

## SECTION 1: IDENTIFICATION

### Product Identifier

**Product Form:** Mixture

**Product Name:** Carbon Steel Welding Wire

**Product Code:** NS-101, NS-115, NS-102, NS Plus 101, NS Plus 115, NS Plus 102, STD Arc-S6, STD Arc-S3, P3-S6; P3-S3

### Intended Use of the Product

Carbon steel weld wire for welding.

### Name, Address, and Telephone of the Responsible Party

#### **Manufacturer**

National Standard  
3602 N. Perkins Road  
Stillwater, OK 74075  
405-377-5050

#### **Emergency Telephone Number**

**Emergency Number** : 405-377-5050

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture

#### **Classification (GHS-US)**

Not classified

#### **Label Elements**

**GHS-US Labeling** No labeling applicable

#### **Other Hazards**

This product as shipped in its massive form, is inert and not hazardous to human health. Under normal conditions of use during welding, this product and its fumes pose separate hazards. Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath. Overexposure to manganese fumes may affect the brain and central nervous system, resulting in poor coordination, difficulty speaking, and arm or leg tremor. This condition can be irreversible. Electric shock from welding equipment or electrodes may be fatal. Hot metal spatter and heat from electric arcs and welding flames may cause burns to the hands and body or may cause fire if it comes into contact with combustible materials. UV, IR and light radiation from an electric arc or welding flame process may cause damage to unprotected eyes. Fumes and gases generated during the welding process can be harmful to your health. If dust is generated, the dust may be a flammable solid, combustible dust, and self-heating. Use engineering controls and housekeeping to prevent exposure to and accumulation of dust in the workplace. Much of the information provided in this SDS is for situations of use in which hazardous exposures may occur, such as in welding applications or for metals in powdered form.

**Unknown Acute Toxicity (GHS-US)** Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Iron	(CAS No) 7439-89-6	96.2 - 98.59	Comb. Dust Flam. Sol. 1, H228 Self-heat. 1, H251
Silicon	(CAS No) 7440-21-3	0.4 - 1.15	Comb. Dust
Manganese	(CAS No) 7439-96-5	0.9 - 2.0	Comb. Dust
Molybdenum	(CAS No) 7439-98-7	0.15	Comb. Dust
Copper	(CAS No) 7440-50-8	0.5	Comb. Dust Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Nickel	(CAS No) 7440-02-0	0.15	Comb. Dust Skin Sens. 1, H317

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			Carc. 2, H351 STOT RE 1, H372
Carbon	(CAS No) 7440-44-0	0.06 - 0.15	Comb. Dust
Chromium	(CAS No) 7440-47-3	0.15	Comb. Dust

More than one of the ranges of concentration prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition.

Full text of H-phrases: see section 16

### SECTION 4: FIRST AID MEASURES

#### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If medical advice is needed, have product SDS at hand.

**Inhalation:** If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Wash with plenty of soap and water. Obtain medical attention if irritation develops or persists. In molten form: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists. In molten form: Removal of solidified molten material from the eyes requires medical assistance.

**Ingestion:** Do not induce vomiting. Rinse mouth. Obtain medical attention.

#### Most Important Symptoms and Effects Both Acute and Delayed

**General:** As shipped this product does not pose any significant health hazards. During processing or physical alteration such as welding or cutting, dust or fumes may cause irritation of the respiratory tract, eyes, skin, and are harmful. Hot molten product will cause thermal burns to the skin.

**Inhalation:** The primary acute health hazard associated with this product would be the potential for exposure to fumes during welding operations. During welding, the most significant route of exposure is by the inhalation (breathing) of fumes. If fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza; Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur.

**Skin Contact:** Contact with hot, molten metal will cause thermal burns.

**Eye Contact:** Fumes from welding may cause eye irritation. Risk of thermal burns on contact with molten product. Arc rays and sparks from welding can burn eyes.

**Ingestion:** Ingestion is not considered a potential route of exposure.

**Chronic Symptoms:** This product is intended for use in ARC welding. During this process UV rays irritate the superficial corneal epithelium, causing inhibition of mitosis, production of nuclear fragmentation, and loosening of the epithelial layer. Under experimental conditions in animals, phototoxic effects have been demonstrated at all levels of the cornea, including the stroma and endothelium. Silicon: Can cause chronic bronchitis and narrowing of the airways. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Chronic exposure to excessive manganese levels can lead to a variety of psychiatric and motor disturbances, termed manganism. Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Tissue damage of mucous membranes may follow chronic dust exposure. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in workers exposed to chromium (VI). There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion.

#### Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product SDS at hand.

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### SECTION 5: FIRE-FIGHTING MEASURES

#### Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire. Class D Extinguishing Agent (for metal powder fires). Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>), dry sand.

**Unsuitable Extinguishing Media:** Do not use water when molten material or dust is involved, may spread fire.

#### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not flammable. Dust generated from processing may present a dust explosion hazard.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Stable at ambient temperature and under normal conditions of use.

#### Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

**Firefighting Instructions:** Do not breathe fumes from fires or vapors from decomposition. Use water stream to cool containers. Keep upwind.

**Protection During Firefighting:** Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

**Hazardous Combustion Products:** Oxides of iron. Oxides of manganese. Oxides of nickel. Oxides of copper. Chromium oxides. Molybdenum oxides.

#### Reference to Other Sections

Refer to section 9 for flammability properties.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not handle until all safety precautions have been read and understood.

##### For Non-Emergency Personnel

**Protective Equipment:** Wear suitable protective clothing, gloves and eye/face protection.

**Emergency Procedures:** Avoid creating or spreading dust. Eliminate ignition sources.

##### For Emergency Personnel

**Protective Equipment:** Wear suitable protective clothing, gloves and eye/face protection.

**Emergency Procedures:** Ventilate area. Eliminate ignition sources. Evacuate unnecessary personnel.

#### Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

#### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain and collect as any solid. Avoid generation of dust during clean-up of spills. Where possible allow molten material to solidify naturally.

**Methods for Cleaning Up:** Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

#### Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. For further information refer to section 13.

### SECTION 7: HANDLING AND STORAGE

#### Precautions for Safe Handling

**Additional Hazards When Processed:** Product dust is combustible. Use care during processing to minimize generation of dust.

Welding, cutting, or processing this material may release dust or fumes that are hazardous. As shipped this product does not pose any significant health hazards. Avoid skin and eye contact with dusts to prevent mechanical irritation. Risk of electric shock when welding. Arc rays and sparks can burn skin. Fumes from welding, or processing of this material can be harmful if inhaled. Inhalation of metal dusts and fumes may cause a condition commonly known as metal fume fever with symptoms which resemble influenza. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth.

Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. See ANSI Z49.1-1967 Safety in Welding and Cutting published by the American Welding Society and OSHA Hazard Communication Standard 1910.1200 for additional details regarding the handling and storage of this material.

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**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool place.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Corrosive substances in prolonged contact with metals may produce flammable hydrogen gas. Water (when product is in dust/molten form).

### Specific End Use(s)

Carbon steel weld wire products for welding.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

<b>Nickel (7440-02-0)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>USA ACGIH</b>	ACGIH chemical category	Not Suspected as a Human Carcinogen
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.015 mg/m <sup>3</sup>
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (inhalable fraction)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (inhalable fraction)
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>Manganese (7439-96-5)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> 1 mg/m <sup>3</sup> (fume)
<b>Mexico</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (fume)
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable fraction) 0.1 mg/m <sup>3</sup> (inhalable fraction)
<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA OSHA</b>	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (fume)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (fume)
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup>

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<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup>
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable fraction) 0.1 mg/m <sup>3</sup> (inhalable fraction)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup>
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable fraction) 0.1 mg/m <sup>3</sup> (inhalable fraction)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable fraction) 0.1 mg/m <sup>3</sup> (inhalable fraction)
<b>Nunavut</b>	OEL Ceiling (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (fume)
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (fume)
<b>Northwest Territories</b>	OEL Ceiling (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (fume)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (fume)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup>
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable fraction) 0.1 mg/m <sup>3</sup> (inhalable fraction)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (total dust and fume)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	0.6 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup>
<b>Yukon</b>	OEL Ceiling (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>Silicon (7440-21-3)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction)
<b>Mexico</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable dust)
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust) 3 mg/m <sup>3</sup> (respirable fraction)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (respirable mass) 10 mg/m <sup>3</sup> (total mass)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (respirable mass) 10 mg/m <sup>3</sup> (total mass)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (containing no Asbestos and <1% Crystalline silica-total dust)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	30 mppcf 10 mg/m <sup>3</sup>
<b>Chromium (7440-47-3)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	250 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>

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<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	3.0 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
<b>Copper (7440-50-8)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Mexico</b>	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0.1 mg/m <sup>3</sup> (fume)
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (dust, fume and mist)
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0.2 mg/m <sup>3</sup> (fume)
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	0.6 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	0.6 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	0.6 mg/m <sup>3</sup> (fume) 3 mg/m <sup>3</sup> (dust and mist)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)

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<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 2 mg/m <sup>3</sup> (dust and mist)
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
<b>Molybdenum (7439-98-7)</b>		
	Internal TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Molybdenum (as Mo), Soluble Compounds)
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Molybdenum (as Mo), Soluble Compounds) 15 mg/m <sup>3</sup> (Molybdenum (as Mo), Insoluble Compounds) (Total dust)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Molybdenum (as Mo), Soluble Compounds)
<b>USA IDLH</b>	US IDLH (mg/m <sup>3</sup> )	5000 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total) 3 mg/m <sup>3</sup> (respirable)
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (respirable) 10 mg/m <sup>3</sup> (inhalable)
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (metal-inhalable) 3 mg/m <sup>3</sup> (metal-respirable)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup> (inhalable fraction) 6 mg/m <sup>3</sup> (respirable fraction)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
<b>Carbon (7440-44-0)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (dust)

### Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure to metal dust or fumes from use. Ensure adequate ventilation, especially in confined areas to control exposure to welding dust and fumes. Avoid dust production. Avoid creating or spreading dust. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Personal Protective Equipment:** Safety glasses. Gloves. Protective clothing. Wear respiratory protection. When welding: Welding helmet or goggles, welding gloves, and respiratory protection.



**Materials for Protective Clothing:** Wear suitable protective clothing. With molten material wear thermally protective clothing.

**Hand Protection:** Protective Gloves. If material is hot, wear thermally resistant protective gloves.

**Eye Protection:** Safety glasses. Welders should wear goggles or safety glasses with side shields that comply with ANSI Z87.1 under welding helmets and always wear goggles or other suitable eye protection when welding.

**Skin and Body Protection:** Wear suitable protective clothing to prevent contact with dust, sparks, and hot materials from welding.

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**Respiratory Protection:** Use ventilation to prevent exposure to welding fumes and dust. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Silver/grey or copper color
Odor	: Odorless
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Insoluble in water
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosive Properties	: None
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Stable at ambient temperature and under normal conditions of use.

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Corrosive substances in prolonged contact with metals may produce flammable hydrogen gas. Water (when product is in dust/molten form).

**Hazardous Decomposition Products:** Under conditions of fire this material may produce: Oxides of iron. Oxides of manganese. Oxides of nickel. Oxides of copper. Chromium oxides. Molybdenum oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified



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**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** The primary acute health hazard associated with this product would be the potential for exposure to fumes during welding operations. During welding, the most significant route of exposure is by the inhalation (breathing) of fumes. If fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza; Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur

**Symptoms/Injuries After Skin Contact:** Contact with hot, molten metal will cause thermal burns

**Symptoms/Injuries After Eye Contact:** Fumes from welding may cause eye irritation. Risk of thermal burns on contact with molten product. Arc rays and sparks from welding can burn eyes

**Symptoms/Injuries After Ingestion:** Ingestion is not considered a potential route of exposure

**Chronic Symptoms:** This product is intended for use in ARC welding. During this process UV rays irritate the superficial corneal epithelium, causing inhibition of mitosis, production of nuclear fragmentation, and loosening of the epithelial layer. Under experimental conditions in animals, phototoxic effects have been demonstrated at all levels of the cornea, including the stroma and endothelium. Silicon: Can cause chronic bronchitis and narrowing of the airways. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Chronic exposure to excessive manganese levels can lead to a variety of psychiatric and motor disturbances, termed manganism. Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Tissue damage of mucous membranes may follow chronic dust exposure. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in workers exposed to chromium (VI). There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion

### Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

<b>Nickel (7440-02-0)</b>	
LD50 Oral Rat	> 9000 mg/kg
<b>Manganese (7439-96-5)</b>	
LD50 Oral Rat	> 2000 mg/kg
<b>Silicon (7440-21-3)</b>	
LD50 Oral Rat	3160 mg/kg
<b>Chromium (7440-47-3)</b>	
LD50 Oral Rat	> 5000 mg/kg
<b>Molybdenum (7439-98-7)</b>	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
<b>Carbon (7440-44-0)</b>	
LD50 Oral Rat	> 10000 mg/kg
<b>Iron (7439-89-6)</b>	
LD50 Oral Rat	98.6 g/kg
<b>Nickel (7440-02-0)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

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<b>Chromium (7440-47-3)</b>	
<b>IARC Group</b>	3

### SECTION 12: ECOLOGICAL INFORMATION

#### Toxicity

<b>Nickel (7440-02-0)</b>	
<b>LC50 Fish 1</b>	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
<b>EC50 Daphnia 1</b>	13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static])
<b>LC 50 Fish 2</b>	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
<b>EC50 Daphnia 2</b>	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>EC50 Other Aquatic Organisms 2</b>	0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

<b>Manganese (7439-96-5)</b>	
<b>NOEC chronic fish</b>	3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss)

<b>Copper (7440-50-8)</b>	
<b>LC50 Fish 1</b>	<= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas)
<b>EC50 Daphnia 1</b>	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>EC50 Other Aquatic Organisms 1</b>	0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
<b>LC 50 Fish 2</b>	0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>EC50 Other Aquatic Organisms 2</b>	0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

#### Persistence and Degradability

<b>Carbon Steel Welding Wire</b>	
<b>Persistence and Degradability</b>	Not readily biodegradable.

<b>Copper (7440-50-8)</b>	
<b>Persistence and Degradability</b>	Not readily biodegradable.

**Bioaccumulative Potential** Not available

**Mobility in Soil** Not available

#### Other Adverse Effects

**Other Information:** Avoid release to the environment.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Sewage Disposal Recommendations:** Do not dispose of waste into sewer. Do not empty into drains; dispose of this material and its container in a safe way.

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Additional Information:** Recycle where possible and/or dispose of spent material such as metals & metal-bearing waste and submerged arc welding (SAW) flux/slag appropriately.

### SECTION 14: TRANSPORT INFORMATION

**In Accordance with DOT** Not regulated for transport

**In Accordance with IMDG** Not regulated for transport

**In Accordance with IATA** Not regulated for transport

**In Accordance with TDG** Not regulated for transport

### SECTION 15: REGULATORY INFORMATION

#### US Federal Regulations

<b>Nickel (7440-02-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
<b>RQ (Reportable Quantity, Section 304 of EPA's List of Lists):</b>	100 lb (only applicable if particles are < 100 µm)
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard

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	Delayed (chronic) health hazard
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Manganese (7439-96-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Silicon (7440-21-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Chromium (7440-47-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Copper (7440-50-8)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Molybdenum (7439-98-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Carbon (7440-44-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Iron (7439-89-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>SARA Section 311/312 Hazard Classes</b>	Fire hazard
<b>US State Regulations</b>	
<b>Carbon Steel Welding Wire</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
<b>Nickel (7440-02-0)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Nickel (7440-02-0)</b>	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances	
U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Manganese (7439-96-5)</b>	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Silicon (7440-21-3)</b>	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Chromium (7440-47-3)</b>	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	

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U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List
<b>Copper (7440-50-8)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
<b>Molybdenum (7439-98-7)</b>
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

### Canadian Regulations

<b>Carbon Steel Welding Wire</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Nickel (7440-02-0)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
<b>Manganese (7439-96-5)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Silicon (7440-21-3)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Chromium (7440-47-3)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Copper (7440-50-8)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Molybdenum (7439-98-7)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Carbon (7440-44-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Iron (7439-89-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 4 - Flammable Solid

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Class B Division 6 - Reactive Flammable Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 11/16/2015

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

#### GHS Full Text Phrases:

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Flam. Sol. 1	Flammable solids Category 1
Self-heat. 1	Self-heating substances and mixtures Category 1
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H228	Flammable solid
	May form combustible dust concentrations in air
H251	Self-heating: may catch fire
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
H412	Harmful to aquatic life with long lasting effects

#### Party Responsible for the Preparation of This Document

National Standard  
T 405-377-5050

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

NA GHS SDS