

**PRODUCT SAFETY DATA SHEET**  
**PSDS No. 1.1.8**  
**T5 FLUORESCENT LAMPS**



Sylvania brand Pentron® Fluorescent Lamps, 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: **Sylvania Pentron® Fluorescent Lamps** (for general lighting applications)

**Manufacturer:**

OSRAM GmbH  
Berliner Allee 65  
D-86136 Augsburg  
Germany

**For Technical Inquiries in the U.S.A.:**

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Danvers, MA 01923  
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**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:

Chemical Name	CAS Number	% by Wt.	Exposure Limits in Air (mg/M <sup>3</sup> )	
			ACGIH (TLV)	OSHA (PEL)
Glass (barium alkali silicate glass)	----	93 - 95	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Glass (alkali alkaline earth silicate glass)	----	2 - 7	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Mercury <sup>(1,4)</sup>	7439-97-6	0.005 - 0.02	0.025	0.1 Ceiling
Aluminum Oxide	001-344-281	0.06 - 0.3	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Fluorescent Phosphor and cathodes may contain:	----	1.85 - 1.95	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Yttrium <sup>(3)</sup> (as dust)	7440-65-5	0.9 - 1.6	1.0	1.0
Barium <sup>(3)</sup> (as dust)	7440-39-3	0.09 - 0.4	0.5	0.5
Tungsten (as dust)	7440-33-7	<0.1	5	----
Strontium <sup>(3)</sup> (as dust)	7440-24-6	<0.1	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Magnesium <sup>(3)</sup> (as dust)	7439-95-4	0.3 - 0.6	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Calcium <sup>(3)</sup> (as dust)	----	<0.1	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Europium <sup>(3)</sup> (as dust)	7440-53-1	0.9 - 1.6	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Cerium <sup>(3)</sup> (as dust)	7440-45-1	0.3 - 0.6	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Terbium <sup>(3)</sup> (as dust)	7440-27-9	0.3 - 0.6	10 <sup>(2)</sup>	15 <sup>(2)</sup>
Aluminum <sup>(3)</sup> (as dust)	7429-90-5	0.3 - 0.6	10 <sup>(2)</sup>	15 <sup>(2)</sup>

- (1) This chemical is 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 as nuisance particulate.
- (3) These elements are contained in the material as part of its chemical structure; the material is not a mixture.
- (4) The mercury in this product is a substance known to the state of California to cause reproductive toxicity if ingested. [California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).]

**III. PHYSICAL PROPERTIES**

Not applicable to intact lamp.

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#### IV. FIRE & EXPLOSION HAZARDS

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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.

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#### V. HEALTH HAZARDS

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**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:*

Mercury - Contact, inhalation, or ingestion may cause one or more of the following symptoms: eye irritation, skin irritation, cough, chest pain, dyspnea, bronchitis, pneumonitis, tremor, insomnia, irritability, indecision, headache, fatigue, weakness, stomatitis, salivation, GI tract disturbance, anorexia, weight loss, and proteinuria.

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.

Aluminum Oxide (Alumina) - Alumina is a non-toxic material. Sharp-edged particles can irritate the eyes, skin, and respiratory system.

Phosphor - Phosphor 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.

Yttrium - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, pulmonary irritation, and possible liver damage.

Barium (soluble compounds) - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, skin irritation, upper respiratory system irritation, skin burns, gastroenteritis, muscle spasm, slow pulse, extrasystole, and hypokalemia.

Tungsten - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, respiratory system irritation, diffuse pulmonary fibrosis, loss of appetite, nausea, cough, and blood changes.

#### EMERGENCY AND FIRST AID PROCEDURES

Glass 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: In the unlikely event of ingestion of a large quantity of material, 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): None

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## VI. REACTIVITY DATA

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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.

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## VII. PROCEDURES FOR DISPOSAL OF LAMPS

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OSRAM SYLVANIA recommends that all mercury-containing lamps be recycled. For a list of lamp recyclers and to obtain state regulatory disposal information, log onto [www.lamprecycle.org](http://www.lamprecycle.org).

If lamps are broken, ventilate area where breakage occurred. Clean up with a special mercury vacuum cleaner (not a standard vacuum cleaner) or other suitable means that avoids dust and mercury vapor generation. Take usual precautions for collection of broken glass. Clean-up requires special care due to mercury droplet proliferation. 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. Some states have specific disposal requirements for lamps containing mercury.

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## VIII. SPECIAL HANDLING INFORMATION - FOR BROKEN LAMPS

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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 hands and face thoroughly before eating, smoking or handling tobacco products, applying cosmetics, or using toilet facilities.

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