

**MSDS 010**  
Revised 11/2010

MATERIAL SAFETY DATA SHEET

MWS Wire Industries  
31200 Cedar Valley Drive  
Westlake Village, CA 91362  
(818) 991-8553

Trade Name: Copper Clad Steel, bare or plated with tin, silver or gold

Chemical Family: Bimetallic wire

Chemical Formula: 58-61% Fe, 37-39% Cu, 1-5% Sn, Ag, or Au if plated (percentages by weight)

HAZARDOUS INGREDIENTS

<u>Ingredient</u>	<u>CAS No.</u>	<u>TLV</u>	<u>PEL</u>	<u>STEL</u>
Copper	7440-50-8	1 (D) / 0.2 (F)	1 (D) / 0.1 (F)	2
Iron	1309-37-1	5 (F)	10	NS
<u>Plating</u>				
Gold	7440-57-5	Authorities offer no exposure limit to this metal.		
Silver	7440-22-4	0.1 (D)	0.1 (D)	NS
Tin	7440-31-5	2	2	NS

Note: TLV - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value ( $\text{mg}/\text{m}^3$ )  
PEL - OSHA Permissible Exposure Level ( $\text{mg}/\text{m}^3$ ), 8 hour time weighted average  
STEL - ACHIH Short Term Exposure Limit ( $\text{mg}/\text{m}^3$ ), 15 minutes maximum  
D = Dust      F = Fume      NS = Not Specified

PHYSICAL DATA

Boiling Point °C: NA	Vapor Pressure: NA	Vapor Density: N/A
% Volatile: NA	Evaporation Rate: NA	Solubility in H <sub>2</sub> O: Insoluble
Melting Temperature: 1100° C	Specific Gravity: 8.24	

Appearance & Odor: Solid with no odor. Bare wire is copper color, plated wire is the color of metal plating (tin, silver or gold).

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### FIRE & EXPLOSION HAZARD DATA

Flash Point: N/A

Fire or Explosion Hazard: N/A

Note: Copper clad steel is nonflammable, although sparks from welding may ignite flammable or combustible materials. Use extinguishing media suitable for surrounding materials. Fire fighters should use self-contained breathing apparatus as deemed necessary.

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### HEALTH HAZARD DATA

Fine powders, granules and fumes from welding or abrasive operations may pose a health hazard.

Short Term Exposure: Dust and fumes irritate the eyes, nose and throat. Symptoms may include cough, metallic taste in mouth, fever, fatigue and nausea.

Long Term Exposure: Prolonged skin contact with nickel may sensitize the skin and produce a rash.

Emergency First Aid Procedure:

- In case of fume inhalation, remove from exposure and consult a physician.
  - In case of eye contact, flush with large amounts of water for at least fifteen minutes. Seek medical attention.
  - In case of ingestion, seek immediate medical attention.
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### REACTIVITY DATA

Stability: Stable. Further processing such as grinding or welding can generate various metallic oxides, complex metallic compounds and gases such as carbon monoxide, ozone and nitrogen oxide.

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### SPILL, LEAK, DISPOSAL PROCEDURES

Scrap metal may have reclamation value. Where this is not practical, it may be disposed in accordance with state and federal regulations. In solid form, these alloys pose no special clean up problems. If material is in powder or dust form, clean up should be conducted to minimize generation of airborne powder and dust and to avoid contamination of water.

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### SARA TITLE III SECTION 313

Copper is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372 of the Federal Register. Additional information can be obtained from the Emergency Planning and Community Right-To-Know Information Hot Line, US EPA, at (800) 535-0202.

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### EC RoHS DIRECTIVE COMPLIANCE

Bare copper clad steel and copper clad steel wire plated with tin, silver or gold comply with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

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### ECHA REACH COMPLIANCE

Copper clad steel wire meets the definition of an article under REACH and does not contain SVHC listed as of the revision date of this MSDS. Also see [http://www.mwswire.com/pdf\\_files/reach.pdf](http://www.mwswire.com/pdf_files/reach.pdf) for more information on MWS Wire products and REACH.

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### SPECIAL PROTECTION

Wear safety glasses when risk of eye injury is present, particularly during machining, grinding, welding, powder handling, etc. Gloves and other protective equipment may be required during handling operations as appropriate to the circumstances of exposure.

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### SPECIAL PRECAUTIONS

When welding, melting, casting, grinding, sanding, polishing or otherwise abrading the surface of copper clad steel in a manner that generates finely divided particles, an exposure to airborne copper, iron or plating material in excess of the occupational standard can occur. Use with adequate ventilation to meet listed exposure limits. Processes generating airborne dust should be air sampled to determine exposure levels. Where exposure data indicate, medical surveillance should be conducted.

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### PACKAGING & LABELING REQUIREMENTS

D.O.T. Shipping Name: Not regulated

Hazard Class: NA

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