

MSDS
REVISED 5/1997

Trade Name: **Nickel Plated Copper Wire**
Chemical Family: Nickel and/or Chromium Alloys
Chemical Formula: See Page 4 for chemical composition

HAZARDOUS INGREDIENTS

Ingredient CAS No. TLV PEL STEL
Aluminum 7429-90-5 10 (D) / 5 (F) NS 20
Cobalt 7440-48-4 0.1 0.1 NS
Copper 7440-50-8 1 (D) / 0.2 (F) 1 (D) / 0.1 (F) 2
Chromium 7440-47-3 0.5 1 NS
Iron 1309-37-1 5 (F) 10 NS
Manganese 7439-96-5 5* (D) / 1 (F) 5* 3
Molybdenum 7439-98-7 10 15 20
Nickel 7440-02-0 1 1 NS
Silicon 7440-21-3 5 (D) NS NS
Titanium 7440-32-6 NS NS NS

Note: TLV - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (mg/m³)

PEL - OSHA Permissible Exposure Level (mg/m³), 8 hour time weighted average

STEL - ACHIH Short Term Exposure Limit (mg/m³), 15 minutes maximum

* Ceiling Level (Not to be exceeded) 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 H₂O: Insoluble

Melting Temperature and Specific Gravity: See Page 4

Appearance & Odor: Solid with no odor. Nickel and chromium alloys are normally silvery gray in color although some alloys may be coated with graphite or copper.

FIRE & EXPLOSION HAZARD DATA

Flash Point: N/A Fire or Explosion Hazard: N/A

Note: Nickel/chromium alloys are 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.

HEALTH HAZARD DATA

This Product Poses No Health Hazard As Shipped

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: Watering of the eyes, headaches, difficulty in breathing, coughing, severe chest pains and in acute cases, lung disease, lung fibrosis, pneumoconiosis or neurological damage. 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.

Nickel and Chromium have been listed by either the International Agency for Cancer Research (IACR) or the National Toxicology Program (NTP) as potential carcinogens.

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.

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. Depending on the quantity, spills or releases to the environment may require a report to the National Response Center at (800) 424-8802.

SARA TITLE II SECTION 313

Products listed herein contain toxic chemicals 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.

CALIFORNIA PROPOSITION 65 WARNING

Nickel and Chromium are known by the State of California to cause cancer, birth defects or other reproductive harm. See preceding data for health hazard information.

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.

SPECIAL PRECAUTIONS

When welding, melting, casting, grinding, sanding, polishing or otherwise abrading the surface of nickel/chromium alloys in a manner which generates finely divided particles, an exposure to airborne nickel or chromium in excess of the occupational standard can occur. Use with adequate ventilation to meet listed exposure limits. Processes generating airborne nickel or chromium must be air sampled to determine exposure levels. Where exposure data indicate, medical surveillance should be conducted.

PACKAGING & LABELING REQUIREMENTS

D.O.T. Shipping Name: Not regulated Hazard Class: NA

MWS has attempted to provide current and accurate information in this data sheet, however MWS makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage or injury of any kind which may arise out of the use or reliance on the information by any person. Contact person: Ken Goss at (818) 991-8553.

NICKEL / CHROMIUM ALLOY DATA

Specific Melting

Name Composition Gravity Temp °C

MWS 800 75 Ni, 20 Cr, 2.5 Al, 2.5 Cu 8.10 1350
MWS 675 61 Ni, 15 Cr, bal Fe 8.247 1350
MWS 650 80 Ni, 20 Cr 8.412 1400
MWS 294 55 Cu, 45 Ni 8.90 1210
MWS 294R 29 Ni, 17 Co, bal Cu 8.36 1450
MWS 180 22 Ni, bal Cu 8.90 1100
MWS 120 70 Ni, 30 Fe 8.46 1425
MWS 90 12 Ni, bal Cu 8.90 1100
MWS 60 6 Ni, bal Cu 8.90 1100
MWS 30 2 Ni., bal Cu 8.90 1100
Stainless Steel 302 18 Cr, 9 Ni, bal Fe 7.90 1421
Stainless Steel 304 18.5 Cr, 9.5 Ni, bal Fe 7.90 1454
Stainless Steel 316 17 Cr, 12 Ni, 2.3 Mo, bal Fe 7.81 1399
Stainless Steel 17-7 PH 17 Cr, 7 Ni, 1.1 Al, bal Fe 7.90 No Data
Stainless Steel 321 18 Cr, 11 Ni, .4 Ti, bal Fe 8.36 1427
Alloy 42 42 Ni, bal Fe 8.10 1425
Alloy 52 50 Ni, bal Fe 8.25 1425
Manganin 13 Mn, 4 Ni, bal Cu 8.192 1020
Monelâ 400 70 Cu, 30 Ni 8.90 1350
Inconelâ 600 76 Ni, 15 Cr, 8 Fe, .5 Mn 8.43 1413
Inconelâ X 750 73 Ni, 15.5 Cr, 7 Fe, 2.5 Ti, 1 Cb, .7 Al 8.25 1427
Tin Plated Nickel 90-96 Ni, 4-10 Sn 8.79 1446
Nickel Silver 55-72 Cu, 12-18 Ni, bal Zn 8.70 1100
Dumet 42 Ni, 1 Mn, 32-37 Fe, bal Cu No Data No Data
Nickel 200 99.5 Ni 8.90 1446
Nickel 205 99.5 Ni 8.90 1446
Nickel 211 95 Ni, 4.9 Mn 8.73 1427
Nickel 270 99.98 Ni 8.90 1454
Nickel Plated Copper 90-96 Cu, 4-10 Ni 8.90 1083
Nickel Clad Copper 73 Cu, 27 Ni 8.90 1440
Chromelâ 90 Ni, 10 Cr 8.73 1430
Alumelâ 2 Al, 2 Mn, bal Ni 8.60 1400
Kanthal A-1â (MWS 875) 5.5 Al, 22 Cr, bal Fe 7.10 1510

SUPPLIED BY:
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