						τι	INGSTEN		1	
		1	111		1	SA	FETY D	TA SHEET	г :``	 1.1
						DATE OF	LAST REV	SION: 06/1	6/15	
ectio	on 1: Identification			н 1. т.	1	1. ¹				 ÷.,
	Product Name: Tung		m							
	Company: Stanford									
	For more information	call: (949)	407-8904							
-	Address : 23661 Birtche Lake Forest, CA 92630 Tel: (949) 407-8904 Fax: (949) 812-6690	er Dr,, U.S.A.						1 		 ÷.,
ectio	on 2: HAZARD IDEN Il Word: Warning	TIFICATION		:						 ;
					1			1	: • •	 ۰.
	<u>e 7</u>				1			÷.	*	 ;
			14. 14.	. * *	1.1	1. 1.	. * *		14	
	rd Statements: autionary Statements			able soli	d (powder					
				able soli	d (powder	۲]				
reca MIS Hi Fli	autionary Statements 5 Health Ratings (0-4) ealth: ammability:	: P210): Powd 1 2): Keep a	able solio way fror Bulk O	d (powder	۲]	e. No sm		:"	
reca I MIS Hi Fli	autionary Statements 6 Health Ratings (O-4) ealth:	:: P210): Powd 1): Keep a	able solio way fror Bulk O	d (powder	۲]	e. No sm	oking	:"	
i mis IMIS Hi Fla Pi	autionary Statements 5 Health Ratings (0-4) ealth: ammability:	:: P210): Powd 1 2 1): Keep a er	able soli way fror Bulk O O	d (powder n heat/sp	۲]	e. No sm	ioking	:"	
i mis IMIS Hi Fla Pi	autionary Statements 6 Health Ratings (O-4) ealth: ammability: hysical:	: P21C): Powd 1 2 1 nformation): Keep a er on Ingredi	able soli way fror Bulk O O	d (powder n heat/sp	۲]	e. No sm	ioking	:"	
i MIS Hi Fia Pi	autionary Statements 6 Health Ratings (O-4) ealth: ammability: hysical: on 3: Composition/In	: P21C): Powd 1 2 1 nformation erization: M): Keep a er on Ingredi etal Alloy	able solio way fror Bulk O O ents	d (powder n heat/sp	r) harks/flame	e. No sm	oking	:"	
i mis IMIS Hi Fla Pi	autionary Statements 6 Health Ratings (O-4) ealth: ammability: hysical: on 3: Composition/In Chemical characte	: P21C): Powd 1 2 1 nformation erization: M): Keep a er on Ingredi etal Alloy	able solio way fror Bulk O O ents	d (powder n heat/sp	r) harks/flame	e. No sm	ioking	:"	
Preca HMIS Hi Fla Pł	autionary Statements 6 Health Ratings (O-4) ealth: ammability: hysical: on 3: Composition/In Chemical characte Additional Names: Tungsten (W)	: P21C): Powd 1 2 1 nformation erization: M): Keep a er Ietal Alloy sten-ti	able soli way fror Bulk O O ents	d (powder n heat/sp	r) harks/flame	e. No sm	ioking	:"	
Preca IMIS Hi Fla Pł	autionary Statements 6 Health Ratings (O-4) ealth: ammability: hysical: on 3: Composition/In Chemical characte Additional Names: Tungsten (W) CAS# Des	: P21C): Powd 1 2 1 information erization: M Tungs): Keep a l er In Ingredi letal Alloy sten-ti 440-33-7	able soli way fror Bulk O O ents	d (powder n heat/sp	r) harks/flame	e. No sm	oking	:"	

Titanium (Ti)

CAS# Description: 7440-32-6

Percentage: 10 wt% (typically)

EC number: 231-142-3

Section 4: FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.

Special Treatment: None

Important Symptoms: None

Eye Contact: Flush eyes with water, blinking often for several minutes. Remove contact lenses if

present and easy to do. Continue rinsing. Skin Contact: Wash affected area with mild soap and water. Remove any contaminated clothing. Inhalation:Remove to fresh air. If required, give artificial respiration. Seek medical advice.

Ingestion: Seek medical attention

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: No special restrictions - Use suitable extinguishing agent for surrounding material and type of fire.

Flammability: Non-flammable, except as powder

Special Fire Fighting Procedure: Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.

Environmental Precautions: Isolate runoff to prevent environmental pollution.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.

Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION Permissible Exposure Limits: 10 mg/m³ as W or W-insoluble compounds, short-term value 5 mg/m³ as W or W-insoluble compounds, long-term value Threshold Limit Value: 10 mg/m³ W, short-term value 5 mg/m³ as W, long-term value Special Equipment: None **Respiratory Protection:** Dust respirator. **Protective Gloves: Rubber Gloves** Eye Protection: Safety glasses or goggles **Body Protection:** Protective work clothing. Wear close-toed shoes and long sleeves/pants. Section 9: PHYSICAL AND CHEMICAL PROPERTIES Appearance:

Form:	Powder, Gra	anules, F	Pellets, S	Sputtering t	arget, Cu	istom pa	rts		
Color:	Metallic gre	у							
Odor:	Odorless								
Water Solubility:	Insoluble				· · · ·			· · · · ·	
Boiling Point:	N/A								
Melting Point:	~2000° c								
Flash Point:	N/A	1.		1. C	1.1		¹	1.1	
Autoignition Temperature:	N/A								
Density:	14.4 g/cc								
Molecular Weight:	N/A								
	1	: • •		1	: • •		1	: • •	 · · .
Section 10: STABILITY AN		(

Reactivity:	Oxidizing agents, Acids		
Chemical Stability:	Stable under recommended storage conditions		1.1
Incompatible Conditions:	None		
Hazardous Decomposition Products:	Metal oxide fume		
		1.	

Section 11: TOXICOLOGICAL INFORMATION

_

Potential Health Effects: Eyes: May cause irritation	·	 	·	 	·	 	
Skin: May cause irritation							
Ingestion: May cause irritation							
Inhalation: May cause irritation	1	 	1	 		 	1
Chronic: N/A							

	1	1.1							 ÷.,
Signs & Symptoms: Aggravated Medical Median Lethal Dose: Carcinogen:	Conditions:	N/A N/A N/A N/A			· ·			۰.	 '
Section 12: ECOLO	Gical Informa	TION							
Aquatic Toxicity: Lov	N			·			·		·
Persistence Bioaccu		r: No							
Very Persistent, Ver									
Notes: N/A	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -								
Section 13: DISPOS	SAL CONSIDERA	TIONS							
Dispose of in accorda	ance with local, s	tate, natior	nal, and i	internation	al regulatio	ns		1	

Section 14: TRANSPORT INFORMATION

Hazardous:

Hazardous as powder only



Hazard Class:4.1 Flammable solidsPacking Group:IIIUN Number:UN3089Proper Shipping Name:Metal powders, flammable, n.o.s. (Tungsten titanium)

Section 15: REGULATORY INFORMAT	ION	 1.0	111	1.1	111	 1
Sec 302 Extremely Hazardous:	No					
Sec 304 Reportable Quantities:	N/A					:
Sec 313 Toxic Chemicals:	No					

Section 16: OTHER INFORMATION

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.