

PRODUCT SAFETY DATA SHEET
PSDS No. 1.9
HIGH PRESSURE XENON LAMPS



OSRAM Xenon Short Arc Display/Optic Lamp XBO[®], manufactured by OSRAM GmbH., are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are “articles.” The following information is provided by OSRAM SYLVANIA as a courtesy to its customers.

I. PRODUCT IDENTIFICATION

Trade Name (as labeled): OSRAM Xenon Short Arc Display/Optic Lamp XBO[®]

This data sheet covers the following model(s):
 XBO > 450 W

Manufacturer:

OSRAM GmbH
 Hellabrunner Strasse 1
 81536 Munich
 Germany

For General Information:

OSRAM SYLVANIA
 National Customer Sales and Service Center
 Westfield IN
 1-888-OSRAM CS
 1-888-677-2627

For Technical Inquiries:

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 950 Joule Street, Industrial Park
 A.J. Bermudes, C.P. 32470
 Cd. Juarez, Chihuahua, Mexico
 915-775-2939

II. HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT.

If the lamp is broken, the following materials may be released:

	<u>Chemical Name</u>	<u>CAS Number</u>	<u>% by wt.</u>	<u>Exposure Limits in Air (mg/cubic m)</u>	
				<u>ACGIH (TLV)</u>	<u>OSHA (PEL)</u>
	Quartz, Fused	60676-86-0	25 - 35	0.1 Resp. Dust	0.1 Ceiling
	Tungsten	7440-33-7	15 - 30	---	---
	(Insoluble compounds)			5	10
	Molybdenum	7439-98-7	0,0015 – 0,0035	---	---
	(Insoluble compounds)			10	15
(2)	Thorium Dioxide	1314-20-1	0,0025 – 0,0030	---	---
	NRC maximum permissible dose for occupational exposure:			0-100 5000 mrem/yr	
	NRC maximum permissible dose for non-occupational exposure:			0-100 100 mrem/yr	
(1)	Nickel	7440-02-0	0,025 – 0,045	0.05	1

- (1) These chemicals are subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
- (2) 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 (OSHA) AND 10 CFR Parts 20 & 40 (NRC) should be met.

III. PHYSICAL PROPERTIES

Not applicable to intact lamp.

IV. FIRE & EXPLOSION HAZARDS

Flammability: Non-combustible.

Fire Extinguishing Materials: Use extinguishing agents suitable for surrounding fire.

Special Firefighting Procedure: Use a self-contained breathing apparatus to prevent inhalation of dust and/or fumes that may be generated from broken lamps during firefighting activities.

Unusual Fire and Explosion Hazards: When exposed to high temperature, toxic fumes may be released from broken lamps.

V. HEALTH HAZARDS

A. OPERATING LAMPS

Consult the OSRAM SYLVANIA Product Catalog or relevant technical data sheets for complete warnings, operating and installation guides for specific lamp types.

WARNING:

- This XBO lamp contains high pressure at room temperature and may unexpectedly shatter. Never handle lamp with out safety shield installed and appropriate PPE.
- This XBO lamp operates at super high pressure and at high temperature and may unexpectedly shatter.
- This XBO lamp generates ultraviolet radition which may cause skin and eye irritation with exposure.
- This XBO lamp must be operated only in suitably designed enclosed fixtures which prevent direct observation of the arc and will prevent lamp fragments from exiting, in the unlikely event of a lamp rupture.
- To avoid risk of lamp rupture, lamps must be operated with compatible ballast and fixture only.

B. LAMP MATERIALS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice, avoid prolonged or frequent exposure to broken lamps unless there is adequate ventilation. The major hazard from broken lamps is the possibility of sustaining glass cuts.

NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards and/or NIOSH Pocket Guide to Chemical Hazards lists the following effects of overexposure to the chemicals/materials tabulated below when they are inhaled, ingested, or contacted with skin or eye:

Quartz, fused – Fibrosis of the lungs causing shortness of breath and coughinh has been associated with silica exposure.

Tungsten – Inhalation of dust may cause mild irritation of nose and throat. Contact may cause mechanical irritation of skin and eyes.

Molybdenum – Oxides have caused irritatin to the eyes, nose, and throat; weight loss and digestive disturbances in experimental animals.

Thorium Dioxide(as Tungsten Thoria) – Tungsten thoria alloy solids do not consititute and important health hazard. Exposure is related mainly to any irritatin fromt dust created. Thoriated solids do not constitute an important radiological health hazard. However, radiological health hazards may exist if the material is present in a form that may be inhaled or injected..

Nickel – Skin contact may cause an allergic rash. Inhaled dust of nickel and its compounds have been reported to cause cancer of the lungs and sinuses. Nickel itself is not very toxic if ingested, but its soluble salts are quite toxic and, if ingested, may cause giddiness and nausea.

EMERGENCY AND FIRST AID PROCEDURES

Quartz Cuts: Perform normal first aid procedures. Seek medical attention as required.

Inhalation: If discomfort, irritation or symptoms of pulmonary involvement develop, remove from exposure and seek medical attention.

Ingestion: Seek medical attention.

Contact, Skin: Thoroughly wash affected area with mild soap or detergent and water and prevent further contact. Seek medical attention if irritation occurs.

Contact, Eye: Wash eyes, including under eyelids, immediately with copious amounts of water for 15 minutes. Seek medical attention.

CARCINOGENIC ASSESSMENT (NTP ANNUAL REPORT, IARC MONOGRAPHS, OTHER):

Nickel was identified as a known or suspected carcinogen by NTP and/or IARC.

VI. REACTIVITY DATA

Stability: Stable

Conditions to avoid: None for intact lamps.

Incompatibility (materials to avoid): None for intact lamps.

Hazardous Decomposition Products (including combustion products): None for intact lamps.

Hazardous Polymerization Products: Will not occur.

VII. PROCEDURES FOR DISPOSAL OF LAMPS

OSRAM SYLVANIA recommends recycling of spent lamps. For a list of lamp recyclers and to obtain state regulatory disposal information, log onto www.lamprecycle.org.

If lamps are broken, ventilate area where breakage occurred. Clean-up with a vacuum cleaner or other suitable means that avoids dust generation. Take usual precautions for collection of broken quartz. Place materials in closed containers to avoid generating dust.

It is the responsibility of the waste generator to ensure proper classification and disposal of waste products. To that end, TCLP tests should be conducted on all waste products, including this one, to determine the ultimate disposition in accordance with applicable federal, state and local regulations.

VIII. SPECIAL HANDLING INFORMATION - FOR BROKEN LAMPS

Ventilation: Use adequate general and local exhaust ventilation to maintain exposure levels below the PEL or TLV limits. If such ventilation is unavailable, use respirators as specified below.

Respiratory Protection: Use appropriate NIOSH approved respirator if airborne dust concentrations exceed the pertinent PEL or TLV limits. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

Eye Protection: OSHA specified safety glasses, goggles or face shield are recommended if lamps are being broken.

Protective Clothing: OSHA specified cut and puncture-resistant gloves are recommended for dealing with broken lamps.

Hygienic Practices: After handling broken lamps, wash thoroughly before eating, smoking or handling tobacco products, applying cosmetics, or using toilet facilities.

XIV. TRANSPORT INFORMATION

Domestic (Land, D.O.T.):CLASS: Radioactive Material (7)*PRODUCT LABEL: OSRAM Xenon Short Arc Display/Optic LampUN NUMBER: 2911PACKING GROUP: n/aPROPER SHIPPING NAME: Radioactive material, excepted package - ArticlesSUPPLEMENTAL HAZARD: NA**International (Water, IMO)**CLASS: Radioactive Material (7)*PRODUCT LABEL: OSRAM Xenon Short Arc Display/Optic LampUN NUMBER: 2911PACKING GROUP: n/aPROPER SHIPPING NAME: Radioactive material, excepted package - Articles.**International (Air, IATA & ICAO)**CLASS: Radioactive Material (7)*PRODUCT LABEL: OSRAM Xenon Short Arc Display/Optic LampUN NUMBER: 2911PACKING GROUP: n/aPROPER SHIPPING NAME: Radioactive material, excepted package - Articles* For consignments containing over 10,000 Bq

Emergency Telephone number: INTERNATIONAL: + 49 1784337434 FROM USA: + 011 49 1784337434

CONSULTANK LUTZ HARDER GMBH/ Contract number OSRAM 002

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Issue Date: July 25, 2012

Supersedes: April 08, 2011
