

**OSRAM
SYLVANIA**

Material Safety Data Sheet

S4L 0002

Chemical and Metallurgical Products
Hawes Street ■ Towanda, PA 18848-0504
Phone: (570) 268-5000 ■ Fax: (570) 268-5157

MSDS# 1000926 - Hazardous Information - Page 1 of 1

MANUFACTURER:
OSRAM SYLVANIA INC.
CHEMICAL AND METALLURGICAL DIV.
TOWANDA, PA 18848
TELEPHONE: 570-268-5000

EMERGENCY TELEPHONE NUMBERS
570-268-5000 24 HOURS EVERYDAY

CHEMTREC 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS	PERCENT BY WEIGHT	EXPOSURE LIMIT (TWA)	
			OSHA PEL	ACGIH TLV
TUNGSTEN	7440-33-7	98-99%	-----	5 MG/M3 , ,
THORIUM OXIDE	1314-20-1	1-2%	<H>*	*</>

<H>*NOTE: THE LIMITS FOR THORIUM DIOXIDE HAVE NOT BEEN ESTABLISHED BY THE ACGIH. ALL APPLICABLE REQUIREMENTS FOR RADIOACTIVE MATERIALS, INCLUDING EXPOSURE LIMITS, CONTAINED IN 29 CFR 1910.96 AND 10 CFR PARTS 20 & 40 SHOULD BE MET.</>

3. HAZARDS IDENTIFICATION

APPEARANCE/ODOR: GRAY METAL, ODORLESS

ROUTES OF EXPOSURE: INHALATION OF FUMES GENERATED DURING WELDING AND INHALATION, SKIN AND EYE CONTACT FROM ELECTRODE TIP GRINDING.

POTENTIAL HEALTH EFFECTS:

INHALATION: OVEREXPOSURE TO WELDING FUMES MAY RESULT IN DIZZINESS, NAUSEA AN IRRITATION TO THE NOSE AND THROAT. OTHER EFFECTS DEPEND ON THE METAL BEING WELDED AND THE WELDING CONDITIONS.

EYE CONTACT: DUST PARTICLES OR FUMES MAY CAUSE EYE IRRITATION.

SKIN CONTACT: PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN IRRITATION.

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USE FIRE EXTINGUISHING MATERIALS SUTIABLE FOR THE SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES
NOT APPLICABLE

7. HANDLING AND STORAGE

HANDLING: NONE
STORAGE: STORE AWAY FROM INCOMPATIBLE MATERIALS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROL:
USE LOCAL EXHAUST VENTILATION OR GENERAL VENTILATION AT THE ARC TO KEEP FUMES AND GASES BELOW APPLICABLE LIMITS IN THE WORKER'S BREATHING ZONE AND IN THE GENERAL AREA. IF SUCH EQUIPMENT IS NOTAVAILABLE USE A NOISH APPROVED RESPIRATOR AS SPECIFIED BELOW.

RESPIRATORY PROTECTION:
A NIOSH APPROVED RESPIRATOR SHOULD BE WORN WHEN AIRBORNE DUST AND FUME CCONCENTRATIONS EXCEED THE APPLICABLE LIMITS FOR THORIUM, TUNGSTEN OR OTHER WELDING MATERIALS. USE A NIOSH APPROVED FUME RESPIRATOR WHEN WELDING IN CONFINED SPACES. ALL APPROPRIATE REQUIREMENTS SET FORTH IN 29 CFR 1910.134 SHOULD BE MET. UNDER EXTREME EXPOSURE CONDITIONS WHEN AIRBORNE CONCENTRATIONS MAY BE ABOVE THE PROTECTION FACTOR OF AN AIR-PURIFYING RESPIRATOR, USE A POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR.
APPROPRIATE STANDARDS FOR USE OF RESPIRATORY PROTECTION(SUCH AS 29 CFR 1910.134 AND Z49.1) SHOULD BE CONSULTED.

SKIN PROTECTION:
HEAD, HAND AND BODY PROTECTION TO PREVENT INJURY FROM ARC RADIATION, SPARKS AND ELECTRICAL SHOCK MUST BE WORN. CONSULT

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ANSI STD Z49.1

EYE PROTECTION:

WEAR HELMET OR USE A FACE SHIELD WITH THE APPROPRIATE FILTER LENS. PROVIDE PROTECTIVE SCREENS AND FLASH GOGGLES, IF NECESSARY TO SHIELD OTHERS. CONSULT ANSI Z49.1

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: GRAY METAL ODOR: NONE

BOILING POINT: 5660 C SPECIFIC GRAVITY (H2O=1): 19

VAPOR PRESSURE (MM HG): N/A PERCENT VOLATILE BY VOLUME: 0

VAPOR DENSITY (AIR=1): N/A EVAPORATION RATE: N/A

SOLUBILITY IN WATER: INSOLUBLE

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10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID/INCOMPATIBILITY: FOR GRINDING DUST: AVOID CONTACT WITH STRONG OXIDIZERS AND STRONG ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS: WELDING FUMES AND GASES DEPENDING ON THE PROCESS, PROCEDURE AND METAL BEING WELDED. SOME LOSS OF METAL FROM THE WELDING ELECTRODE DOES OCCUR.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

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11. TOXICOLOGICAL INFORMATION

THORIUM DIOXIDE IS A NATURALLY OCCURRING RADIOACTIVE ELEMENT. IT IS PRIMARLY AN ALPHA EMITTER AND AS SUCH ITS PRIMARY HAZARD LIES

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IN THE INHALATION OF DUSTS AND FUMES. NORMAL HANDLING OF THESE ELECTRODES IS NOT EXPECTED TO RESULT IN ANY SIGNIFICANT EXTERNAL RADIATION EXPOSURE. CONSIDERABLE EXPERIENCE IN REFINING AND USE OF THORIUM HAS NOT REVEALED ANY ADVERSE EFFECTS FROM INDUSTRIAL EXPOSURE.

12. ECOLOGICAL INFORMATION

NONE AVAILABLE AT THIS TIME.

13. DISPOSAL INFORMATION

WASTE MATERIAL MUST BE DISPOSED OF IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.

14. TRANSPORTATION INFORMATION
RADIOACTIVE

15. REGULATORY INFORMATION

TUNGSTEN/THORIUM OXIDE ARE LISTED ON THE FOLLOWING NATIONAL INVENTORIES/LISTS:

- US EPA TSCA CHEMICAL SUBSTANCES INVENTORY
- CANADIAN DOMESTIC SUBSTANCES INVENTORY (DSL)
- EUROPEAN INVENTORY OF CHEMICAL SUBSTANCES (EINECS)
- KOREAN EXSISTING CHEMICAL LISTS

CERCLA REPORTABLE QUANTITY: NONE

SARA TITLE III(SUPERFUND AMENDMENTS REAUTHORIZATION ACT):

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: NONE

SECTION 311/312 HAZARD CATEGORY: IMMEDIATE HEALTH HAZARD
DELAYED HEALTH HAZARD



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SECTION 313 TOXIC CHEMICALS: THORIUM OXIDE

16. OTHER INFORMATION

REVISION SUMMARY:
PREVIOUS DATE: 09/11/2001

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