MATERIAL SAFETY DATA SHEET

SECTION 1 – MATERIAL IDENTIFICATION AND USE

Material Name: FREE MACHINING CARBON STEEL
Chemical Family: Steel
Material Use: Production of Steel Products
Chemical Formula and Molecular Weight: not applicable
Chemical Name, Trade Names and Synonyms: not applicable

SECTION 2 – HAZARDOUS INGREDIENTS OF MATERIAL

*NOTE: concentrations represent a maximum for all grades and must not be interpreted as a specification for a particular grade.

COATINGS: Material may be oiled, lime coated, or galvanized.

SECTION 3 – PHYSICAL DATA FOR STEEL

Physical State and Appearance: Solid material. Silver or grey metallic
Specific Gravity: 7.6-7.8.
Melting Point: Material melts at 1530oC
Vapour Pressure and Density: not applicable
Evaporation Rate and Boiling Point: not applicable
% Volatiles and Odour Threshold: not applicable
Solubility in Water and pH: not applicable.

SECTION 4 – FIRE AND EXPLOSION HAZARDS

Flammability: not flammable
Means of Extinction or Special Procedures: not applicable
Auto Ignition Temperature and Rate of Burning: not applicable
Flash Point and Upper/Lower Explosion Limits: not applicable
Sensitivity to Chemical Impact and Static Discharge: not applicable
Hazardous Combustion Products: not applicable
NOTE: Thermal degradation of coatings may release irritating hydrocarbons

SECTION 5 – REACTIVITY DATA

Chemically Stable: Yes

Incompatibility with other Substances: not applicable

Reactivity and Conditions: contact with mineral acids will release hydrogen gas.

Hazardous Decomposition Products: Welding or cutting will generate fume.

SECTION 6 – TOXICOLOGICAL INFORMATION

Effects of Acute Exposure to Products: Welding or cutting will generate fumes. Inhalation overexposure to fume may cause a flu-like condition (e.g. chills, nausea) called metal fume fever.

Effects of Chronic Exposure to Products: Welding or cutting will generate metal fume and dust. Prolonged inhalation overexposure to dust or fume may result in conditions such as Siderosis with few or no symptoms (Siderosis is an accumulation of iron oxide in the lungs). Lead poisoning may result from...
chronic exposure to fumes.

Skin contact with coating materials may cause skin irritation and/or dermatitis with prolonged contact.

Sensitization to Product: no known effects
Synergistic Materials: no known effects
Mutagenic, Teratogenic, or Reproductive Effects: no known effects

SECTION 7 – PREVENTIVE MEASURES

Personal Protective equipment:
Personal protective equipment required is dependent on the process being performed on the material (e.g. burning or cutting). Each operation must be addressed for suitable personal protective equipment.

Gloves: recommended for prolonged contact. Barrier creams may be used when handling oily steel.

Glasses and footwear: to be worn as required or as appropriate.

Respirators: NIOSH approved respiratory protection as appropriate.

Engineering Controls: use appropriate ventilation (general or local) when welding, cutting or grinding.

SECTION 8 – FIRST AID

Skin: wash affected area with soap and water. Seek medical attention if irritation persists.

Eyes: Flush eyes with plenty of water while holding eyelids open. Seek medical attention if irritation persists.

Inhalation: For overexposure to metal fumes, remove to fresh air. Seek medical attention for adverse symptoms.

Ingestion: not applicable

SECTION 9 – PREPARATION DATA

Prepared by: Sandro DeSordi, Quality Assurance Manager

Telephone: 1-905-681-6811

MSDS date: 13 January 2004
Carbon Steel Safety Data

MATERIAL SAFETY DATA SHEET

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P.O. Box 5095
Burlington, Ontario
Canada L7R 3Y8

Telephone 905-681-6811
Fax 905-634-7888

SECTION 1 - MATERIAL IDENTIFICATION AND USE

Material Name: CARBON STEEL
Chemical Family: Steel
Material Use: Production of Steel Products (including mesh, wire and bar products)
Chemical Formula and Molecular Weight: not applicable
Chemical Name, Trade Names and Synonyms: not applicable

SECTION 2 - HAZARDOUS INGREDIENTS OF MATERIAL

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>MAXIMUM*</th>
<th>PEL as fume (mg/m3)</th>
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</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>1.00</td>
<td>3.5</td>
</tr>
<tr>
<td>Manganese</td>
<td>2.20</td>
<td>5.0</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>2.25</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulphur</td>
<td>0.50</td>
<td>n/a</td>
</tr>
<tr>
<td>Lead</td>
<td>n/a</td>
<td>0.05</td>
</tr>
<tr>
<td>Silicon</td>
<td>n/a</td>
<td>5.0</td>
</tr>
<tr>
<td>Iron</td>
<td>balance</td>
<td>10.0</td>
</tr>
</tbody>
</table>

*NOTE: concentrations represent a maximum for all grades and must not be interpreted as a specification for a particular grade.

COATINGS: Material may be oiled, lime coated, or galvanized

SECTION 3 - PHYSICAL DATA FOR STEEL

Physical State and Appearance: Solid material. Silver or grey metallic
Specific Gravity: 7.6-7.8
Melting Point: Material melts at 1530oc
Vapour Pressure and Density: not applicable
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Solubility in Water and pH: not applicable

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Flammability: not flammable
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Auto Ignition Temperature and Rate of Burning: not applicable
Flash Point and Upper/Lower Explosion Limits: not applicable
Sensitivity to Chemical Impact and Static Discharge: not applicable
Hazardous Combustion Products: not applicable

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Welding or cutting will generate fumes. Inhalation overexposure to fume may cause a flu-like condition (e.g. chills, nausea) called metal fume fever.

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Welding or cutting will generate metal fume and dust. Prolonged inhalation overexposure to dust or fume may result in conditions such as Siderosis with few or no symptoms (Siderosis is an accumulation of iron oxide in the lungs).

Skin contact with coating materials may cause skin irritation and/or dermatitis with prolonged contact.

Sensitization to Product: no known effects
Synergistic Materials: no known effects
Mutagenic, Teratogenic, or Reproductive Effects: no known effects

**Personal Protective equipment:**
Personal protective equipment required is dependent on the process being performed on the material (e.g. burning or cutting). Each operation must be addressed for suitable personal protective equipment.

Gloves: recommended for prolonged contact. Barrier creams may be used when handling oily steel.

Glasses and footwear: to be worn as required or as appropriate.

Respirators: NIOSH approved respiratory protection as appropriate.

Engineering Controls: use appropriate ventilation (general or local) when welding, cutting or grinding.

**Skin:** wash affected area with soap and water. Seek medical attention if irritation persists.

Eyes: Flush eyes with plenty of water while holding eyelids open. Seek medical attention if irritation persists.

Inhalation: For overexposure to metal fumes, remove to fresh air. Seek medical attention for adverse symptoms.

Ingestion: not applicable

**Preparation Data:**
Prepared by: Sandro DeSordi, Quality Assurance Manager
Telephone: 1-905-681-6811

MSDS expiry date: 13 January 2007