SAFETY DATA SHEET

HALCO-FL-SDS-1
Revision: 3/2017

Product: ProLume® Eco-Shield® Fluorescent Lamps

Halco brand fluorescent Lamps are exempt from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are classified as "articles". The OSHA Standard defined and article as something that: (1) is formed to a specific shape and design, 2) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (3) which under normal conditions of use does not release more than very small quantities or trace amounts of a hazardous chemical and does not pose a physical hazard or health risk to employees.

The following information is provided as a courtesy to Halco's customers

SECTION 1: MANUFACTURER AND CONTACT INFORMATION

Manufacturer's Name and Address:

Halco Lighting Technologies
2940 Pacific Drive
Norcross, GA 30071
Telephone: 770-242-3609
Fax: 770-242-3615

SECTION 2: HAZARDOUS INGREDIENTS

Glass & Metal

The glass tube used in this fluorescent lamp is manufactured from soda-lime glass and is essentially similar but not identical to that used throughout the glass industry for bottles and other common consumer items. The end-caps on the lamp are generally aluminum while the wires in the lamps (called filaments or cathodes) are made of tungsten.

Phosphor

The ProLume Eco-Shield™ product line uses two different phosphor systems. One phosphor system (halophosphate) uses calcium chloro-fluoro-phosphate, with small amounts (less than 1-2% by weight the phosphor) of antimony and manganese, both of which are tightly bound in the phosphor matrix. The second phosphor system (SP/SPX) uses a mixture of rare earth elements such as lanthanum, and yttrium as either an oxide or as a phosphate, along with a barium/aluminum oxide. These phosphors produce better lamp efficiency and color rendition. The phosphor components may vary slightly depending on the color of the lamp (cool white, warm white, etc.).

Mercury

While mercury is present in small amounts in all fluorescent lamps, the ProLume® Eco-Shield™ lamp uses the lowest amount of mercury of any Halco Lighting lamp of the same type. The

amount of mercury present in any given lamp will vary slightly, but the target dose for ProLume® Eco-Shield™ is over 80% less than the average for traditional fluorescent lamp designs of the same type. The average target dose for the F34T12 ProLume® Eco-Shield™ lamp and the F32T8 ProLume® Eco-Shield™ lamp is less than 5 mg.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

NOT APPLICABLE TO AN INTACT LAMP.

SECTION 4: FIRST-AID MEASURES

NO KNOW HEALTH HAZARDS FROM EXPOSURE TO AN INTACT LAMP

No adverse effect from occasional exposure to broken lamp. Exercise caution to avoid prolong or frequent exposure to broken lamp.

Exercise caution to avoid sustaining cuts from broken glass. Use proper First-Aid if a cut is sustained.

SECTION 5: FIRE AND EXPLOSION HAZARDS

Flammability: Non-combustible

SECTION 6: ACCIDENTAL RELEASE MEASURES

THERE ARE NO KNOW HEALTH HAZARDS FROM EXPOSURE TO AN INTACT LAMP

Phosphor
Except for small modifications, the halophosphor is essentially the same material that has been in use in fluorescent lamps for over fifty years. No significant adverse effects, either by ingestion, inhalation, skin contact, or eye implant, were found in a five-year animal study of the original phosphor by the Industrial Hygiene Foundation of the Mellon Institute. Also, there have been no significant adverse effects on humans by any of these routes during the many years of its manufacture or use. The phosphor is somewhat similar to the inert mineral apatites (calcium phosphate-fluorides) which occur in nature.

Antimony, manganese, yttrium and barium compounds are characterized by OSHA as hazardous chemicals, as are most inorganic compounds. However, due to their insolubility, relatively low toxicity and small amount present in the phosphor and the lamp, these materials do not present a significant hazard in the event of breakage of the lamp.

Mercury
Neither the mercury nor the phosphor concentration in air produced as a result of breaking one or a small number of fluorescent lamps would result in significant exposure levels. However, when breaking a large number of lamps for disposal, appropriate industrial hygiene monitoring and controls should be used to minimize airborne levels or surface contamination. Such work must be done in a well-ventilated area. Local exhaust ventilation and personal protective equipment such as respirators may be needed.

SECTION 7: HANDLING AND STORAGE

Use caution when handling glass.

Storage not applicable.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Ventilation: Adequate ventilation is recommended for cleanup and/or disposal.

Hand and Eye Protection is required by OSHA.

Exercise caution to avoid prolong or frequent exposure to broken lamp.

Exercise caution to avoid sustaining cuts from broken glass. Use proper First-Aid if a cut is sustained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

NO APPLICABLE INFORMATION AVAILABLE

SECTION 10: STABILITY AND REACTIVITY

NO APPLICABLE INFORMATION AVAILABLE

SECTION 11: TOXICOLOGICAL INFORMATION

NO APPLICABLE INFORMATION AVAILABLE

NO SECTION 13: DISPOSAL CONCIDERATIONS(NON-MANDATORY)

TCLP
Disposal requirements for fluorescent lamps are determined by whether the lamp is characterized as hazardous waste. The ProLume® Eco-Shield™ lamp would not be classified as a hazardous waste, based on test data and statistical analysis developed according to the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) for mercury.

ProLume® Eco-Shield™ TCLP test performance information and the test protocol can be provided on request.

While the ProLume® Eco-Shield™ lamp will pass the federal EPA TCLP test, state or local regulations may still regulate disposal of mercury-containing products. If state or local disposal regulations exist, state and local agencies should be contacted for specific guidance.