SECTION 1: Identification

1.1. Identification
Product form : Mixture
Product name : Carbon and Alloy Steels

1.2. Recommended use and restrictions on use
Recommended use : Industrial use
Restrictions on use : None known

1.3. Supplier
Gerdau Long Steel North America
4221 West Boy Scout Blvd.
Suite 600
Tampa, 33607
T (800) 876-3626

1.4. Emergency telephone number
Emergency number : 800-424-9300 CHEMTREC

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin Sens. 1  H317  May cause an allergic skin reaction
Carc. 1B  H350  May cause cancer
STOT RE 1  H372  Causes damage to organs through prolonged or repeated exposure

Full text of hazard classes and H-statements : see section 16

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
Hazard pictograms (GHS-US) : 🔄 ☮️

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H317 - May cause an allergic skin reaction
                              H350 - May cause cancer
                              H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : 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.
                                    P261 - Avoid breathing dust, fume.
                                    P264 - Wash hands thoroughly after handling.
                                    P270 - Do not eat, drink or smoke when using this product.
                                    P272 - Contaminated work clothing must not be allowed out of the workplace
                                    P280 - Wear eye protection, face protection, protective clothing, protective gloves.
                                    P302+P352 - If on skin: Wash with plenty of water
                                    P308+P313 - If exposed or concerned: Get medical advice/attention.
                                    P314 - Get medical advice/attention if you feel unwell.
                                    P321 - Specific treatment (see supplemental first aid instruction on this label)
                                    P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
                                    P363 - Wash contaminated clothing before reuse.
                                    P405 - Store locked up.
                                    P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification : Exposure to massive forms of steel presents no health hazards. Grinding, thermal cutting, or melting may produce dust or fumes. Dust or fumes may contain elemental constituents. Exposure to elemental constituents presents the hazards described in this sheet.
2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron oxide (Fe2O3)</td>
<td>(CAS-No.) 1309-37-1</td>
<td>&gt; 94</td>
<td>Not classified</td>
</tr>
<tr>
<td>Nickel</td>
<td>(CAS-No.) 7440-02-0</td>
<td>&lt; 2</td>
<td>Skin Sens. 1, H317 Carc. 1B, H350 STOT RE 1, H372</td>
</tr>
<tr>
<td>Manganese</td>
<td>(CAS-No.) 7439-96-5</td>
<td>&lt; 1.65</td>
<td>Not classified</td>
</tr>
<tr>
<td>Chromium</td>
<td>(CAS-No.) 7440-47-3</td>
<td>&lt; 1.2</td>
<td>Not classified</td>
</tr>
<tr>
<td>Silicon</td>
<td>(CAS-No.) 7440-21-3</td>
<td>&lt; 1</td>
<td>Not classified</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>(CAS-No.) 7439-98-7</td>
<td>&lt; 1</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carbon black</td>
<td>(CAS-No.) 1333-86-4</td>
<td>&lt; 1</td>
<td>Carc. 2, H351</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation: May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard: Not flammable.

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Stop leak if safe to do so.

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.
6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing dust, fume. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume. Provide local exhaust or general room ventilation.
Hygiene measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a dry place. Store in a well-ventilated place. Keep cool.
Incompatible products: Strong bases. Strong acids.
Incompatible materials: None known.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>Iron oxide (Fe2O3) (1309-37-1)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Local name</td>
<td>Iron oxide (Fe O )</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>5 mg/m³ (respirable particulate matter)</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>Remark (ACGIH)</td>
<td>Pneumoconiosis</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>10 mg/m³ (fume)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³ (total dust)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Nickel (7440-02-0)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>1.5 mg/m³ (inhalable particulate matter)</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>1 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Manganese (7439-96-5)</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>0.02 mg/m³ (respirable fraction)</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (Ceiling) (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Chromium (7440-47-3)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>1 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Silicon (7440-21-3)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>15 mg/m³ (total dust)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Molybdenum (7439-98-7)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>10 mg/m³ (inhalable particulate matter)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m³ (respirable particulate matter)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Carbon black (1333-86-4)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>3 mg/m³ (inhalable particulate matter)</td>
<td></td>
</tr>
</tbody>
</table>
Carbon and Alloy Steels
Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Carbon black (1333-86-4)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.5 mg/m³</td>
</tr>
</tbody>
</table>

#### 8.2. Appropriate engineering controls

Appropriate engineering controls:
Avoid dust formation. Ensure good ventilation of the work station.

#### 8.3. Individual protection measures/Personal protective equipment

**Personal protective equipment:**
Avoid all unnecessary exposure.

**Hand protection:**
Wear protective gloves.

**Eye protection:**
Chemical goggles or safety glasses

**Respiratory protection:**
In case of insufficient ventilation, wear suitable respiratory equipment

**Other information:**
Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- **Physical state:** Solid
- **Color:** Metallic, Silver, gray
- **Odor:** odorless
- **Odor threshold:** No data available
- **pH:** No data available
- **Melting point:** 1540 °C
- **Freezing point:** No data available
- **Boiling point:** No data available
- **Flash point:** No data available
- **Relative evaporation rate (butyl acetate=1):** No data available
- **Flammability (solid, gas):** Non flammable.
- **Vapor pressure:** 1 mm Hg @ 1787 C
- **Relative vapor density at 20 °C:** No data available
- **Relative density:** 7.85
- **Solubility:** No data available
- **Log Pow:** No data available
- **Auto-ignition temperature:** No data available
- **Decomposition temperature:** No data available
- **Viscosity, kinematic:** No data available
- **Viscosity, dynamic:** No data available
- **Explosion limits:** No data available
- **Explosive properties:** No data available
- **Oxidizing properties:** No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Extremely high or low temperatures.

10.5. Incompatible materials
Strong acids. Strong bases.

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50 oral rat</th>
<th>ATE US (oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron oxide (Fe2O3)</td>
<td>&gt; 10000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Nickel (7440-02-0)</td>
<td>&gt; 9000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Manganese (7439-96-5)</td>
<td>9 g/kg</td>
<td>9000 mg/kg body weight</td>
</tr>
<tr>
<td>Silicon (7440-21-3)</td>
<td>3160 mg/kg</td>
<td>3160 mg/kg body weight</td>
</tr>
<tr>
<td>Carbon black (1333-86-4)</td>
<td>&gt; 15400 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Not classified
Carcinogenicity: May cause cancer.

Iron oxide (Fe2O3) (1309-37-1)
IARC group 3 - Not classifiable

Nickel (7440-02-0)
IARC group 2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list Yes

Chromium (7440-47-3)
IARC group 3 - Not classifiable

Carbon black (1333-86-4)
IARC group 2B - Possibly carcinogenic to humans
In OSHA Hazard Communication Carcinogen list Yes

Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Not classified
Specific target organ toxicity – repeated exposure: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard: Not classified
Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation: May cause an allergic skin reaction.
Other information: Exposure to dust or fumes from some metal including iron, zinc, manganese, chromium, cobalt, and copper can produce a condition known as metal fume fever.

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Nickel (7440-02-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC50 fish 2</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Carbon and Alloy Steels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Carbon and Alloy Steels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Carbon and Alloy Steels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects

| Effect on global warming | Not established |

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

| Product/Packaging disposal recommendations | Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials                  | Avoid release to the environment. |

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated
## SECTION 15: Regulatory information

### 15.1. US Federal regulations

**Carbon and Alloy Steels**

<table>
<thead>
<tr>
<th>Chemical/Compound</th>
<th>CAS-No.</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>&lt; 2%</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>&lt; 1.65%</td>
</tr>
<tr>
<td>Chromium</td>
<td>7440-47-3</td>
<td>&lt; 1.2%</td>
</tr>
</tbody>
</table>

**Iron oxide (Fe2O3) (1309-37-1)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Nickel (7440-02-0)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**CERCLA RQ**

100 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm

**Manganese (7439-96-5)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Chromium (7440-47-3)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**CERCLA RQ**

5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm

**Silicon (7440-21-3)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Molybdenum (7439-98-7)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Carbon black (1333-86-4)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

**Carbon and Alloy Steels**

Listed on the Canadian DSL (Domestic Substances List)

**Iron oxide (Fe2O3) (1309-37-1)**

Listed on the Canadian DSL (Domestic Substances List)

**Nickel (7440-02-0)**

Listed on the Canadian DSL (Domestic Substances List)

**Manganese (7439-96-5)**

Listed on the Canadian DSL (Domestic Substances List)

**Chromium (7440-47-3)**

Listed on the Canadian DSL (Domestic Substances List)

**Silicon (7440-21-3)**

Listed on the Canadian DSL (Domestic Substances List)

**Molybdenum (7439-98-7)**

Listed on the Canadian DSL (Domestic Substances List)

**Carbon black (1333-86-4)**

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

**Iron oxide (Fe2O3) (1309-37-1)**

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Nickel (7440-02-0)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Manganese (7439-96-5)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chromium (7440-47-3)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Silicon (7440-21-3)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Molybdenum (7439-98-7)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Carbon black (1333-86-4)
- Listed on ELINCS (European List of Notified Chemical Substances)

National regulations

Carbon and Alloy Steels
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
- Listed on INSQ (Mexican National Inventory of Chemical Substances)

Iron oxide (Fe2O3) (1309-37-1)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Japanese ISHL (Industrial Safety and Health Law)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

Nickel (7440-02-0)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Japanese Pollutant Release and Transfer Register Law (PRTR Law)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

Manganese (7439-96-5)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Japanese Pollutant Release and Transfer Register Law (PRTR Law)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

Chromium (7440-47-3)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Japanese Pollutant Release and Transfer Register Law (PRTR Law)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)
Carbon and Alloy Steels
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.3. US State regulations

**WARNING**
This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

### Silicon (7440-21-3)
- Listed on the AIICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

### Molybdenum (7439-98-7)
- Listed on the AIICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

### Carbon black (1333-86-4)
- Listed on the AIICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Japanese ISHL (Industrial Safety and Health Law)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

### Nickel (7440-02-0)

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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</tbody>
</table>

### Carbon black (1333-86-4)

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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### Iron oxide (Fe2O3) (1309-37-1)

<table>
<thead>
<tr>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
</tr>
</thead>
</table>

### Nickel (7440-02-0)

<table>
<thead>
<tr>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances</th>
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</thead>
</table>
Carbon and Alloy Steels
Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Manganese (7439-96-5)</th>
</tr>
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<tbody>
<tr>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
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</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chromium (7440-47-3)</th>
</tr>
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<tbody>
<tr>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
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</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances</td>
</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Silicon (7440-21-3)</th>
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</thead>
<tbody>
<tr>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
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<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
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<table>
<thead>
<tr>
<th>Molybdenum (7439-98-7)</th>
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</thead>
<tbody>
<tr>
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<tr>
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</tr>
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</table>

<table>
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<th>Carbon black (1333-86-4)</th>
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</table>

**SECTION 16: Other information**

**Revision date:** 12/19/2017

**Other information:** DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-phrases</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carc. 1B</td>
<td>Carcinogenicity Category 1B</td>
</tr>
<tr>
<td>Carc. 2</td>
<td>Carcinogenicity Category 2</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitization, Category 1</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>Specific target organ toxicity (repeated exposure) Category 1</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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.

12/19/2017 EN (English US) SDS ID: 761