SECTION 1 – MATERIAL IDENTIFICATION

PRODUCT NAME: BOND-A-BRAID 304 STAINLESS STEEL, METAL FOR ARCHWIRES INCLUDING STRANDED AND LOOPED WIRES

SECTION 2 – HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>CAS Number</th>
<th>% (RANGE)</th>
<th>ACGIH-TLV</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRON*</td>
<td>13097-37-1</td>
<td>69.5</td>
<td>5.0 MG/M3</td>
<td>10.0 MG/M3</td>
</tr>
<tr>
<td>CHROMIUM</td>
<td>7440-47-3</td>
<td>18.5</td>
<td>0.5mg/m3 (Dust)</td>
<td>1.0 mg/m3 (Dust)</td>
</tr>
<tr>
<td>NICKEL</td>
<td>7440-02-0</td>
<td>9.0</td>
<td>1mg/m3 (Dust)</td>
<td>1mg/m3 (Dust)</td>
</tr>
<tr>
<td>MANGANESE(E)</td>
<td>7439-96-5</td>
<td>1.0</td>
<td>5mg/m3 Max. (Dust)</td>
<td>5mg/m3 Max. (Dust)</td>
</tr>
<tr>
<td>COBALT</td>
<td>7440-48-4</td>
<td>0.75</td>
<td>0.1mg/m3 (Dust)</td>
<td>0.1mg/m3 (Dust)</td>
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<tr>
<td>SILICON</td>
<td>7440-33-7</td>
<td>0-4</td>
<td>5mg/m3 (Dust)</td>
<td>None</td>
</tr>
<tr>
<td>CARBON</td>
<td></td>
<td>&lt; 1 EACH</td>
<td>10mg/m3 (Dust)</td>
<td>15mg/m3 (Dust)</td>
</tr>
<tr>
<td>PHOSPHORUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SULFUR</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* THESE SUBSTANCES ARE REGULATED IN THEIR OXIDE FORM

SECTION 3 – HAZARDS IDENTIFICATION

Specialty steel alloys are generally not considered hazardous in the form shipped (solid bars, billets wire…) however, if your process involves grinding, melting, welding, cutting or any other process that causes a release of dust or fume, hazardous levels of dust or fume of the constituents of these alloys could be generated. The following is a list of potential health effects for all hazardous elements that are possibly contained in our alloys. Please refer to section II titled “hazardous ingredients” for a list of those specific elements contained in this particular alloy.

HEALTH EFFECTS

IRON OXIDE: Has caused irritation of the eyes, nose and skin of excremental animals. It may have the same effect on humans.

CHROMIUM: Ferrochrome alloys have been associated with lung changes in workers exposed to these alloys.

COBALT: Fume or dust causes irritation of the nose and throat and may cause an allergic skin rash. Also has been reported to cause respiratory disease with symptoms ranging from cough and shortness of breath to permanent disability and death. The symptoms frequently go away when exposure has stopped, but sometimes the symptoms progress after exposure has ceased.

MANGANESE: Inhalation of manganese fume may cause “metal fume fever” with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle aches and a sweet or metallic taste in the mouth. Prolonged or repeated exposure may affect the nervous system with difficulty in walking and balancing, weakness or cramps in the legs. Hoarseness of the voice, trouble with memory or judgment, unstable emotions or unusual irritability. The respiratory system may also be affected by a pneumonia like illness with symptoms of coughing, fever, chills, body ache, chest pain and other common signs of pneumonia.

NICKEL: Fumes are respiratory irritants and may cause respiratory disease, skin contact can also cause an allergic skin rash. Nickel and its compounds have been reported to cause cancer of the lungs and sinuses.
SECTION 4 – FIRST AID MEASURES

PRIMARY ROUTES OF ENTRY:

INHALATION
EYE CONTACT
SKIN CONTACT
INGESTION

EMERGENCY FIRST AID:

Remove to fresh air, if condition continues, consult physician.
Flush well with running water to remove particulates and get medical attention.
Wash area well with mild detergent and water.
While ingestion of large enough quantities to cause health effects is unlikely, consult a physician if it occurs.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: N/A
Unsuitable extinguishing Media: N/A
Particular hazards: See Step 3
Protective Equipment for Fire Fighters: N/A

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions:

VENTILATION: If your process causes a release of dust or fumes, use local and general exhaust ventilation to keep airborne concentrations of dust or fumes below TLV.
RESPIRATORY PROTECTION: If your process causes a release of dust or fume in excess of the permissible exposure limit, use approved respirators for protection against airborne dust or fumes should be worn. Respirators should be used in accordance with 29CFR1910.134.
PROTECTIVE EQUIPMENT: Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis. If your process involves grinding or any other action that causes the release of dust or fumes, approved safety glasses or goggles should be worn.
ENVIRONMENTAL PRECAUTIONS: No hazard
CLEANING METHODS: N/A

SECTION 7 – HANDLING AND STORAGE

Handling: See step 6
Storage: N/A
Storage Conditions: N/A

SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

Minimize contact as outlined in step 6.
SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form: Wire
Color: Solid
Odor: Odorless
Change of State: Liquid
Melting Point: 2400F to 2800F
Boiling Point: HIGH
Auto-Ignition Temperature: N/A
Flash Point: N/A
Specific Gravity: (H, O=1) Approx. 8
Vapor Pressure 20 Degrees C: (mm Hg): NIL
Density (20 Degrees C): 7.5 – 8.5 specific gravity
pH Value (at 10g/H2O): N/A
Solubility in Water: Insoluble
Solubility in Organic Solvent: Insoluble
Viscosity (20 Degrees C): solid

SECTION 10 – STABILITY AND REACTIVITY

Thermal Decomposition: None
Conditions to Avoid: None
Materials to Avoid: None
Hazardous Decomposition Products: Fumes and/or gases produced from welding

SECTION 11 – TOXICOLOGY INFORMATION

Oral Toxicity: Reference Section 3 and 6
Inhalation: Reference Section 3 and 6
Skin Irritation: Reference Section 3 and 6
Sensitization: Reference Section 3 and 6
Eye Irritation: Reference Section 3 and 6
Further Details: None

SECTION 12 – ECOLOGICAL INFORMATION

Acute Toxicity in Fish (LC-50/48h): Not defined
Bacteria Toxicity (EC-0): Not Defined
Biodegradability: Not Defined
Further Details: None

SECTION 13 – DISPOSAL CONSIDERATIONS

Product: N/A
Packaging: N/A
Waste Disposal Code: N/A
SECTION 14 – TRANSPORT INFORMATION

Overland Transport ADR/RID/GGVS/GGVE: N/A
Sea Transport: GGVSEA/IMDG-Code: N/A
Air Transport ICAO/IATA-DGR: N/A
Inland Waterway Transport ADNR: N/A

Further Details: Product is not considered dangerous for transport

SECTION 15 – REGULATORY INFORMATION

Preparation as defined by the (German) Chemicals Act (dated 4/03/1990)

Labeling: N/A
Product Contains:
Danger Symbol: 
R-Sentences R36/37/38:
S-Sentences S26:
S-Sentences S28:
National Regulation:
VbF:
TA-Air:
Water Pollution1:

SECTION 16 – OTHER INFORMATION

NOTE: While the information and recommendations set forth on this data sheet are believed to be accurate as received from our suppliers, Ortho Specialties makes no warranty with respect thereto and disclaims all liability from Ortho Specialties thereon.