



MATERIAL SAFETY DATA SHEET

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SECTION I		MSDS#: AH0904B
		DATE: May 20, 1999
MANUFACTURER'S NAME:	Electralloy	
EMERGENCY PHONE/FAX:	Phone: (814) 678-4200 FAX: (814) 676-5876	
ADDRESS:	175 Main Street, Oil City, PA 16301	
PRODUCT NAME:	Copper Base Alloys	
CHEMICAL FAMILY:	Steel	
OTHER DESIGNATIONS:	Ingots, Bar, Billet, Plate, Strip, Block, Electrode & Remelt Pig	

SECTION II CHEMICAL COMPONENTS	CAS #	RANGE%	TLV	OSHA PEL
**Nickel	7440-02-0	0-40	1 mg/m ³	1 mg/m ³
Iron (Iron oxide)	1309-37-1	0-50	(*2) 5 mg/m ³	10 mg/m ³
**Copper	7440-50-8	50-99.5	1 mg/m ³	1 mg/m ³
**Chromium	7440-47-3	0-10	.50 mg/m ³	1 mg/m ³
**Molybdenum	7439-98-7	0-10	10 mg/m ³	15 mg/m ³
Tungsten	7440-33-7	0-2	5 mg/m ³	None
**Cobalt	7440-48-4	0-20	.10 mg/m ³	.10 mg/m ³
Silicon	7440-21-3	0-5	5 mg/m ³	None
Sulfur	7446-09-5	0-5	5 mg/m ³	None
**Manganese	7439-96-5	0-2.5	5 mg/m ³	5 mg/m ³
Titanium	13463-67-7	0-5	5 mg/m ³	15 mg/m ³
**Aluminum	7429-90-5	0-15	(*1-*2) 10 mg/m ³	None
Carbon	1333-86-4	0-1	3.5 mg/m ³	3.5 mg/m ³
Vanadium	1314-62-1	0-1	(*1) .05 mg/m ³	.50 mg/m ³
			(*2) .05 mg/m ³	.10 mg/m ³
Phosphorus	7723-14-0	0-0.5	.1 mg/m ³	.1 mg/m ³
*PNOC		0-30	10 mg/m ³	15 mg/m ³
PNOC Respirable		0-30	3 mg/m ³	5 mg/m ³

N/A = NOT APPLICABLE
 UN = UNKNOWN
 * PNOC = Particles not otherwise classified.
 **SARA Title III, Section 313 Reportable.

(*1) - Limits for Dust
 (*2) - Limits for Fumes



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SECTION III PHYSICAL DATA

Boiling Point (degrees F)	N/A	Specific Gravity (H ₂ O=1)	7.5-8.5
Vapor Pressure (MM HG)	N/A	Percent Volatile by Volume (%)	N/A
Vapor Density (Air = 1)	N/A	Evaporation Rate (H ₂ O=1)	N/A
Solubility in Water	N/A	Melting Point	2000-2800°F

Appearance & Odor: Metallic and odorless solid.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (method used)	N/A	Flammable Units	N/A
Extinguishing Media	N/A	() LEL	
Special Fire Fighting Procedures	N/A	() UEL	
Unusual fire explosion hazards	N/A		

SECTION V HEALTH HAZARD DATA

<input checked="" type="checkbox"/> Major Exposure Hazard	<input checked="" type="checkbox"/> Inhalation	<input type="checkbox"/> Skin Contact
	<input type="checkbox"/> Ingestion	<input type="checkbox"/> Skin Absorption

NOTE: Steel products in the natural state do not present an inhalation, injection, or contact hazard. However, operation such as burning, welding, sawing, brazing, or grinding may result in the following effects if exposures exceed permissible limits:

ACUTE: Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to the flu type symptoms) which come on in a few hours after high levels of exposure.

CHRONIC: Excessive and repeated overexposure of nickel and chromium can cause various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract. Both chromium and nickel have been associated with upper respiratory cancer. Excessive and repeated overexposure of iron fumes can cause siderosis. Excessive and prolonged inhalation of manganese fumes can cause bronchitis, pneumonitis, lack of coordination.

EMERGENCY FIRST AID PROCEDURES:

In case of excessive exposure, remove to fresh air, administer oxygen, and contact physician immediately.



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SECTION VI

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REACTIVITY DATA

(X) Stable	() Unstable	Conditions to Avoid:	<u>N/A</u>
Incompatibility (materials to avoid):			<u>N/A</u>
Decomposition Products:			<u>N/A</u>
Hazardous	() May occur	Conditions to Avoid :	<u>N/A</u>
Polymerization	(X) Will not occur		

SECTION VII

SPILL OR LEAK PROCEDURE

Steps to be taken in case material is released or spilled: N/A

Waste disposal method: Dispose in accordance with federal, state, local regulations.

Precautions to be taken in handling and storage: N/A

SECTION VIII

PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

For welding, burning, grinding, and cutting operations, local ventilation should be provided. If fumes or dust cannot be controlled with exhaust ventilation, an appropriate NIOSH - approved respirator should be used to prevent excessive inhalation exposure.

GLOVES: Gloves may be necessary to prevent skin sensitization and dermatitis.

EYE PROTECTION: Approved safety glasses or goggles should be worn when working with dusty metals.

PREPARED BY: ELECTRALLOY

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH ON THIS DOCUMENT
ARE BELIEVED TO BE ACCURATE AS OF PRESENT DATE,
THE COMPANY MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT THERETO
AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

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