



HOGEN INDUSTRIES, INC.

OF INDIANA

4655 Massachusetts Avenue

Indianapolis, IN 46218

800-912-4123

Fax: 317-591-5071

MATERIAL SAFETY DATA SHEET

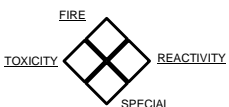
ISSUED DATE 11-19-85

REVISED DATE 9-30-09

I. IDENTIFICATION

MANUFACTURER'S NAME Hogen Industries		EMERGENCY TELEPHONE NO. (800) 9-TUNGSTEN	
ADDRESS 4655 Massachusetts Avenue - Indianapolis, IN 46218			
CHEMICAL NAME AND SYNONYMS Tungsten, Copper, Nickel		TRADE NAME AND SYNONYMS HM1000	
C.A.S. NO. NIF	T.S.C.A. NO. NIF	FORMULA W-Cu-Ni	
DEPARTMENT OF TRANSPORTATION	HAZARD CLASSIFICATION NIF	U.N. NO. NIF	
	SHIPPING NAME HM1000 Tungsten Alloy		

II. INGREDIENTS

MATERIAL	%	TLV (Units)	C.A.S. NO.	NFPA RATING  4 = EXTREME 3 = HIGH 2 = MODERATE 1 = SLIGHT 0 = INSIGNIFICANT
Tungsten	90	5 MG/M ³	7440-33-7	
Copper	4	1.0 MG/M ³	7440-50-8	
Nickel	6	1.0 MG/M ³	7440-02-0	

REPORT ALL INGREDIENTS ≥3%; IF HAZARDOUS, REPORT ≥1%; SPECIAL HAZARDOUS SUBSTANCE ≥0.01%

III. PHYSICAL DATA

BOILING POINT, 760mm Hg 101.325 kPa	W - 5660°C, Cu - 2567°C Ni - 2732°C	FREEZING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	17.0 g/cc	VAPOR PRESSURE AT 20°C	N/A
VAPOR DENSITY (AIR=1)	N/A	SOLUBILITY IN WATER, % BY WT.	Insoluble
APPEARANCE AND ODOR	Gray Metallic - No odor.		

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	NIF	FLAMMABLE LIMITS LEL	NIF	UEL	NIF
EXTINGUISHING MEDIA	Class D Dry Type				
SPECIAL FIRE FIGHTING PROCEDURES					
UNUSUAL FIRE AND EXPLOSION HAZARDS	Will oxidize at/or about 1300°F.				

V. REACTIVITY DATA

STABILITY			
UNSTABLE	STABLE	CONDITIONS TO AVOID	There is some evidence that Nickel and certain Nickel Compounds are carcinogenic to humans. Metallic Nickel seems to be less likely than Nickel Subsulfide or Nickel Oxides.
	X		
INCOMPATIBILITY (Materials to Avoid)			

HAZARDOUS DECOMPOSITION PRODUCTS	Keep away from strong acids.
-------------------------------------	------------------------------

VI. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	OSHA	Tungsten 5 MG/M ³ Copper 1.0 MG/M ³ Nickel 1.0 MG/M ³	ACGIH	Tungsten 5 MG/M ³ Copper 1.0 MG/M ³ Nickel 1.0 MG/M ³		
ROUTES OF EXPOSURE (Check Those Which Apply)	EYE CONTACT	No	INHALATION	No	SKIN ABSORPTION	No
	SKIN CONTACT	No	INGESTION	No		
SIGNS AND SYPTOMS OF OVEREXPOSURE	NIF (No information found)					
EFFECTS OF OVEREXPOSURE						
ACCUTE	NIF					
CHRONIC	NIF					
HAS IOSHA FOUND THIS MATERIAL TO BE A POTENTIAL CARCINOGEN?	YES		NO	X		
EMERGENCY FIRST AID PROCEDURES						

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELATED OR SPILLED	
WASTE DISPOSAL METHOD	Re-cycle scrap and machine turnings.
	DISPOSER MUCH COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type)	Use NIOSHA/MSHA approved type respirator for dusting conditions.		
VENTILATION	LOCAL EXHAUST	Recommended	SPECIAL NIF
	MECHANICAL (General)	NIF	OTHER NIF
PROTECTIVE GLOVES	NIF	EYE PROTECTION	Use safety eyewear
OTHER PROTECTIVE EQUIPMENT	NIF		

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store in dry, well ventilated area. Separate from acids and alkalis.
OTHER PRECAUTIONS	

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.