

PRODUCT SAFETY DATA SHEET
PSDS No. 1.7
TUNGSTEN HALOGEN LAMPS



Sylvania brand Tungsten Halogen Lamps, manufactured by OSRAM/OSRAM SYLVANIA, 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.

PRODUCT IDENTIFICATION

Trade Name (as labeled): **Sylvania Tungsten Halogen Lamps, Sylvania Capsylite® Halogen Lamps**
This data sheet covers the following general lighting halogen lamp types:
MB, MC, MR, PAR14, PAR16, PAR20, PAR30, and PAR38 lamps.

Manufacturer: OSRAM SYLVANIA Products Inc.
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II. HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT.
If a lamp is broken, some of the following materials may be released:

Chemical Name	CAS Number	% by wt.	Exposure Limits in Air (mg/cubic m)	
			ACGIH (TLV)	OSHA (PEL)
Hydrogen Bromide	10035-10-6	0-< 1.0	10.0 Ceiling	10.0
Tungsten	7440-33-7	0.05-1.0	---	---
(Insoluble compounds)	-----	---	5.0	---
Molybdenum	7439-98-7	0.02-1.0	---	---
(Insoluble compounds)	-----	---	10	15
Glass (Alkaline Earth Aluminosilicate)	-----	0-95	10 (1)	15 (1)
Quartz, Fused	60676-86-0	0-95	0.1 Resp. Dust	0.1
Aluminum	7429-90-5	0-70	10.0	10.0
Copper (as dust)	7440-50-8	0-<3.0	1.0	1.0
Glass (Alkaline Earth Borosilicate)	-----	0-95	10.0 (1)	15.0 (1)
Ceramic (Steatite or Porcelain)	-----	0-95	10.0 (1)	15.0 (1)

(1) Limits as nuisance particulate.

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:

- **Burns:** All tungsten halogen lamps operate at higher temperatures than standard incandescent lamps; some as high as 1832°F, 1000°C. Therefore, caution must be used when replacing lamps. Allow enough time for lamp to cool before attempting replacement.
- **Shattering:** Some tungsten halogen lamps are at high pressure at all times and may unexpectedly shatter. Care must be taken to read and follow the directions and warnings accompanying the specific product to avoid personal injury and/or property damage.
- **UV Radiation:** Some tungsten halogen lamps produce UV (ultraviolet) radiation which can cause skin burns and/or eye injury if not properly shielded. Care must be taken to read and follow the directions and warnings accompanying the specific product to avoid personal injury.

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:

Hydrogen Bromide - Short-term exposure to hydrogen bromide may cause irritation of the eyes, nose, and throat. It will cause a burn when a solution is splashed onto skin or into eyes. Repeated or prolonged exposure to hydrogen bromide may cause irritation of the nose and throat with mucous production and indigestion.

Copper - Inhalation of fumes can cause "Metal Fume Fever" with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle aches, and a sweet metallic taste in the mouth. Contact may cause mechanical irritation of the skin and eyes. Ingestion may cause irritation to the stomach lining or intestines.

Aluminum - Aluminum is a non-toxic material which may cause irritation to the eyes skin and respiratory system.

Quartz, Fused - Fibrosis of the lungs causing shortness of breath and coughing has been associated with silica exposure.

Glass - Glass dust is considered to be physiologically inert and as such, has an OSHA exposure limit of 15 mg/cubic meter for total dust and 5 mg/cubic meter for respirable dust. The ACGIH TLVs for particulates not otherwise classified are 10 mg/cubic meter for total dust and 3 mg/cubic meter for respirable dust.

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 irritation to the eyes, nose, and throat; weight loss and digestive disturbances in experimental animals.

EMERGENCY AND FIRST AID PROCEDURES:

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

Inhalation: If discomfort or irritation to the nose and throat develop, remove from exposure and seek medical attention as needed. If breathing has stopped, perform artificial respiration; keep affected person warm and at rest; get medical attention as soon as possible.

Ingestion: In the unlikely event of ingesting a large quantity of material, seek medical attention immediately.

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

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): None

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

If lamps are broken, ventilate area where breakage occurred. Clean-up by vacuuming or other method that avoids dust generation. Take usual precautions for collection of broken glass. 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.

Lamps which pass the EPA's TCLP test are considered non-hazardous waste in most states. Always review your local and state regulations which can vary. Based upon the NEMA* Standard LL 4 (*Procedures for Incandescent Lamp Sample Preparation and the TCLP*) testing protocol, these lamps pass the TCLP test.

*NEMA (National Electrical Manufacturers Association) standard may be obtained from NEMA, 1300 North 17th Street, Suite 1847, Rosslyn, VA 22209.

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.

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Issue Date: April 27, 2007
Revision B

Supersedes: April 05, 2005

In case of questions, please call:
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