# 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 | CW1899 |
| 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<br>0.1 mg/m³ TWA | 1 mg/m³ TWA |
| Molybdenum | 15 mg/m³ TWA | 10 mg/m³ TWA<br>3 mg/m³ TWA | - |
| Silicon | 15 mg/m³ TWA<br>5 mg/m³ TWA | - | 10 mg/m³ TWA<br>5 mg/m³ TWA |
| Copper | 0.1 mg/m³ TWA<br>1 mg/m³ TWA | 0.2 mg/m³ TWA 1 mg/m³ TWA | 1 mg/m³ TWA<br>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<br>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<br>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<br>45.4 kg | 0.1 % |
| Chromium | 7440-47-3 | 5000 lb<br>2270 kg 10 lb<br>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<br>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 |
| **Issue date** | 12-Jul-2018 |
| **Revision date** | 30-Jan-2020 |
| **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**