

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Nickel-Free Stainless Steel

Manufacturer: Ultimate Wireforms, Inc.
Address 200 Central Street
Bristol, CT 06010 USA

Information Telephone Number: (860) 582-9111
Toll Free (US and Canada): (800) 999-6484

Emergency Telephone Number: (860) 582-9111
Toll Free (US and Canada): (800) 999-6484

Product Use Orthodontic brackets and buccal tubes.

Date of Preparation March 5, 2010

SECTION 2 HAZARDS IDENTIFICATION

Emergency Overview: These products are not hazardous unless processed (i.e. ground, welded) in a manner that generates dust or fumes. Dust and fumes may cause eye, skin and respiratory irritation. May cause skin and respiratory tract sensitization (allergic reaction). Prolonged inhalation of dust or fumes from this product may cause perforation of the nasal septum and lung damage.

EU Preparation Classification (1999/45/EC): Xn; R42

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No./EINECS No.	Percent	EC Substance Classification (67/548/EEC)
Chromium	7440-47-3 / 231-157-5	20-30	Not Applicable
Molybdenum	7439-98-7 / 231-107-2	1-10	Not Applicable
Copper	7440-50-8 / 231-159-6	1-10	Not Applicable
Cobalt	7440-48-4 / 231-158-0	1-10	Xn R42/43, R53
Manganese	7439-96-5 / 231-105-1	1-10	Not Applicable
Silicon	7440-21-3 / 231-130-8	1-10	Not Applicable
Iron	7439-89-6 / 231-096-4	60-80	Not Applicable

SECTION 4 FIRST AID MEASURES

No first aid required for contact with solid product. The following information applies to contact from processing.

Eye Contact: Flush with large quantities of water, holding the eyelids apart to assure that the material is washed out. Get medical attention if irritation persists.

Skin Contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation develops.

Ingestion: If conscious, wash mouth out with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

MATERIAL SAFETY DATA SHEET
Nickel-Free Stainless Steel

Date of Preparation: 4/22/2010

Page 1 of 6

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

Inhalation: If irritation or other symptoms develop, remove to fresh air. Get medical attention if symptoms persist.

SECTION 5 FIRE FIGHTING PROCEDURES

Extinguishing Media: This material is not combustible in solid form. Use media that is appropriate for the surrounding fire. For fires involving fine dust or filings, do not use water, CO₂ or foam directly on the burning metal. Use dry sand, graphite powder, Lith-X powder, dry chemical or other media appropriate for a class D fire.

Firefighting Procedures: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

Unusual Fire/Explosion Hazards: Fine powders or filings may burn with intense heat. Fine dust may present an explosion hazard. Dousing burning metal with water may generate explosive hydrogen gas.

Known or Anticipated Hazardous Products of Combustion: Thermal decomposition or combustion products include oxides of the metals listed in Section 2 which may be highly toxic.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Accidental Release Measures Pick up solid material for reuse or disposal. For spills of dust, wear respirator and protective clothing (see Section 8). Vacuum using an explosion-proof, HEPA vacuum and non-sparking tools. Do not breathe dust or allow it to contaminate skin or clothing. Spill and release reporting requirements vary. Consult local authorities regarding requirements.

Personal Precautions: Avoid contact with eyes, skin or clothing. Do not breathe dust.

Environmental Precautions: Prevent entry into sewers and waterways.

SECTION 7 HANDLING AND STORAGE

Handling: Do not breathe dust or fumes from processing. Avoid contact with dust. Wear protective clothing and equipment as described in Section 8. Process only with adequate ventilation. Keep containers closed when not in use. Do not eat, drink or smoke in the work area.

Storage: Store in a cool, well ventilated location away from incompatible materials.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits:

Chromium	1 mg/m ³ TWA OSHA PEL 0.5 mg/m ³ TWA ACGIH TLV 0.5 mg/m ³ TWA UK WEL
Molybdenum	15 mg/m ³ TWA OSHA PEL (total dust) 3 mg/m ³ TWA ACGIH TLV (respirable fraction)
Copper (as copper dust)	1 mg/m ³ TWA OSHA PEL 1 mg/m ³ TWA ACGIH TLV 1 mg/m ³ TWA; 2 mg/m ³ STEL UK WEL
Cobalt	0.1 mg/m ³ TWA OSHA PEL 0.02 mg/m ³ TWA ACGIH TLV 0.1 mg/m ³ TWA UK WEL

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

Manganese	5 mg/m ³ TWA OSHA PEL 0.2 mg/m ³ TWA ACGIH TLV 0.5 mg/m ³ TWA UK WEL
Silicon	5 mg/m ³ (respirable), 15 mg/m ³ (total dust) TWA OSHA PEL 4 mg/m ³ (respirable), 10 mg/m ³ (inhalable dust) TWA UK WEL
Iron Metal	None established

Engineering Controls: None needed under normal use. If dust or fumes are generated during processing, use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits.

Personal Protective Equipment:

Eye Protection: Wear safety glasses or other eye protection consistent with industrial safety practice for the process being performed.

Skin Protection: Wear protective gloves if need to prevent cuts or other injuries.

Respiratory Protection: None needed under normal use. If the occupational exposure limits are exceeded during processing, an approved respirator with high efficiency particulate filters may be used. For higher exposures (greater than 10 times the exposure limit) a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 or local authority regulations and good Industrial Hygiene practice.

Other Protective Clothing or Equipment: Use protective clothing consistent with industrial safety practice for the process being performed.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Silver wire with no odor.

Boiling Point: Not applicable

Freezing Point: Not available

Solubility in Water: Insoluble

Vapor Pressure (mmHg): Not Applicable

Evaporation Rate: Not Applicable

% Volatile by Volume: None

Flammable Limits in Air:

LEL: Not Applicable

UEL: Not Applicable

Melting Point: 1981°F

Specific Gravity: Not available

pH: Not Applicable

Vapor Density: Not Applicable

Viscosity: Not Applicable

Flashpoint: Not applicable

Autoignition Temperature: Not applicable

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None known.

Incompatibility with Other Materials: Oxidizing agents, acids, alkalies, ammonium nitrate and sodium azide.

Hazardous Decomposition Products: Toxic metal fumes and oxides are emitted when product is heated above the melting point.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Dust or fines may cause mechanical irritation.

Skin: Dust may cause skin irritation. May cause allergic skin reaction (sensitization).

Ingestion: No acute effects expected from swallowing small amounts.

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

Inhalation: Dust or fumes may cause irritation of the mucous membranes and upper respiratory tract.

Chronic Health Effects: Prolonged or repeated skin contact may cause sensitization. Prolonged inhalation of dust may cause lung damage, fibrotic lung disease, and effects on the cardiovascular system.

Carcinogenicity: Chromium VI compounds (may be formed in welding) are classified by IARC as known human carcinogens (Group 1) and by NTP as "Known Human Carcinogens". Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (Group 2B).

Medical Conditions Aggravated by Exposure: Individuals with pre-existing skin disorders may be at increased risk from exposure.

Acute Toxicity Data:

Chromium	No data available
Molybdenum	No data available
Copper	No data available
Cobalt	Oral rat LD50: 6174 mg/kg
Manganese	No data available
Silicon	No data available
Iron	Oral rat LD50: 30,000 mg/kg

SECTION 12 ECOLOGICAL INFORMATION

No data is available at this time.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with national and local regulations.

SECTION 14 TRANSPORT INFORMATION

DOT Shipping Name: Not Regulated
DOT Hazard Class: N/A
UN Number: N/A
DOT Labels Required (49CFR172.101): N/A

IATA Shipping Name: Not Regulated
IATA Hazard Class: N/A
UN Number: N/A
IATA Hazard Labels Required: N/A

IMDG Shipping Name: Not Regulated
IMDG Class: N/A
UN Number: N/A
IMDG Label: N/A

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

CERCLA: This product has a Reportable Quantity (RQ) of 16,333 lbs. based on the RQ for Chromium of 5,000 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Not hazardous unless processing creates dusts or fumes.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Chromium	7440-47-3	20-30%
Copper	7440-50-8	1-10%
Cobalt	7440-48-4	1-10%
Manganese	7439-96-5	1-10%

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: This product is a medical device and not subject to chemical notification requirements.

U.S. STATE REGULATIONS

California Proposition 65: This product contains the following substances known to the State of California to cause cancer: None

INTERNATIONAL REGULATIONS:

Canadian WHMIS Classification: Medical devices are not subject to WHMIS.

Canadian Environmental Protection Act: This product is a medical device and not subject to chemical notification requirements.

European Community Labeling: This product is a manufactured article as defined under REACH. No labeling is required for finished products. **The following applies only to dust and fumes generated from processing:**

Contains cobalt.



Harmful

R42/43 May cause sensitization by inhalation and skin contact.

S22 Do not breathe dust.

S24 Avoid contact with skin.

S37 Wear suitable gloves.

S59 Refer to manufacturer/supplier for information on recovery/recycling.

S61 Avoid release to the environment. Refer to Safety data sheet.

European Inventory of New and Existing Chemicals Substances (EINECS): This product is a medical device and not subject to chemical notification requirements.

MATERIAL SAFETY DATA SHEET

Nickel-Free Stainless Steel

Australian Inventory of Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

China Inventory of Existing Chemicals and Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

Japanese Existing and New Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

Korean Existing Chemicals List: This product is a medical device and not subject to chemical notification requirements.

Philippine Inventory of Chemicals and Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

SECTION 16 – OTHER INFORMATION

HMIS Hazard Rating:

Health -1* Fire Hazard - 1 Physical Hazard - 1

* Chronic Health Hazard

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):

Xn Harmful

R42/43 May cause sensitization by inhalation and skin contact.

R53 May cause long-term adverse effects in the aquatic environment.

Revision Date: 4/22/2010

Supersedes: New MSDS