



***TICO TITANIUM, INC***  
52900 GRAND RIVER AVE, NEW HUDSON, MI 48165  
519 TODD DR, OAK RIDGE NORTH, TX 77385

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## **MATERIAL SAFETY DATA SHEETS (MSDS)**

### **SECTION 1 – PRODUCT IDENTIFICATION**

Product Name: Titanium Base Alloy  
Trade Name: See Section II-A

### **SECTION II – HAZARDOUS INGREDIENTS**

This section covers ingredients contained in the product as shipped and is applicable to cutting and grinding. Fumes and gases from welding are covered in Section VI.

<b>INGREDIENTS</b>	<b>C.A.S. NO.</b>	<b>PEL (OSHA) mg/m3</b>	<b>TLV (ACGIH) mg/m3</b>
Aluminum (Al)	7429-90-5	none	10
Molybdenum (Mo)	7439-98-7	15	10
Tin (Sn)	7440-31-5	2	2
Titanium (Ti)	7440-32-6	15	10
Vanadium (V)	1314-62-1	0.5	.05
Zirconium (Zr)	7440-67-7	5	5

Reference – US Department of Labor ( [www.osha.gov](http://www.osha.gov) )

### **SECTION 11-A - TRADE NAME AND NOMINAL CONDITION**

Wt. % - 1% or greater

Ni and Cr - 1% or greater

<b>PRODUCT NAME</b>	<b>Al</b>	<b>Mo</b>	<b>Sn</b>	<b>Ti</b>	<b>V</b>	<b>Zr</b>
Ti 6-4	6	-	-	90	4	-
Ti 6-4 ELI	6	-	-	90	4	-
Ti 5-2.5	5	-	2.5	92	-	-
Ti 5-2.5 ELI	5	-	2.5	92	-	-
Ti 6-6-2	6	-	2	86	6	-
Ti 8-1-1	8	1	-	90	1	-
Ti 6-2-4-2	6	2	2	86	-	4
Ti 6-2-4-6	6	6	2	82	-	4
Ti CP	-	-	-	100	-	-



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### **SECTION 111 – PHYSICAL DATA**

Titanium base alloy products are shipped as solid metal forms.

### **SECTION 1V - FIRE AND EXPLOSION DATA**

Nonflammable, however, grindings and turnings from machining are flammable. If a fire breaks out, apply sand or salt or Metal X fire extinguisher to contain fire then let it burn itself out.

### **SECTION V - HEALTH HAZARD INFORMATION**

Exposure limits: Section II lists specific ingredients and exposure limits. IMPORTANT – Determine actual exposure by industrial hygiene monitoring.

POSSIBLE SIGNS AND SYMPTOMS OF EXPOSURE TO DUST, WELDING AND GASES.

SHORT TERM EXPOSURE: Metallic taste; nausea; tightness of chest; fever; irritation of eyes, nose, throat and skin; loss of consciousness/death due to welding gases or lack of oxygen.

LONG TERM EXPOSURE: Adverse effects may result from long time exposure to welding fumes, gases, or dusts. These effects may include skin sensitization, neurological damage, and respiratory disease such as bronchial asthma, lung fibrosis or pneumoconiosis.

Aggravation of preexisting respiratory or allergic conditions may occur in some workers.

EMERGENCY AND FIRST AID: Remove victim from exposure and obtain prompt medical attention. If victim is unconscious, administer oxygen.

### **SECTION VI - REACTIVITY INFORMATION**

Metal products themselves are not reactive, however, caution must be taken when welding due to fumes and gases.

### **SECTION VII - SPILL AND LEAK PROCEDURES**

Residue from cutting or grinding should be swept or vacuumed and placed in suitable containers for disposal by local, state, or federal waste disposal regulations.

### **SECTION VII - SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION: When exposure limits are exceeded, use proper, approved respirator.

VENTILATION: Use local exhaust when cutting, grinding, or welding.

EYE PROTECTION AND PROTECTIVE CLOTHING: Should be used when cutting, grinding or welding.

### **SECTION IX - SPECIAL PRECAUTIONS**

PEL/TLV exposures should be kept below recommendations by OSHA and ACGIH to insure proper health protection of worker.