



The Welding Accessory Experts

TUNGSTEN ELECTRODES FOR WELDING

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT IDENTIFICATION																																									
Product Trade Name: Tungsten Electrode for Welding. Chemical Name / Class: Tungsten ; Element. Product Use: Welding; Metal –Working Operations. Classification: AWS A5.12																																									
SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS																																									
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SECTION 3. HAZARDS IDENTIFICATIONS																																									
Routes of Exposure:	Inhalation of fumes produced during welding.																																								
Potential Health Effects:	Short term overexposure to welding fumes may result in discomfort such as dizziness, nausea, or irritation of the nose, throat, or eyes. Although inhalation of tungsten has the potential for causing temporary or permanent lung damage, it is generally considered to exhibit a low degree of toxicity.																																								
Carcinogenic Assessment:	Tungsten has not been identified as known or suspected carcinogens by NTP, IARC, or OSHA. However, Thorium Oxide has been listed as a carcinogen in the "Second Annual Report on Carcinogens" (NTP 8143, Dec. 1981) on pages 228-229.																																								
SECTION 4. FIRST AID MEASURES																																									
Inhalation:	Move the exposed individual from the welding area to fresh air. Aid breathing and seek medical attention if necessary.																																								
Eye Contact:	If irritation occurs due to welding fumes or from dust when grinding tungsten, flush with water. If irritation persists seek medical attention.																																								
Skin Contact:	Adverse reaction from contact with these electrodes is not likely. Prompt medical attention should be obtained for burns or irritation resulting from welding process.																																								
Nose Irritation:	Consult physician.																																								
SECTION 5. FIRE FIGHTING MEASURES																																									
Flash Point:	Not applicable.																																								
Extinguishing Media:	For tungsten dust fires, use Class D extinguishing media dry powder. Use respirator approved for toxic dusts and fumes. Use self-contained breathing apparatus for large fires.																																								
Special Procedures:	None																																								
Unusual Fire Hazards:	When tungsten is heated in air, tungsten trioxide (TWA 5 MG/M3) begins to sublime above 750°C. Also, welding arc and sparks can ignite combustibles. Refer to ANSI Z49.1 "Safety in Welding and Cutting" published by the American Welding Society for fire prevention and protection information during welding.																																								
SECTION 6. ACCIDENTAL RELEASE MEASURES																																									
Steps to be taken if material is released or spilled:	Not applicable																																								

SECTION 7. HANDLING AND STORAGE	
2% Thoriated Tungsten Electrode solids are in general safe materials to handle and use under almost all commonly encountered environments. Special precautions should be observed in order to minimize dust that may be created by grinding or machining. The generation of dust or mites may present a health hazard if the exposure limits, as set by OSHA or ACGIH, are exceeded. Maintain good housekeeping procedures to prevent the generation of airborne dust particles. Clean up using methods which avoid the generation of dust. Such methods include wet mopping or vacuuming (assuring that the vacuum is equipped with the proper filter to prevent airborne dust levels which exceed applicable limits). If airborne dust is generated, use the appropriate NIOSH approved respiratory protection.	
SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION	
Respiratory Measures:	Use NIOSH approved respirator when welding in confined spaces and whenever fume concentrations exceed applicable limits for tungsten or other welding fumes.
Ventilation:	Use general and/or local ventilation to keep fumes and gases from welder's breathing zone. If such equipment is not available, use respirators as specified above.
Personal Protection:	Use of welders gloves is recommended. Wear helmet or use face shield with appropriate filter lens. Provide protective screen and flash goggles, if necessary, to shield others. Wear appropriate hand, head, and body protection to prevent injury from sparks and electrical shock. See ANSI Z49-1.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES	
Form:	Bar shaped solid
Color:	Steel gray
Odor:	Scentless
pH:	Not applicable
Vapor Pressure:	Non-transient
Vapor density (Air=1):	Not applicable
Boiling Point:	5660°C
Melting Point:	Approximately 3400°C
Solubility in Water:	Not soluble
Specific Gravity:	Approximately 19
Percent Volatile:	0
SECTION 10. STABILITY AND REACTIVITY	
Chemical Stability:	Stable
Conditions to Avoid:	None
Incompatibility with Other Materials:	None
Hazardous Decomposition Products:	Welding fumes (oxides of metal being welded) and gases (such as carbon monoxide ozone and oxides of nitrogen) depending on the process, procedure, and metal welded. Some loss of metal from the electrode does occur.
Hazardous Polymerization	Will not occur.
SECTION 11. TOXICOLOGICAL INFORMATION	
There is no danger of poisoning or infection in case of mechanical injuries with the electrodes. Damages caused by welding are unknown.	
SECTION 12. ECOLOGICAL INFORMATION	
Proper operation does not cause undue exhaust responsible for the increase of air, water, or soil pollution.	
SECTION 13. DISPOSAL CONSIDERATIONS	
State or local regulations are complex and may differ from federal regulations. The owner of the tungsten is responsible for proper waste disposal in accordance with applicable laws and regulations.	
SECTION 14. TRANSPORT INFORMATION	
Not special requirements.	
SECTION 15. REGULATORY INFORMATION	
Hazardous ingredients:	Tungsten
% by Weight:	98%
ACGIH TLV:	5MG/M3
Cas Numbers:	Tungsten: 7440-33-7, Cerium Oxide: 1314-13-7, Lanthanum Oxide: 1312-81-8 Thorium Oxide: 1314-20-1, Zirconia: 1314-23-4

Information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. Arc-Zone.com does not accept liability for any loss or damage that may occur from this information nor offers warranty against patent infringement.