

Product Safety Data Sheet

Safety Data Sheet (SDS), or Material Safety Data Sheets (MSDS)

Information and Applicability

Safety Data Sheet (SDS) requirements, known as 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 LED lamps and fixtures. Therefore, lamps and fixtures are exempt from the Safety Data Sheet (SDS) requirements in 29 CFR 1910.1200.

The following Product Safety Data Sheet contains applicable Safety Data Sheet information. Note that no material contained in a lamp or a fixture is released during normal use and operation.

1. Product Identification

Forest Lighting Brand LED Lamp and Fixture

Forest Lighting

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Suite D

Marietta, GA 30067

800-994-2143

2. Hazard Identification

There are no substances contained within a LED lighting product that would cause the lamp or fixture to be classified as hazardous waste or universal waste.

3. Lamp and Fixture Composition and Ingredient Information

Glass and Metal Materials

The glass lens used in some LED lamp is manufactured from soda-lime glass and is essentially similar but not identical to that used throughout the glass industry for incandescent lamp, bottles and other common consumer items. Some of the glass lens may contain a thin coating of clay and silica inside the surface of the glass. The lamp bases are generally nickel-plated brass or aluminum. Many LED lamp and fixture also contains aluminum, in the housing material, and steel. None of these materials would present a hazard in the event of breakage of the lamp and fixture, aside from the obvious hazard due to broken glass.

Plastic

The plastic covering used in some LED lamp and fixture is manufactured from polycarbonate, the base housing contains PBT (polybutylene-terephthalate) and is essentially like that used throughout the plastics industry for other common consumer products and common construction materials.

Light Emitting Diode Packages

The composition of the LED Package that produces white light consists of metals, phosphor, plastics and InGaN (Indium Gallium Nitride) semiconductor chip(s). Due to their insolubility and inertness, these materials do not present a hazard.

Electronic Driver

The electronic driver is built into the lamp or fixture 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. LED drivers do not contain Lead solder.

4. First Aid Measures

Not applicable to intact lamp and fixture during normal use and operation.

5. Fire-Fighting Measures

No special precautions necessary for fire fighters.

6. Accidental Release Measures

No special precautions necessary upon accidental breakage other than the obvious precautions for cleaning up broken glass. Protective gloves should be worn when cleaning up broken glass.

7. Handling and Storage

New lamp and fixture being held for use should remain in their original packaging, or other protective packaging, and should be placed in a dry storage area that minimizes any risk of accidental breakage.

8. Exposure Controls/Personal Protection

While much cooler than incandescent lamp and traditional light fixture, LED lamps and fixtures bases can be warm or even hot to the touch when operating. Lamps and fixtures should be allowed to cool before handling or changing. Protective gloves are recommended to change lamp and fixture while still hot.

9. Physical and Chemical Properties

Not applicable to intact lamp and fixture.

10. Stability and Reactivity

Not applicable to intact lamp and fixture.

11. Toxicological and Health Information

There are no known toxicological health hazards from exposure to LED lamps and fixtures that are intact. If the lamp or fixture is broken and bare LEDs are exposed and still operating, do not look directly into a bare LED for any extended period-of-time or extreme eye discomfort can temporarily occur due to very high brightness.

12. Ultraviolet (UV) Energy

In general, there is very little UV energy emitted by LED lamp and fixture. The Ultraviolet energy emitted by LED lamp and fixture complies with IEC standard, 62471, The Photobiological Safety of Lamp and fixture.

13. Disposal Considerations

TCLP

A Toxicity Characteristic Leaching Procedure Test (TCLP) test conducted on LED (Light Emitting Diode) lamp or fixture would not cause the lamp or fixture to be classified as hazardous waste for disposal. There are no special disposal requirements for LED lamps or fixtures.

Recycling

It is recommended that users recycle LED lamps and fixtures at the end of their life, especially if being disposed in significant quantities. Most traditional lamp and fixture recyclers will recycle LED lamp and fixture. For a list of recyclers, go to www.lamprecycle.org.

We also recommend you review your waste handling practices to assure that you dispose of waste lamp and fixture properly and contact your state environmental department if there are any questions about state regulations that may apply.