Section 1. MATERIAL IDENTIFICATION

SUPPLIER: Reliance Orthodontic Products

1540 West Thorndale Rd.

Itasca, Il 60143

**Emergency Contact Information:** 

Phone: (630) 773-4009 Fax: (630) 250-7704

Product Grade/Name:

Bondabraid

302 STAINLESS STEEL, Austenitic and Martinsitic

Section 2.	HAZARDOUS INGREDIENTS			
<u>MATERIAL</u>	CAS Number	% (RANGE)	ACGIH-TLV	OSHA-PEL
IRON	7439-89-6	65-75	None	None
CHROMIUM	7440-47-3	15-20	$0.5 \text{mg/m}^3 \text{ (Dust)}$	1mg/m³ (Dust)
		$0.05 \text{mg/m}^3/\text{M2} (\text{Cr+6})$		
NICKEL	7440-02-0	8-12	1mg/m³ (Dust)	1mg/m³ (Dust)
		Suspected carci	nogen-NTP & IARC L	isted
		See Sections 5& 7		
MANGANESE(E)	7439-96-5	0-2	5mg/m³ Max. (Dust)	5mg/m³ Max. (Dust)
TUNGSTEN	7440-33-7	0-4	5mg/m³ (Dust)	None
<b>MOLYBDENUM</b>	7439-98-7	0-4	10mg/m³ (Dust)	15mg/m³ (Dust)
ALUMINUM	7429-90-5	0-2	15mg/m³ (Dust)	15mg/m³ (Dust)
COPPER	7440-50-8	0-4	1mg/m³ (Dust)	1mg/m³ (Dust)
SILICON	7440-21-3	0-5	10mg/m³ (Dust)	15mg/m³ (Dust)
COBALT	7440-48-7	0-5	$0.5 \text{mg/m}^3 \text{ (Dust)}$	0
			= ' '	

## Section 3. PHYSICAL HAZARDS

#### Stability:

Unstable ( ) Conditions

Stable (X) To Avoid N/A

## **Incompatibility:**

Material to avoid N/A

## **Hazardous Decomposition Products:**

Metal fumes and certain noxious bases, such as CO, may be produced during welding or burning operations.

## **Hazardous Polymerization:**

May Occur ( ) Conditions to Avoid N/A Will not Occur (X)

# Section 4. PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE & EXPLOSION DATA)

Boiling Point: N/A

Specific Gravity: (H, O=1) Approx. 8

Vapor Pressure: (mm Hg) N/A

Percent Volatile by Volume (%): N/A

Evaporation Rate=1: N/A Solubility in Water: N/A Reactivity in Water: N/A

Appearance and Odor: Odorless solid with metallic luster. Available as CR strip.

Flash Point: N/A

Flammable Limits in Air % by Volume: N/A

Extinguisher Media: N/A

Auto-Ignition Temperature: N/A Special Fire Fighting Procedures: N/A Unusual Fire and Explosive Hazards: N/A

#### Section 5. HEALTH HAZARD INFORMATION

Steel products in their usual physical state do not constitute any physical or health hazards. However, subsequent operations such as brazing, burning, cutting, grinding, heat treating, pickling, welding, or processing in any other fashion may produce potentially hazardous dust or fume which can be inhaled, swallowed, or come in contact with the skin, eyes or mucous membranes.

# PRIMARY ROUTES OF ENTRY: EMERGENCY FIRST AID:

Inhalation Remove to fresh air, if condition continues,

consult physician.

Eye Contact Flush well with running water to remove

particulates and get medical attention.

Skin Contact Brush off excess dust. Wash area well with soap

and water.

Ingestion Seek medical help if large quantities of material

have been ingested.

#### **EFFECTS OF EXPOSURE:**

No toxic effect would be expected from exposure from exposure to the solid form of Steel product. Prolonged, repeated exposure to fumes or dust generated during subsequent operations may or may not cause adverse health effects associated with the listed constituents in excess of OSHA permissible exposure limits established in 29CRF (See Section 2. Generic Ingredients).

# POSSIBLE SYMPTOMS OF EXPOSURE TO DUST, FUMES, OR GASES:

Acute: Irritation of eyes, nose, throat, and skin; metallic taste in mouth; nausea; metal Fume fever.

Chronic: Only after six to ten years of exposure to iron dust or fumes does one present any signs of pneumoconiosis. Physical examinations of those exposed to iron dust have not indicated any disability. Excess inhalation of Chromium fumes has been associated with respiratory cancer.

Excessive and prolonged inhalation to manganese (generally over 2 years exposure) can cause damage to the central nervous system. Specifically, the pathology resembles Parkinson's Disease.

#### Section 6. REACTIVITY DATA

Stability: Chemically Stable

Incompatibility: React with strong acids to form hydrogen gas.

Hazardous Decomposition Products: Fumes and/or gases produced from welding or burning operations.

<u>MATERIAL</u>	ACGIH-TLV	OSHA-PEL	
ALUMINUM	5mg/m³	None	
CARBON MONOXIDE	50ppm	50ppm	
CHROMIUM(D)	$0.05 \text{mg/m}^3$	$0.1 \text{mg/m}^3$	
	Suspected carcinogen-NTP & IARC Listed		
	See Sections 5& 7		
COBALT FUME	.05mg/m³	0.1mg/m <sup>3</sup>	
COPPER FUME	$0.2 \text{mg/m}^3$	$0.1 \text{mg/m}^3$	
$\underline{IRON}(B)$	$5 \text{mg/m}^3$	10mg/m <sup>3</sup>	
MANGANESE(F)	1mg/m³	5mg/m³ Maximum	
MOLYBDENUM	$5 \text{mg/m}^3$	5mg/m³	
NICKEL	$0.1 \text{mg/m}^3$	1mg/m³	
	Suspected carcinogen-IARC Listed		
	See Sections 5& 7		
NITROGEN DIOXIDES	3ppm	5ppm Maximum	
OZONE	0.1ppm	0.1ppm	
SILICON(C)	10mg/m <sup>3</sup>	None	
TUNGSTEN FUME	1mg/m³	None	

Section 7. SPILL OR LEAK PROCEDURES

Clean Up: N/A

Wastes Disposal: Solids-sell as scrap for reuse.

Dust- Follow federal, state and local regulation regarding disposal.

Grinding, Cutting and Welding Residue- Follow federal, state and

local regulation regarding disposal.

Section 8. SPECIAL PROTECTION REQUIREMENTS

#### **Ventilation Requirements:**

Local exhaust recommended while burning, grinding, and/or welding and airborne levels of metal oxides exceed applicable OSHA standards.

# **Personal Protective Equipment:**

Respiratory Protection:

If fumes, misting or dust conditions occurs and exceed applicable OSHA standards.

# Personal Protection:

## **RESPIRATORY:**

If fumes, misting or dust conditions occurs and exceed applicable OSHA standards provide NIOSH approved air-supplied respirators.

#### **EYE PROTECTION:**

Recommend approved safety glasses/goggles when grinding, welding, etc.

#### HAND PROTECTION:

Gloves: As required.

Other Clothing: As required.

#### Section 9. SPECIAL PRECAUTIONS

Other Precautions: Use good housekeeping procedures to prevent accumulation of dusts,

thus minimizing airborne dust concentrations.

Handling & Storage: N/A

#### Section 10. FOOTNOTES

- A. All values, unless otherwise noted, refer to 8-hour time-weighted average concentrations and units are in mg/m³.
- B. As iron oxide fume.
- C. As total dust.
- D. As hexavalent chromium compounds.
- E. Ceiling values for manganese.
- F. As manganese fume.

LT – Less Than

N/A – Not Applicable

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