SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name
Nickel/Cobalt Alloy Non-Respirable Powder

Other means of identification
Product Code
PM015
UN/ID No.
3077
Synonyms

Recommended use of the chemical and restrictions on use
Recommended Use
Alloy product manufacture.

Uses advised against

Details of the supplier of the safety data sheet
Manufacturer Address
ATI, 1000 Six PPG Place, Pittsburgh, PA 15222 USA
Emergency telephone number
Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
This material is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral
Category 4

Serious eye damage/eye irritation
Category 2

Respiratory sensitization
Category 1B

Skin sensitization
Category 1

Carcinogenicity
Category 1B

Reproductive toxicity
Category 2

Specific target organ toxicity (repeated exposure)
Category 1

Acute aquatic toxicity
Category 1

Chronic aquatic toxicity
Category 1

Label elements

Emergency Overview

Danger

Hazard statements
Harmful if swallowed
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause cancer
Suspected of damaging fertility or the unborn child
Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wear protective gloves
Wash hands thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume
In case of inadequate ventilation wear respiratory protection
Avoid release to the environment
IF ON SKIN: Wash with plenty of soap and water

Precautionary Statements - Response
Collect spillage
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated:
Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>49 - 68</td>
</tr>
<tr>
<td>Cobalt</td>
<td>7440-48-4</td>
<td>2.5 - 25</td>
</tr>
<tr>
<td>Chromium</td>
<td>7440-47-3</td>
<td>8 - 23</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>0 - 19</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>7439-98-7</td>
<td>0 - 10</td>
</tr>
</tbody>
</table>
### 4. FIRST AID MEASURES

**First aid measures**

**Eye contact**

In the case of particles coming in contact with eyes during processing, treat as with any foreign object.

**Skin Contact**

In the case of skin allergic reactions see a physician. Wash off immediately with soap and plenty of water.

**Inhalation**

If excessive amounts of smoke, fume, or particulate are inhaled during processing, remove to fresh air and consult a qualified health professional. In the case of asthma symptoms or breathing difficulties call a physician:

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause acute gastrointestinal effects if swallowed.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

Product not flammable in the form as distributed, flammable as finely divided particles or pieces resulting from processing of this product. Isolate large fires and allow to burn out. Smother small fires with salt (NaCl).

**Unsuitable extinguishing media**

Do not spray water on burning metal as an explosion may occur. This explosive characteristic is caused by the hydrogen and steam generated by the reaction of water with the burning material.

**Specific hazards arising from the chemical**

Intense heat. Very fine, high surface area material resulting from processing this product may ignite spontaneously at room temperature. WARNING: Fine particles of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

**Hazardous combustion products**

Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

**Explosion data**

- **Sensitivity to Mechanical Impact**: None.
- **Sensitivity to Static Discharge**: None.

**Protective equipment and precautions for firefighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
Personal precautions, protective equipment and emergency procedures

Personal precautions
Use personal protective equipment as required.

For emergency responders

Environmental precautions
Collect spillage to prevent release to the environment.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Sweep or shovel material into dry containers. Avoid creating uncontrolled dust.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Very fine, high surface area material resulting from grinding, buffing, polishing, or similar processes of this product may ignite spontaneously at room temperature. WARNING: Fine particles of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials
Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above 200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon tetrachloride, carbon tetrafluoride, and freon.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>TWA: 1.5 mg/m³ inhalable fraction</td>
<td>TWA: 1 mg/m³</td>
</tr>
<tr>
<td>Cobalt 7440-48-4</td>
<td>TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ Co TWA: 0.1 mg/m³ dust and fume</td>
<td>TWA: 0.1 mg/m³ dust and fume</td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
<tr>
<td>Iron 7439-89-6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tungsten 7440-33-7</td>
<td>STEL: 10 mg/m³ STEL: 10 mg/m³ W TWA: 5 mg/m³ TWA: 5 mg/m³ W (vacated) STEL: 10 mg/m³ (vacated) STEL: 10 mg/m³ W</td>
<td></td>
</tr>
<tr>
<td>Niobium (Columbium) 7440-03-1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Molybdenum 7439-98-7</td>
<td>TWA: 10 mg/m³ inhalable fraction TWA: 3 mg/m³ respirable fraction</td>
<td>-</td>
</tr>
<tr>
<td>Titanium 7440-32-6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tantalum 7440-25-7</td>
<td>-</td>
<td>TWA: 5 mg/m³</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction</td>
<td></td>
</tr>
<tr>
<td>Vanadium 7440-62-2</td>
<td>-</td>
<td>Ceiling: 0.5 mg/m³ V2O5 respirable dust Ceiling: 0.1 mg/m³ V2O5 fume</td>
</tr>
</tbody>
</table>
Appropriate engineering controls

Engineering Controls

Avoid generation of uncontrolled particles.

Individual protection measures, such as personal protective equipment

Eye/face protection
When airborne particles may be present, appropriate eye protection is recommended. For example, tight-fitting goggles, foam-lined safety glasses or other protective equipment that shield the eyes from particles.

Skin and body protection
Fire/flame resistant/retardant clothing may be appropriate during hot work with the product. Wear protective gloves.

Respiratory protection
When particulates/fumes/gases are generated and if exposure limits are exceeded or irritation is experienced, proper approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Powder</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Metallic gray or silver</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>1400-1540 °C / 2560-2800 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>-</td>
<td>Product not flammable in the form as distributed, flammable as finely divided particles or pieces resulting from processing of this product</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>8.0-8.5</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

Softening point                 | -                           |                                                           |
Molecular weight                | -                           |                                                           |
VOC Content (%)                 | Not applicable              |                                                           |
Density                         | -                           |                                                           |
10. STABILITY AND REACTIVITY

Reactivity
Not applicable

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Dust formation and dust accumulation.

Incompatible materials
Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above 200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon tetrachloride, carbon tetrafluoride, and freon.

Hazardous Decomposition Products
When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated: Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
May cause cancer by inhalation. Cobalt-containing alloys may cause sensitization by inhalation. Causes damage to the respiratory tract through prolonged or repeated exposure if inhaled.

Eye contact
Causes serious eye irritation.

Skin Contact
May cause sensitization by skin contact.

Ingestion
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>&gt; 9000 mg/kg bw</td>
<td>-</td>
<td>&gt; 10.2 mg/L</td>
</tr>
<tr>
<td>Cobalt 7440-48-4</td>
<td>550 mg/kg bw</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&lt;0.05 mg/L</td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td>&gt; 3400 mg/kg bw</td>
<td>-</td>
<td>&gt; 5.41 mg/L</td>
</tr>
<tr>
<td>Iron 7439-89-6</td>
<td>98,600 mg/kg bw</td>
<td>-</td>
<td>&gt; 0.25 mg/L</td>
</tr>
<tr>
<td>Tungsten 7440-33-7</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 5.4 mg/L</td>
</tr>
<tr>
<td>Niobium (Columbium) 7440-03-1</td>
<td>&gt; 10,000 mg/kg bw</td>
<td>&gt; 2000 mg/kg bw</td>
<td>-</td>
</tr>
<tr>
<td>Molybdenum 7439-98-7</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 5.10 mg/L</td>
</tr>
<tr>
<td>Titanium 7440-32-6</td>
<td>&gt; 5000 mg/kg bw</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tantalum 7440-32-6</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 2000 mg/kg bw</td>
<td>&gt; 5.18 mg/L</td>
</tr>
</tbody>
</table>
**Information on toxicological effects**

**Symptoms**
May cause sensitization by skin contact. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause acute gastrointestinal effects if swallowed.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Acute toxicity**
Harmful if swallowed. Cobalt-containing powders may be fatal if inhaled.

**Skin corrosion/irritation**
Product not classified.

**Serious eye damage/eye irritation**
Causes serious eye irritation.

**Sensitization**
May cause sensitization by skin contact. Cobalt-containing alloys may cause sensitization by inhalation.

**Germ cell mutagenicity**
Product not classified.

**Carcinogenicity**
May cause cancer by inhalation.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cobalt 7440-48-4</td>
<td>A3</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td></td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td></td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reproductive toxicity**
Possible risk of impaired fertility.

**STOT - single exposure**
Product not classified.

**STOT - repeated exposure**
Causes disorder and damage to the: Respiratory System.

**Aspiration hazard**
Product not classified.

### 12. ECOLOGICAL INFORMATION

This product contains a chemical which, although not listed, meets the IMDG criteria for being a severe marine pollutant.

**Ecotoxicity**

This product as shipped is classified for aquatic acute toxicity This product as shipped is classified for aquatic chronic toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>NOEC/EC10 values range from 12.3 μg/l for Scenedesmus accuminatus to 425 μg/l for Pseudokirchneriella subcapitata</td>
<td>The 96h LC50s values range from 0.4 mg Ni/L for Pimephales promelas to 320 mg Ni/L for Brachydanio rerio.</td>
<td>The 30 min EC50 of nickel for activated sludge was 33 mg Ni/L.</td>
<td>The 48h LC50s values range from 0.013 mg Ni/L for Ceriodaphnia dubia to 4970 mg Ni/L for Daphnia magna.</td>
</tr>
<tr>
<td>Cobalt 7440-48-4</td>
<td>The 72 h EC50 of cobalt dichloride to Pseudokirchneriella subcapitata was 144 ug of Co/L.</td>
<td>The 96h LC50 of cobalt dichloride ranged from 1.5 mg Co/L for Oncorhynchus mykiss to 85 mg Co/L for Danio rerio.</td>
<td>The 3 h EC50 of cobalt dichloride for activated sludge was 120 mg of Co/L.</td>
<td>The 48 h LC50 of cobalt dichloride ranged from 0.61 mg Co/L for Ceriodaphnia dubia tested in soft, DOM-free water to &gt;1800mg Co/L for Tubifex tubifex in very hard water.</td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Iron 7439-89-6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The 96 h LC50 of 50% iron oxide black in water to Danio rerio was greater than 10,000 mg/L. The 3 h EC50 of iron oxide for activated sludge was greater than 10,000 mg/L. The 48 h EC50 of iron oxide to Daphnia magna was greater than 100 mg/L.
### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal of wastes**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA - D Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium</td>
<td>5.0 mg/L regulatory level</td>
</tr>
</tbody>
</table>

This product contains one or more substances that are listed with the State of California as a hazardous waste.

### 14. TRANSPORT INFORMATION
**DOT**

**UN/ID No.** 3077

**Proper shipping name** Environmentally hazardous substance, solid, n.o.s. (cobalt alloy powder) [include "nickel" and ", RQ" if RQ is exceeded]

**Hazard Class** 9

**Packing Group** III

**Reportable Quantity (RQ)** "(RQ)", if quantity with particles smaller than 100 micrometers (0.004 inches) in an individual package equals or exceeds the reportable quantity (RQ) of 5000 pounds of chromium, 5000 pounds of copper, or 100 pounds of nickel.

**Special Provisions** 8, 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33

**Marine pollutant** This product contains a chemical which, although not listed, meets the IMDG criteria for being a severe marine pollutant.

**Emergency Response Guide Number** Guide No. 171, Except for FIRE follow Guide No. 170

---

### 15. REGULATORY INFORMATION

**International Inventories**

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel - 7440-02-0</td>
<td>7440-02-0</td>
<td>49 - 68</td>
<td>0.1</td>
</tr>
<tr>
<td>Cobalt - 7440-48-4</td>
<td>7440-48-4</td>
<td>2.5 - 25</td>
<td>0.1</td>
</tr>
<tr>
<td>Chromium - 7440-47-3</td>
<td>7440-47-3</td>
<td>8 - 23</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>100 lb</td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td>5000 lb</td>
</tr>
</tbody>
</table>

US State Regulations
California Proposition 65
This product contains the Proposition 65 chemicals listed below. Proposition 65 warning label available at ATImetals.com.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel - 7440-02-0</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Cobalt - 7440-48-4</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cobalt 7440-48-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Chromium 7440-47-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tungsten 7440-33-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Molybdenum 7439-98-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Titanium 7440-32-6</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tantalum 7440-25-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Vanadium 7440-62-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hafnium 7440-58-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards 1</th>
<th>Flammability 0</th>
<th>Instability 0</th>
<th>Physical and Chemical Properties -</th>
<th>Personal protection X</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>Health hazards 2*</td>
<td>Flammability 1</td>
<td>Physical hazards 0</td>
<td>Chronic Hazard Star Legend * = Chronic Health Hazard</td>
<td></td>
</tr>
</tbody>
</table>

Issue Date 28-May-2015
Revision Date 31-Jan-2020
Revision Note SDS sections updated: 1, 2, 3, 4, 5, 7, 9, 10, 11, 12
Note: The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information
relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Additional information available from:

Safety data sheets and labels available at ATImetals.com