fluoride	15096-52-3	1-5
Silica, Amorphous Silica Fused	60676-86-0	1-5
Iron	7439-89-6	1-5
Niobium	7440-03-1	1-5

4. FIRST AID MEASURES

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

Skin contact Wash area thoroughly with soap and water. For arc burn, apply clean, cold compresses. Seek medical attention if irritation persists.

Ingestion Seek medical attention if irritation persists.

Inhalation Remove from exposure. Contact physician if breathing difficulty develops.

5. FIRE FIGHTING MEASURES

Flash point °C No data available
Flash point °F No data available
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)

Upper No data available
Lower No data available

Suitable extinguishing media

Use extinguishing media appropriate to surrounding fire

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

Product is nonflammable and nonexplosive under normal conditions of use. Welding arcs and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up

Clean up promptly by scoop or vacuum. Take up mechanically and collect in suitable container for disposal.

7. HANDLING AND STORAGE

Handling

Refer to American National Standard Z49.1 for fire prevention during welding. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

Storage

No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Calcium Carbonate	15 mg/m ³	-	-	-
Chromium	1 mg/m ³	-	0.5 mg/m ³	-

Iron	-	-	5.0 mg/m ³ as iron oxide respirable fraction	-
Molybdenum	-	-	10 mg/m ³ 3 mg/m ³	-
Niobium	-	-	-	-
Nickel	1 mg/m ³	-	0.2 mg/m ³ inhalable fraction	-
Silica, Amorphous Silica Fused	-	-	-	-
Sodium aluminum fluoride	-	-	-	-
Titanium dioxide	15 mg/m ³	-	10 mg/m ³	-
Sodium Silicate	-	-	-	-

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. Ensure adequate ventilation, especially in confined areas.

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Follow OSHA respirator regulations (29 CFR 1910.134) and if necessary, wear a MSHA/NIOSH approved respirator

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.

Skin and body protection

None necessary under normal conditions

Other Protective Equipment

Flame retarding clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Solid
Color	Metallic Silver
Odor	None
Odor Threshold	No information available
pH	No data available
Specific Gravity	4-6 gm/cc
Vapor pressure	No data available
Vapor density	No data available
Evaporation Rate	No data available
Water solubility	No data available
Partition Coefficient (n-octanol/water)	No data available
Boiling point/range °C	No data available
Boiling point/range °F	No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Melting point/range °C	> 1000
Melting point/range °F	> 1832
Flash point °C	No data available
Flash point °F	No data available

10. STABILITY AND REACTIVITY**Stability**

Stable under normal conditions.

Conditions to avoid

None known.

Incompatibility

None known.

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. Decomposition products include those originating from the volatilization, reaction or oxidation of the wire or rod plus those from the base metal and coating. May include particles containing iron, manganese, silicone, chromium, nickel or other amorphous slags . Phosgene . The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. 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

<i>Molybdenum</i> 7439-98-7	-	-	-
<i>Niobium</i> 7440-03-1	-	-	-
<i>Nickel</i> 7440-02-0	9000 mg/kg	-	-
<i>Silica, Amorphous Silica Fused</i> 60676-86-0	-	-	-
<i>Sodium aluminum fluoride</i> 15096-52-3	5 g/kg	-	-
<i>Titanium dioxide</i> 13463-67-7	10000 mg/kg	-	-
<i>Sodium Silicate</i> 1344-09-8	1153 mg/kg	4640 mg/kg	-

Synergistic Products

None known

Specific Hazards

Long term overexposure to nickel compounds may cause lung fibrosis, edema or pneumoconiosis. Excessive exposure to inorganic fluorides have been shown to affect bone density. Repeated or prolonged exposure to respirable crystalline silica may cause chronic lung injury (silicosis).

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

NTP and IARC have determined that inhalation of crystalline silica is carcinogenic to humans (IARC Group 1). Risk of cancer depends on duration and level of exposure. 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. Welding fumes must be considered as possible carcinogens under OSHA 29 CFR 1910.1200.

11. TOXICOLOGICAL INFORMATION**Component Information**

Chemical Name	LD50 (oral, rat)	LD50 (dermal ,rat/rab bit)	LC50 (inhalation, rat)
<i>Calcium Carbonate</i> 1317-65-3	-	-	-
<i>Chromium</i> 7440-47-3	-	-	-
<i>Iron</i> 7439-89-6	984 mg/kg	-	-

Chemical Name	ACGIH OEL - Carcinogens	IARC	NTP - Known Carcinogens	NTP - Suspected Human Carcinogens	OSHA RTK Carcinogens
Calcium Carbonate	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Chromium	A4	Not Listed	Not Listed	Not Listed	Not Listed
Iron	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Molybdenum	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Niobium	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Nickel	A5	Group 2B	Not Listed	Reasonably Anticipated To Be A Human Carcinogen	Listed
Silica, Amorphous Silica Fused	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Sodium aluminum fluoride	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Titanium dioxide	A4	Group 2B	Not Listed	Not Listed	Listed
Sodium Silicate	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)

Sodium Silicate

Water Flea Data

Daphnia magna EC50=216 mg/L (96 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products

Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT

Not Regulated.

TDG

Not Regulated

15. REGULATORY INFORMATION

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

State Regulations

Chemical Name	New Jersey - RTK	Pennsylvania - RTK	California Prop. 65
Calcium Carbonate	Not Listed	Listed	Not Listed
Chromium	Not Listed	Listed	Not Listed
Iron	Not Listed	Not Listed	Not Listed
Molybdenum	Not Listed	Listed	Not Listed
Niobium	Not Listed	Not Listed	Not Listed
Nickel	Listed	Listed	Carcinogen
Silica, Amorphous Silica Fused	Not Listed	Not Listed	Not Listed
Sodium aluminum fluoride	Listed Listed	Not Listed	Not Listed
Titanium dioxide	Not Listed	Listed	Carcinogen
Sodium Silicate	Not Listed	Not Listed	Not Listed

International Inventories

Chemical Name	EINECS	DSL	NDSL	TSCA
Calcium Carbonate	X	-	X	X
Chromium	X	X	-	X
Iron	X	X	-	X
Molybdenum	X	X	-	X
Niobium	X	X	-	X
Nickel	X	X	-	X
Silica, Amorphous Silica Fused	X	X	-	X
Sodium aluminum fluoride	X	X	-	X
Titanium dioxide	X	X	-	X
Sodium Silicate	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

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.