

NWRW ROUND NI-CHROME WIRE

Material Safety Data Sheet

Section 1 • PHYSICAL DATA

Boiling Point: 2750°C ± 200
Specific Gravity: 8.3 ± 0.4
Percent Solid by Weight: 100
Appearance and Color: Grey metallic. Odorless.
Alloy products are solid metals shaped as wire, rod, or strip.

Section 2 • FIRE & EXPLOSION DATA

Material is unflammable; however, welding arcs and sparks can ignite flammable liquids and vapors and combustible solids.

Section 3 • HEALTH HAZARD DATA

Under normal handling and use, exposure to solid, massive forms of alloy presents few health hazards. They may include skin irritation or other allergic reactions in sensitive individuals.

Exposure Limits

Section 1 lists specific hazardous ingredients and exposure limits. Section 4 lists exposure limits for hazardous reaction products that might be formed by welding and high-temperature cutting. Determine actual exposure by industrial hygiene monitoring.

Effects of Exposure to Dust, Welding Fume, and Gases

Short-Term

Exposure: Nausea, tightness of chest, fever, irritation of eyes, nose, throat and skin; loss of consciousness due to welding gases or lack of oxygen.

Long-Term

Exposure: Adverse effects may include skin sensitization, neurological damage, and respiratory disease (bronchial asthma, lung fibrosis, or pneumoconiosis). According to OSHA 29CFR1910.1200 nickel and chromium are considered possible carcinogens. Recent epidemiological studies of workers melting and working with alloys containing nickel-chromium have found no increased risk of cancer.

Emergency First Aid

Remove from exposure and obtain medical attention. Administer oxygen if victim is unconscious. If not breathing, resuscitate immediately.

Section 4 • REACTIVITY INFORMATION

Stability: Stable.
Incompatibility: Avoid acids. Contact with mineral will release hydrogen, a very readily combustible gas.

Hazardous Reaction

Products: Fumes and gases from welding and high-temperature cutting contain constituents different from the ingredients listed in Section 1 and may include oxides of the metals, chromates, fluorides, and complex metallics. The gases may include carbon monoxide, ozone, and nitrogen oxides.

The following exposure limits apply to those fumes and gases, which may be found in the welding or high-temperature cutting environment.

Substance	PEL	TLV
Aluminum Fume (Al)	None	5.0
Carbon Monoxide (CO)	50 ppm	50 ppm
Chromium (Chromates)	0.1	0.05
Cobalt Fume (Co)	0.1	0.05
Copper Fume (Cu)	0.1	0.2
Fluorides (as F)	2.5	2.5
Iron Oxide Fume (as Fe)	10.0	5.0
Manganese Fume (Mn)	5.0	1.0
Molybdenum (soluble) (Mo)	5.0	5.0
Nickel (soluble) (Ni)	1.0	0.1
Nitrogen Dioxide (NO ₂)	5.0 ppm	3 ppm
Ozone (O ₃)	0.1 ppm	0.1ppm
Phosgene (COCl ₂)	0.1 ppm	0.1 ppm

PEL/TLV values are mg/m³ except where indicated as ppm

Section 5 • SPILL OR LEAK PROCEDURES

Under normal handling and uses material is not volatile or dusty and does not present spillage and leakage problems. No protection required, except avoid prolonged or repeated direct skin contact if sensitive to metals. Use gloves.

If however, material is released or spilled from cutting, grinding, or welding operations; vacuum residue into suitable containers and dispose of in accordance with EPA or local regulations.

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Section 6 • SPECIAL PROTECTION INFORMATION

Respiratory: If solid metal alloys are converted in manufacturing (including grinding, high-temperature cutting, and welding) processes to dusts, fumes, gases, or mists, and ventilation is not adequate to maintain exposures below the limits specified in Sections 1 and 4, then respiratory protection should be used. Use only NIOSH-approved respirators in accordance with OSHA 29CFR1910.134.

Ventilation: If solid metal alloys are converted to dusts, fumes, or mists, maintain working environments below the exposure limits specified in Sections 1 and 4 by use of adequate exhaust ventilation.

Protective Gloves: Leather or rubber gloves are recommended.

Eye Protection: Use safety goggles when cutting, grinding or welding.

Other Protective Equipment: When cutting, grinding, or welding, wear gloves, face protection, and flame-retardant clothing. Select welding lense shade from AWS Publication F2.2

Section 7 • SPECIAL PRECAUTIONS

Material in solid form does not require special precautions in handling and storing. However, use industrial-hygiene air monitoring to ensure that the use of this material does not create exposures which exceed the levels specified in Sections 1 and 4.