

### COMPANY INFORMATION

**COMPANY NAME:** ORTHO SPECIALTIES  
**COMPANY ADDRESS:** 3820 OHIO AVE - SUITE 15  
 ST. CHARLES, IL 60174  
**COMPANY PHONE:** 630-443-0225  
**COMPANY FAX:** 630-443-0224  
**COMPANY WEB ADDRESS:** www.orthospecialties.com

<b>BOND-A-BRAID™</b>	
<b>DOCUMENT NUMBER:</b>	<b>SDS37</b>
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### SECTION 1 – MATERIAL IDENTIFICATION

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

### SECTION 2 – HAZARDOUS INGREDIENTS

MATERIAL	CAS Number	% (RANGE)	ACGIH-TLV	OSHA-PEL
IRON*	13097-37-1	69.5	5.0 MG/M3	10.0 MG/M3
CHROMIUM	7440-47-3	18.5	0.5mg/m3 (Dust)	1.0 mg/m3 (Dust)
NICKEL	7440-02-0	9.0	1mg/m3 (Dust)	1mg/m3 (Dust)
		Suspected carcinogen- NTP & IARC Listed See Sections 5 & 7		
MANGANESE(E)	7439-96-5	1.0	5mg/m3 Max. (Dust)	5mg/m3 Max. (Dust)
COBALT	7440-48-4	0.75	0.1mg/m3 (Dust)	0.1mg/m3 (Dust)
SILICON	7440-33-7	0-4	5mg/m3 (Dust)	None
CARBON		< 1 EACH	10mg/m3 (Dust)	15mg/m3 (Dust)
PHOSPHORUS				
SULFUR				

\* 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.

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**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.

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**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 (20Degrees C): solid

**SECTION 10 – STABILITY AND REACTIVITY**

Thermal Dcomposition: 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

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**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.