

MATERIAL SAFETY DATA SHEET

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SECTION I – CHEMICAL PRODUCT IDENTIFICATION

Chemical Name: Stainless Steel, 302/303

Trade Name or Synonym: Archwires, Coil Springs, Kobayashi Ties, Ligature Ties, Tie Hooks

Chemical Family: Stainless Steel, 302/303

Formula: N/A

Distributor's Name:

World Class Technology Corp.

Emergency Telephone Number:

503-472-8320

Address:

1300 NE Alpha Drive
McMinnville, OR 97128
USA

Information Telephone Number

503-472-8320

Date Issued

6/25/08

SECTION II – COMPOSITION/INFORMATION on INGREDIENTS

Ingredient Name	Concentration %	PEL/TLV 8-hour TWA (UON)
Iron* 13097-37-1	69.5	PEL 10.0 mg/m3 TLV 5.0 mg/m3
Chromium 7440-47-3	18.0	PEL 1.0 mg/m3 TLV 0.5 mg/m3
Nickel 7440-02-0	9.0	PEL 1.0 mg/m3 TLV 1.0 mg/m3
Manganese 7439-96-5	2.0	PEL 5.0 mg/mg3 TLV 5.0 mg/mg3
Cobalt 7440-48-4	.75	PEL 0.1 mg/mg3 TLV 0.1 mg/mg3

*These substances are regulated in their oxide form

SECTION III – HAZARDS IDENTIFICATION

Specialty steel alloys are generally not considered hazardous in the form shipped (solid bars, billets, wire, etc.); 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.

Health Effects:

Iron oxide—has caused irritation of the eyes, nose and skin of excremental animals, and 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 fume may cause "metal fume fever" with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle ache 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 IV – FIRST AID MEASURES

First Aid for Eyes: Flush thoroughly with water. Consult a physician.

First Aid for Skin: Wash with water and mild detergent.

First Aid for Inhalation: Move person to fresh air until recovered. Consult a physician.

First Aid for Ingestion: While ingestion of large enough quantities to cause health is unlikely, consult a physician if it occurs.

SECTION V – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: N/A

Unsuitable Extinguishing Media: N/A

Particular Hazards: See Section III

Protective Equipment for Fire Fighters: N/A

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MADE IN USA

SECTION VI – ACCIDENTAL RELEASE MEASURES

Ventilation: If your process causes a release of dust or fume, use local and general exhaust ventilation to keep airborne concentrations of dust or fumes below the TLV.

Respiratory Precaution: 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. Respirators should be used in accordance with 29 CFR 1910.134

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 VII – HANDLING and STORAGE

Handling: See Section VI

Storage: N/A

Storage Conditions: N/A

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

Minimize contact as outlined in Section VI

SECTION IX – PHYSICAL and CHEMICAL PROPERTIES

Form: Wire

Color: Solid

Odor: Odorless

Change of State: liquid

Melting Point/Range: 2400°F to 2800°F

Boiling Point: High

Flash Point: N/A

Ignition Point: N/A

Vapor Pressure (20°C): NIL

Density (20°C): 7.5 to 8.5 specific gravity

Solubility in: Water (20°C): insoluble; Organic Solvent (20°C): insoluble

Ph-Value (at 10g/1H₂O): N/A

Viscosity (20°C): solid

SECTION X – STABILITY and REACTIVITY

Thermal Decomposition Products: None

Conditions to Avoid: None

Materials to Avoid: None

Hazardous Decomposition Products: None

SECTION XI – TOXICOLOGICAL INFORMATION

Oral Toxicity: See Section III and VI

Inhalation: See Section III and VI

Skin Irritation: See Section III and VI

Sensitization: See Section III and VI

Eye Irritation: See Section III and VI

Further Details: None

SECTION XII – ECOLOGICAL INFORMATION

Acute Toxicity in Fish (LC-50/48h): not defined

Bacteria Toxicity (EC-0): not defined

Biodegradability: not defined

Further Details: None

SECTION XIII – DISPOSAL CONSIDERATIONS

Product: N/A

Packaging: N/A

Waste Disposal Code: N/A

SECTION XIV – TRANSPORTATION 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

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SECTION XV – REGULATORY INFORMATION

SARA Title III

Section 302 Extremely Hazardous Substances: None

Section 311/312 Hazard Categories: Not applicable for storage of items as shipped

Section 313 Toxic Chemicals: N/A

RERA Status: N/A

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 Pollution 1:

SECTION XVI – OTHER INFORMATION

The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. Therefore, it should not be construed as guaranteeing specific properties.

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