MATERIAL SAFETY DATA SHEET

Product: ProLume® Fluorescent Lamps

SECTION 1: MANUFACTURER

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 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 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.).

Normally a 1.5 inch diameter (T12) fluorescent lamp has approximately 1 - 1.25 grams of the phosphor per foot of lamp, resulting in about 4 - 5 grams of the phosphor coating it's inside length. A 1 inch diameter (T8) lamp has approximately 1.5 - 2 g phosphor coating per lamp.

Mercury
Mercury is present in small amounts in all fluorescent lamps. Halco Lighting Technologies has significantly reduced its use of mercury in products through advancements in efficiency and technology. Lamps bearing the Eco-Shield designation are TCLP compliant and use minimal amounts of mercury in their manufacturing.

SECTION 3: HEALTH CONCERNS

Phosphor

Except for small modifications, the halophosphor is essentially the same material that has been in use in fluorescent lamps for half of a century. 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 4: DISPOSAL CONCERNS

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.

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.

Non-TCLP compliant products should be treated as hazardous materials, for more information please visit www.lamprecycle.org.