

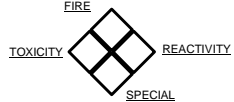
MATERIAL SAFETY DATA SHEET

ISSUED DATE 11/15/85 REVISED DATE 9-30-09

I. IDENTIFICATION

MANUFACTURER'S NAME		Mi-Tech Metals, Inc.		EMERGENCY TELEPHONE NO.		(317) 549-4290	
ADDRESS		4701 Massachusetts Avenue - Indianapolis, IN 46218					
CHEMICAL NAME AND SYNONYMS				Tungsten, Nickel , Iron			
TRADE NAME AND SYNONYMS				HD 18.5			
C.A.S. NO.	NIF	T.S.C.A. NO.	NIF	FORMULA	W-Ni-Fe		
DEPARTMENT OF TRANSPORTATION	HAZARD CLASSIFICATION	NIF		U.N. NO.	NIF		
	SHIPPING NAME	HD 18.5 Tungsten Alloy					

II. INGREDIENTS

MATERIAL	%	TLV (Units)	C.A.S. NO.	NFPA RATING  4 = EXTREME 3 = HIGH 2 = MODERATE 1 = SLIGHT 0 = INSIGNIFICANT
Tungsten	97	5MG/M ³	7440-33-7	
Nickel	2.1	1.0 MG/M ³	7440-02-0	
Iron	.9	5 MG/M ³	7439-89-6	

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

III. PHYSICAL DATA

BOILING POINT, 760mm Hg 101.325 kPa	Tungsten 5660°C Nickel 2732°C Iron 3000°C	FREEZING POINT	N/A
SPECIFIC GRAVITY (H ₂ O=1)	18.5 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, Silver - No odor.		

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Non-combustible	FLAMMABLE LIMITS LEL	N/A	UEL	N/A
EXTINGUISHING MEDIA	Dry Type				
SPECIAL FIRE FIGHTING PROCEDURES					
UNUSUAL FIRE AND EXPLOSION HAZARDS	Will oxidize at or above 1300°F				

V. REACTIVITY DATA

STABILITY		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 Sulfide or Nickel Oxides.
UNSTABLE	STABLE		
	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 Nickel 1.0 MG/M ³ Iron 5.0 MG/M ³	ACGIH	Tungsten 5 MG/M ³ Nickel 1.0 MG/M ³ Iron 5.0 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 SYMPTOMS 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 cool, dry, well ventilated area. Separate from acids and aklalis.
OTHER PRECAUTIONS	

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