

Copper and Brass Sales

MATERIAL SAFETY DATA SHEET NICKEL/ALLOY

COMPANY Copper and Brass Sales, Inc. 17401 Ten Mile Road Eastpointe, Michigan 48021	RE-ISSUE DATE June 1, 1995	IDENTIFICATION NUMBER N/A
TRADE NAME (Common Name or Synonym) Nickel Base Alloy	EMERGENCY PHONE NUMBER 810-775-7710	
CHEMICAL NAME Nickel	FORMULA N/A	DOT IDENTIFICATION NUMBER N/A

I. INGREDIENTS

MATERIAL OR COMPONENT		
Base Metal	CAS Number	% Composition by Weight
Nickel	7440-02-0	99.2
Alloying Element	CAS Number	Maximum % Composition by Weight
Cobalt	7440-48-4	13.0
Chromium	7440-47-3	48.0
Molybdenum	7439-98-7	16.0
Tungsten	7440-33-7	5.0
Iron	7439-89-6	44.0
Silicon	7440-21-3	2.0
Manganese	7439-96-5	5.0
Carbon	7440-90-5	2.0
Aluminum	7249-90-5	5.0
Titanium	7440-32-6	5.0
Copper	7440-50-8	45.0
Boron	7440-42-8	.004
Tantalum	7440-25-7	5.0
Tungsten	7440-37-7	5.0
Niobium	7440-03-1	5.0
Yttrium	7440-65-5	1.0

NOTE: Nickel alloys may consist of all or any combination thereof of items listed.

II. PHYSICAL DATA

MATERIAL IS (At Normal Conditions) <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND COLOR Grayish to black sheet, strip, plate, bar, structural shape, pipe or tubing.
ACTIVITY/ALKALINITY Melting point F(C): Greater than 2300 (1260)	VAPOR PRESSURE (mm Hg at 20 C)

III. PERSONAL PROTECTIVE EQUIPMENT

Flashpoint F(C): Not Applicable Extinguishing Media: Use methods applicable to surrounding area. Special fire fighting procedures: Use self-contained breathing apparatus for protection against degradation products and fire fighting technique or agent(s) applicable to surrounding materials. Nickel based alloy steels in the solid state present no fire or explosion hazard.
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IV. REACTIVITY DATA

Stability: Stable Incompatibility (materials to avoid) Reacts with strong acid to hydrogen gas Hazardous decomposition products: Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining. Refer to ANSI Z49.1.
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SECTION 6 - HEALTH HAZARD DATA

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED.

MAJOR EXPOSURE HAZARD:

INHALATION SKIN CONTACT SKIN ABSORPTION EYE CONTACT INGESTION

EFFECTS OF OVEREXPOSURE

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes or iron, manganese and copper may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenza-like symptoms.

Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

Chromium and nickel and their compounds are listed in the 3rd Annual Report on carcinogens, as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitis, inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs.

Recent epidemiological studies of workers melting and working alloys containing nickel/chromium have found no increased risk of cancer.

EMERGENCY AND FIRST AID PROCEDURES

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - flush with water for at least 15 minutes.

SECTION 7 - SPILL OR LEAK PROCEDURES

SPILL OR LEAK PROCEDURES

WASTE DISPOSAL METHODS

According to local, state and federal regulations.

SECTION 8 - SPECIAL PROTECTION

RESPIRATORY

NIOSH/MSHA - Approved dust and fume respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

VENTILATION

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

EYE PROTECTION AND PROTECTIVE CLOTHING

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

SECTION 9 - SPECIAL PRECAUTIONS

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

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Data sheets of individual manufacturers may be obtained by contacting Copper & Brass Sales, Inc., 17401 Ten Mile Rd., Eastpointe, MI 48021.