

MATERIAL SAFETY DATA SHEET

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SECTION I – CHEMICAL PRODUCT IDENTIFICATION

Chemical Name: Stainless Steel, 304

Trade Name or Synonym: Archwires, Coil Springs, Kobayashi Ties, Ligature Ties, Tie Hooks, Cleats, Brackets and Buccal Tubes

Chemical Family: Stainless Steel, 304

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	18.5	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	1.0	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
Silicon Carbon Phosphorus Sulfur	Balance	Trace elements in varying concentrations <1% each

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

Flammable Limits

Upper Exposure Limit (UEL) %: N/A

Lower Exposure Limit (LEL) %: N/A

Extinguishing Media: N/A

Special Fire Fighting Procedures: N/A

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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.

SECTION VII – HANDLING and STORAGE

Storage Temperature (Min/Max): Ambient

Shelf Life: N/A

Special Sensitivity: N/A

Handling/Storage Precautions: N/A

SECTION VIII – PERSONAL PROTECTION

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.

SECTION IX – PHYSICAL and CHEMICAL PROPERTIES

Form: Wire

Color: Solid

Odor: Odorless

Ph: N/A

Boiling Point: High

Melting-Freezing Point: 2400-2800°F

Solubility in Water: Insoluble

Specific Gravity: 7.5 to 8.5

Bulk Density:

Percent Volatile by Volume: N/A

Vapor Pressure: NIL

SECTION X – STABILITY and REACTIVITY

Stability: Stable

Hazardous Polymerization: None

Incompatibilities: None

Instability Conditions: None

Decomposition Products: None for product as shipped

SECTION XI – TOXICOLOGICAL INFORMATION

Refer to sections III and VI

SECTION XII – ECOLOGICAL INFORMATION

Not available

SECTION XIII – DISPOSAL CONSIDERATIONS

Waste Disposal Method: N/A

SECTION XIV – TRANSPORTATION INFORMATION

Technical Shipping Name: Not regulated

Freight Class Bulk: N/A

Freight Class Package: N/A

Product Label: N/A

Hazard Class or Division: Non-hazardous

Hazard Class Division Number: Not hazardous by DOT regulations

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

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