

Material Safety Data Sheet

Lingual Retainer Wire

06/01/16
Version 1.4.

Section 1.

MATERIAL IDENTIFICATION

Manufacturer:

EC Certification Service GmbH
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Product Grade/Name:

Lingual Retainer Wire (Ref# LRW-SS)

304 Stainless Steel Stranded and looped wire.

Section 2.

HAZARDOUS INGREDIENTS

MATERIAL	CAS Number	% (RANGE)	ACGIH-TLV	OSHA-PEL
IRON	13097-37-1	71	5.0 mg/m ³	10.0 mg/m ³
CHROMIUM	7440-47-3	17.5	0.5mg/m ³ (Dust)	1.0 mg/m ³ (Dust)
NICKEL	7440-02-0	8.0 Suspected carcinogen- NTP & IARC Listed See section 5&7	1mg/m ³ (Dust)	1mg/m ³ (Dust)
MANGANESE(E)	7439-96-5	1.0	5mg/m ³ (Dust)	5mg/m ³ (Dust)
COBALT	7440-33-7	0.75	0.1mg/m ³ (Dust)	0.1mg/m ³ (Dust)
SILICON CARBON PHOSPHORUS SULPHUR		< 1 EACH	10mg/m ³ (Dust)	15mg/m ³ (Dust)

Section 3

HAZARD IDENTIFICATION

Specialty steel alloys are not considered hazardous in the form shipped (solid bars, billets wire...) however, processes involves grinding, melting, welding, cutting release dust and fume. Hazardous levels of this dust or fumes of the constituents of these alloys could be generated. 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: Known to have 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. 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

Route of Entry	Emergency First Aid
Inhalation	Proceed to fresh air, if condition persists; consult physician
Eye Contact	Flush with running water to remove particulates and get medical attention.
Skin Contact	Wash area with mild detergent and water
Ingestion	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 hazard: See section 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

HANDELING AND STORAGE

Handling: See stection 6

Storage: N/A

Storage Conditions: N/A

Section 8

PHYSICAL AND CHEMICAL PROPERTIES

Form: Wire

Physical State: Solid

Odor: Odorless

Change of State: liquid Melting Point: 2300c to 2500c

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/H20): N/A

Solubility in Water: Insoluble

Solubility in Organic Solvent: Insoluble

Viscosity (20Degrees C): solid

Section 9

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 10

TOXICOLOGY REPORT

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 11

ECOLOGY REPORT

Toxicity in Aquatic life (LC-50/48h): Not defined

Microbe Toxicity (EC-0): Not Defined

Biodegradability: Not Defined

Further Details: None

Section 12

DISPOSAL CONSIDERATION

Product: N/A

Packaging: Recyclable polymer.

Waste Disposal Code: N/A

Section 13

REGULATORY INFORMATION

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

Labeling: N/A

Product Contains: N/A

Danger Symbol: N/A

R-Sentences R36/37/38: N/A

S-Sentences S26: N/A

S-Sentences S28: N/A

National Regulation: N/A

TA-Air: N/A

Water Pollution1: N/A

Section 14

OTHER INFORMATION

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