

## LAMP MATERIAL INFORMATION SHEET LINEAR FLUORESCENT

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### MATERIAL SAFETY DATA SHEET (MSDS) Information and Applicability

The Material Safety Data Sheet (MSDS) requirements of the Occupational Safety and Health Administration (OSHA) for chemicals are **not** applicable to manufactured articles such as lamps. No material contained in a lamp is released during normal use and operation.

The following information is provided as a service to our customers. This Lamp Material Information Sheet contains the Material Safety Data Sheet information that is applicable.

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### SECTION 1: PRODUCT IDENTIFICATION

Trade Name: SATCO HYGRADE

- This data sheet is inclusive of all "White" linear (Warm White, Cool White, Daylight, etc., 700, 800, 900 series triphosphor), SATCO "ENV" brand, Shatterproof linear, T5, T8, T10 and T12, U-Bend, and Circline lamps for general lighting applications
- This data sheet is not intended to cover compact fluorescent or special application lamps including blacklight, germicidal, colored, plant, or aquarium lamps.

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### SECTION 2: LAMP MATERIALS AND HAZARDOUS INGREDIENTS

#### Glass & Metal

The glass tube used is soda-lime glass and similar to that used in the glass industry for common consumer items. The end-caps are aluminum. The filaments, also called cathodes, are tungsten. Other than the usual concerns of broken glass, these materials do not pose a hazard in the event that the lamp breaks.

#### Phosphor

The products line use two different phosphor mixes, depending on color rendering index (CRI). The lower CRI mix (halo phosphate) 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 higher CRI mix (tri-phosphor) 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**

Small quantities of mercury are present in any fluorescent lamp. The amount of mercury used currently in any particular lamp will fluctuate depending on both the dimensions of the lamp and the designed life of the lamp. Smaller, shorter life lamps generally have lower mercury content.

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**SECTION 3: PHYSICAL/CHEMICAL PROPERTIES**

Not Applicable to Intact lamp.

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**SECTION 4: FIRE AND EXPLOSION HAZARDS**

Not applicable. Under extreme high temperatures, the glass might crack

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**SECTION 5: REACTIVITY DATA**

Stability: Stable

Incompatibility: None for intact lamp

Hazardous Polymerization: Not applicable

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**SECTION 6: HEALTH HAZARDS**

EXPOSURE TO INTACT LAMPS DOES NOT POSE ANY KNOWN HEALTH HAZARDS

**Glass**

Take normal care with broken glass.

**Phosphor**

As with most inorganic compounds, antimony, manganese, yttrium, and tin are characterized by OSHA as hazardous chemicals. However, they have low toxicity, are insoluble, and are present in very small amounts in the lamp; therefore these compounds are not a significant hazard in the event that the lamp breaks.

**Mercury**

If a small number of lamps are broken, the mercury and/or phosphor concentration in the air should not cause significant exposure to people nearby. If large numbers of lamps are broken, clean-up personnel should use appropriate industrial hygiene monitoring and controls to minimize airborne or surface contamination levels. Personal protective equipment may be needed.

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**SECTION 7: DISPOSAL CONCERNS**

Take normal precautions for broken glass. Avoid generating dust; personal protective equipment may be needed. Avoid generating dust; personal protective equipment may be needed.

Contains mercury. A Toxicity Characteristic Leaching Procedure (TCLP) test was done on these lamps, and they passed the test, being below the limit of 0.200 milligrams of mercury per liter of leachate. Manage in accord with disposal laws. See: [www.lamprecycle.org](http://www.lamprecycle.org)