

PRODUCT SAFETY DATA SHEET
PSDS No. 2.1
CERAMIC METAL HALIDE ARC TUBES



Ceramic Metal Halide Arc Tubes, manufactured by OSRAM SYLVANIA Inc., 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): **Sylvania Metalarc® POWERBALL®, Ceramic Arc Tubes**
(Ceramic Metal Halide Arc Tubes for General Lighting)

Manufacturer: OSRAM de Mexico S.A. de C.V.
950 Joule Street, Industrial Park
A.J. Bermudes, C.P. 32470
Cd. Juarez, Chihuahua, Mexico

II. HAZARDOUS INGREDIENTS

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

If a arc tube 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> |
| (1, 2) Mercury | 7439-97-6 | <0.05 | 0.025 | 0.1 Ceiling |
| Aluminum Oxide | 1344-28-1 | 0.0005-<0.005 | 10 (3) | 15 (3) |
| Thallium Iodide | 7790-30-9 | <0.002 | 0.1 Skin | <10.1 |

- (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) The mercury and lead in this product are substances known to the state of California to cause reproductive toxicity if ingested. [California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).]
- (3) Limits as nuisance particulate.

III. PHYSICAL PROPERTIES

Not applicable to intact arc tube.

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 arc tubes during firefighting activities.

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

V. HEALTH HAZARDS

ARC TUBE MATERIALS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO ARC TUBES THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken arc tubes. As a matter of good practice, avoid prolonged or frequent exposure to broken arc tubes unless there is adequate ventilation. The major hazard from broken arc tubes is the possibility of 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 - Exposure to high concentrations of vapors for brief periods can cause acute symptoms such as pneumonitis, chest pains, shortness of breath, coughing, gingivitis, salivation and possibly stomatitis. May cause redness and irritation as a result of contact with skin and/or eyes.

Aluminum Oxide (Alumina) - Alumina is a non-toxic material which is very low in free-silica content. Sharp-edged particles can irritate the eyes, perhaps the skin, and definitely the mucous membranes of the respiratory tract.

EMERGENCY AND FIRST AID PROCEDURES

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): None

VI. REACTIVITY DATA

Stability: Stable

Conditions to avoid: None for intact arc tubes.

Incompatibility (materials to avoid): None for intact arc tubes.

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

Hazardous Polymerization Products: Will not occur.

VII. PROCEDURES FOR DISPOSAL OF ARC TUBES

OSRAM SYLVANIA recommends that all mercury-containing arc tubes be recycled. For a list of arc tube recyclers and to obtain state regulatory disposal information, call 1-866-666-6850 or log onto www.arctubecycle.org.

If arc tubes are broken, ventilate area where breakage occurred. Clean-up with mercury vacuum cleaner or other suitable means that avoids dust and mercury vapor generation. Place materials in closed containers to avoid generating dust and mercury vapor.

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 ARC TUBES

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 arc tubes are being broken. In the event an outer jacket is broken, the arc tube should be shut off immediately and replaced to avoid exposure to ultraviolet radiation.

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

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

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In case of questions, please call:

OSRAM SYLVANIA Inc.
Product Safety and Compliance Manager
(978) 750-2581
