PRODUCT SAFETY DATA SHEET
LIGHT EMITTING DIODE (LED) LAMPS

Sylvania brand Light Emitting Diode Lamps (LED), manufactured by SYLVANIA/OSRAM SYLVANIA, are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are "articles."[i] The following information is provided by OSRAM SYLVANIA as a courtesy to its customers.

I. PRODUCT IDENTIFICATION

SYLVANIA LED Lamps:
This MSDS applies only to the following LEDr lamps: A-shape LEDr

Osram Sylvania Inc.
100 Endicott Street
Danvers, MA 01923
PH: (978) 777-1900
www.Sylvania.com

II. HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken lamps. The major hazard from broken lamps is the possibility of sustaining glass cuts.

Lamp Assembly
A-line SYLVANIA LEDr lamps do not contain glass. The lamp bases are generally nickel-plated brass. None of these materials would present a hazard even in the event of breakage of the lamp.

LED
The LED's composition consists of metals, phosphor, plastics and InGaN (Indium Gallium Nitride) semiconductor chip. Due to their insolubility and inertness, these materials do not present a significant hazard. Replacement Lamps use LEDs that emit white light. The LED's composition consists of metals, phosphor, plastics and InGaN (Indium Gallium Nitride) semiconductor chip. Due to their insolubility and inertness, these materials do not present a significant hazard.

Electronic LED Driver
The electronic LED driver is built into the lamp housing. The driver consists of parts that are essentially similar, but not identical, to those used throughout the electronics industry for other common consumer electronic equipment.

Plastic Material
The plastic housing is typically made of PBT (Polybutylene-terephthalate) or PET (Polyethylene- terephthalate) fire retarded plastic with a bromine-containing polymer and antimony oxide. The plastic housing is glass fiber filled. This product consists primarily of high molecular weight polymers that are not hazardous.

III. HEALTH CONCERNS

There are no known health hazards from exposure to lamps that are intact. No adverse effects are expected from occasional exposure to broken lamps. If the lamp is broken and the LEDs are exposed, do not look directly into the LEDs. As a matter of good practice, avoid prolong or frequent exposure to broken lamps. The major hazard from broken lamps is the possibility of sustaining cuts from the pieces and eye injury if you look directly into exposed LEDs when emitting light.

EMERGENCY AND FIRST AID PROCEDURES:
Cuts: Perform normal first aid procedures. Seek medical attention as required.

UV
The Ultraviolet energy emitted by LED lamps complies with the Photobiological Safety of Lamps IEC 62471.

IV. DISPOSAL CONCERNS

LED Lamp Disposal:
Dispose in accordance with local regulations; recycling is recommended for large quantity disposal.

RoHS:

All Sylvania LEDr lamps listed above meet the EC directive Restriction of Hazardous Substances (RoHS II) Directive 2011/65/EU. They do not contain any mercury or lead.

REACH:

Safety Datasheets are required by article 33 of REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). Safety Datasheets are similar to OSHA Material/Product Safety Data Sheets and are meant to instruct the end-user (customer) on safe handling of the product, if there are any SVHC's (Substances of Very High Concern). For lamps, if any SVHC exists, the amount will be small and encapsulated in the component. Exposure to the SVHC would require grinding the component up.

Osram Sylvania A-line LED lamps contain no SVHC as of 11/20/13 when the list was last updated. . See http://echa.europa.eu/web/guest/candidate-list-table

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In case of questions, please call:
Katherine Hassan, Esq.
OSRAM SYLVANIA Inc.
Product Safety and Compliance Specialist
978-750-2581

[i] "*Article* means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, *e.g.*, minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees." 29 CFR 1910 accessed March, 2013: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10099)