

# MATERIAL SAFETY DATA SHEET

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## SECTION I – CHEMICAL PRODUCT IDENTIFICATION

Chemical Name: Stainless Steel, 420  
Trade Name or Synonym: Pliers, Orthodontic Instruments

Chemical Family: Stainless Steel, 420  
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**  
6/30/08

## SECTION II – COMPOSITION/INFORMATION on INGREDIENTS

Ingredient Name	% by Weight	
Iron* 13097-37-1	Balance	
Chromium 7440-47-3	12.0 – 14.0	
Manganese 7439-96-5	1.0	
Silicon Carbon Nickel Phosphorus Sulfur	Balance**	Trace elements in varying concentrations <1% each
*These substances are regulated in their oxide form		
**Other trace elements can be present when their percentage is 1.0% or less		

## SECTION III – HAZARDS IDENTIFICATION

Specially 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  
Particular Hazards: see Section III  
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**

Minimize contact as outlined in Section VI

**SECTION IX – PHYSICAL and CHEMICAL PROPERTIES**

Form: Wire  
 Color: Solid  
 Odor: Odorless  
 Ph: N/A  
 Change of State: Liquid  
 Boiling Point: High  
 Melting-Freezing Point: 2100-2300°F  
 Solubility in Water: Insoluble  
 Specific Gravity: 7.5 to 8.5  
 Vapor Pressure: NIL

**SECTION X – STABILITY and REACTIVITY**

Stability: Stable  
 Hazardous Polymerization: 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  
 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  
 RERA Status: N/A

**SECTION XVI – OTHER INFORMATION**

HMIS Ratings: Health	Flammability	Reactivity
0	0	0

0=Minimal  
 1=Slight  
 2=Moderate  
 3=Serious  
 4=Severe

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