

# MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION					
<b>MSDS No:</b> CWL-M103			<b>Date:</b> January 19, 2012		
<b>Trade Name:</b> Stainless Steel components (and material)					
<b>Synonyms:</b> Miscellaneous wrought and cast stainless steel solids (including SS303, SS304, SS316)					
II. HAZARDOUS INGREDIENTS					
N/E= Not Established					
MATERIAL OR COMPONENT	CAS. NO.	%	OSHA-PEL	ACGIH-TLV	NIOSH-IDLH
MAY CONTAIN THE FOLLOWING:					
1. Iron	7439-89-6	60-88	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	2500 mg/m <sup>3</sup>
2. Chromium	7440-47-3	10-27	1 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>	250 mg/m <sup>3</sup>
3. Nickel	7440-02-0	0.1-27	1 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
4. Manganese	7439-96-5	0.01-6.0	5 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>
5. Molybdenum	7439-98-7	0.01-6.0	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	5000 mg/m <sup>3</sup>
6. Copper	7440-50-8	0.01-6.0	0.1 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
7. Silicon	7440-21-3	0.1-2.0	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	N/E
8. Cobalt	7440-48-4	0.01-2.0	0.1 mg/m <sup>3</sup>	0.02 mg/m <sup>3</sup>	N/E
9. Carbon	7440-44-0	0.01-0.95	N/E	N/E	N/E
10. Sulfur	7704-34-9	0.001-0.35	13 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
11. Titanium	7440-32-6	0-0.35	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	N/E
12. Phosphorous	7723-14-0	0.01-0.2	0.1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
13. Columbium	7440-03-1	0-0.05	N/E	N/E	N/E
14. Tin	7440-31-5	0-0.04	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
Components are present in massive shapes with alloys dispersed throughout and "locked" into the solid copper matrix					
III. PHYSICAL DATA					
N/A = Not Applicable N/D= Not Determined					
<b>Boiling Point:</b> N/D			<b>Melting Point:</b> 1,482 C (2,700 F)		
<b>Density:</b> 8 g/cm <sup>3</sup>			<b>Vapor Pressure:</b> N/D		
<b>Vapor Density (Air = 1):</b> Not Volatile			<b>Sol. in H<sub>2</sub>O % By Wt:</b> Not Soluble		
<b>% Volatiles By Wt:</b> Not Volatile			<b>Evaporation Rate:</b> Not Volatile		
<b>Appearance/Odor:</b> Solid silver-grey color / odorless			<b>pH (10 % Slurry):</b> N/A		
IV. FIRE AND EXPLOSION DATA					
N/A = Not Applicable N/D= Not Determined					
<b>Flash Point:</b> N/A			<b>Autoignition Temperature:</b> N/D		
<b>Flammable Limits In Air, % By Vol.:</b> N/D			<b>Lower:</b> N/D		<b>Upper:</b> N/D
<b>Extinguishing Media:</b> This material is noncombustible. Use extinguishing media appropriate to the surrounding fire.					
<b>Special Fire Fighting Procedures:</b> N/A					
<b>Unusual Fire And Explosion Hazard:</b> N/A					
V. HEALTH HAZARD INFORMATION					
<b>ROUTES OF EXPOSURE</b>					
<b>Inhalation:</b> Under normal handling and use, exposure to solid forms of stainless steel present few health hazards. In machining or in use, dust or fume may be created. Follow the OSHA exposure guidelines for metal dust and fume. Dust or fume may cause metal fume fever. Breathing metal dust may worsen symptoms of individuals with pre-existing chronic respiratory disease. Inhalation of high concentration of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. Exposure to high concentrations of dust and fumes of chromium and nickel can cause inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs.					

**Skin Contact:** Exposure to high concentrations of dust and fumes of chromium and nickel can cause sensitization dermatitis.

**Skin Absorption:** Metal dust exposure in hot, humid atmospheres may cause skin irritation.

**Eye Contact:** If present as dust, stainless steel may cause irritation and/or sensitization.

**Ingestion:** There is little likelihood of ingestion except for dust created during machining or grinding. Ingestion of dust may cause nausea and/or vomiting. Serious effects may occur if large amounts of dust are swallowed.

#### EMERGENCY AND FIRST AID PROCEDURES

**Inhalation:** Inhalation of significant amounts of solid forms of this product is unlikely unless dust or fumes are created in use. Move exposed person to fresh air at once. Keep warm and at rest. If breathing has stopped perform artificial respiration. Get medical attention as soon as possible.

**Skin:** Wash the skin using soap or mild detergent and water. Get medical attention if irritation develops and persists.

**Eyes:** Flush eyes immediately with large amounts of water, lifting the lower and upper lids occasionally; get medical attention.

**Ingestion:** Ingestion of significant amounts of solid material is unlikely. If stainless steel is swallowed and person is conscious, give large quantities of water to drink. Get medical attention as soon as possible.

**Notes To Physician:** None

#### VI. REACTIVITY INFORMATION

Material is stable at room temperature. Reacts with strong acids to form explosive hydrogen gas and heat.

Potentially hazardous oxides of metals may be produced when this material is heated or welded. Refer to ANSI Z49.1 for additional information.

#### VII. SPILL AND LEAK PROCEDURES

Because of its solid form, spills of this product will present minimal problems. However, if there is a spill of dust, restrict the area to those with respiratory protection, ventilate the area, and collect the spilled material in a manner which will not create more dust (i.e. wet methods or vacuum methods).

Recycle or dispose of as waste (Section XI).

#### VIII. SPECIAL PROTECTION INFORMATION

**Ventilation Requirements:** Keep dust and fume levels below OSHA exposure limits using principles in the ACGIH manual "Industrial Ventilation".

#### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory:** When control of dust or fume is not possible, follow OSHA 29 CFR 1910.132, 133, 134. Use NIOSH/MSHA TC-21 approved mask or respirator for high levels.

**Eye:** Safety glasses should always be worn when grinding or cutting; face shields should be worn when welding or burning. Provide dust proof safety goggles when dust level nears or exceeds permissible exposure limits. In this case, do not allow contact lenses.

**Gloves:** Use appropriate gloves to protect against physical hazards.

**Other:** Eating, drinking and smoking should not be permitted in areas where chromium and nickel dust or fume is present.

#### IX. SPECIAL PRECAUTIONS

None.

#### X. LABELING INFORMATION

##### SARA III HAZARD CATEGORY

Chromium, Cobalt, and Nickel are on the SARA Title III, Section 313 Toxic Chemicals List. While also present, Copper and Manganese are present in insufficient concentration to require reporting.

##### HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

HEALTH HAZARD:	1
FLAMMABILITY HAZARD	0
REACTIVITY HAZARD:	0
MAXIMUM PERSONAL PROTECTION:	B

**XI. ENVIRONMENTAL INFORMATION**

**Waste Disposal Method:** Scrap metal can be reclaimed for reuse or sold for salvage. Follow federal, state, and local regulations regarding disposal. Refer to EPA regulation 40 CFR part 250 and consult regional EPA for proper disposal methods.

**XII. SUPPLIER INFORMATION****PRODUCT MANUFACTURER:**

CENTERLINE (WINDSOR) LTD  
415 MORTON DRIVE  
WINDSOR, ONTARIO N9J 3T8  
CANADA  
T:519-734-8464 / F:519-734-2000  
Email: info@cntrline.com

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