

Material Safety Data Sheet (MSDS) LED MODULES

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INFORMATION AND APPLICABILITY

The Material Safety Data Sheet (MSDS) requirements under the Occupational Safety and Health Administration (OSHA) Hazards Communications are **not applicable** in the case of Solid State Lighting (LEDs) Modules, Lamps or Fixtures. The OSHA standard cited here is; **29 CFR 1910.1200**

State and local regulations also contain similar exemptions for such articles. Materials contained in the lamp are not released during normal use and operation. The following information is provided as a courtesy to our customers.

I. PRODUCT AND COMPANY IDENTIFICATION

Product Description: GTSOLM21 or GTSOL5498. ("SOLSTICE" Series of LED modules & retrofit kits)
 Manufacturer: **GLOBAL TECH LED, LLC • 8901 Quality Rd • Bonita Springs, FL 34135 • 1-877-748-5533**

II. COMPOSITION / HAZARDOUS INGREDIENTS

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

Lamp Assembly – Glass and Metal – The glass is made from soda lime similar to that used throughout the glass industry for other common consumer items. The metals for the adapters and LEDs are generally made from various amounts of aluminum, tin, copper, zinc, and nickel. None of these materials would present a potential hazard in the event of breakage of the lamp, aside from the hazard due to broken glass.

Phosphor in LEDs – (nuisance dust) phosphate mix using manganese, rare earth elements such as lanthanum, and yttrium as either an oxide or as a phosphate, along with a barium/aluminum oxide all are tightly bound in the phosphor matrix. These phosphors produce better lamp efficiency and color rendition. The phosphor components may vary slightly depending on the color of the lamp. Some lamps may contain a thin coating of tin oxide inside the glass.

LEDs – The LEDs consist of metal and InGaN (Indium Gallium Nitride) semiconductor chip. Due to their insolubility and inertness, these materials do not present a significant hazard.

III. PHYSICAL & CHEMICAL PROPERTIES

Chemical characteristics are not applicable.

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LEDs/MODULES/LAMPS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken lamps. The major hazard from broken LEDs / Modules / Lamps is the possibility of sustaining glass cuts. Dust generated during fabrication, assembly or breakage of this product may be considered a "nuisance particulate." Global Tech LED recommends wearing eye protection when working with LED's. Do not look directly at lighted LEDs without proper eye protection.

Phosphor

There have been no significant adverse effects on humans by ingestion, inhalation, skin contact, or eye contact. Antimony, manganese, yttrium and tin compounds are characterized by OSHA as hazardous chemicals; however, due to their insolubility, relatively low toxicity and small amount present in the phosphor and lamp, these materials do not present a significant hazard in the event of breakage of the lamp.

Glass

Glass dust is considered to be physiologically inert and as such has an OSHA exposure limit of 15-mg/cubic meter for total dust and 5-mg/cubic meter for respirable dust. Perform normal first aid procedures. Seek medical attention as required.

Inhalation

If discomfort, irritation or symptoms of pulmonary involvement should develop, remove from exposure and seek medical attention.

Ingestion

In the unlikely event of ingestion of a large quantity of material, seek medical attention.

Contact Eye/Skin

Wash eyes/skin, including under eyelids, immediately with water and seek medical attention.

IV. PROCEDURES FOR DISPOSAL

This item is not considered hazardous waste. Global Tech LED, LLC recommends Recycling spent components.

Take the usual precautions for collection of broken glass. Place materials in closed containers to avoid generating dust.

For further information on disposal/recycling, consult and abide by applicable Federal, State and Local regulations.