

Material Safety Data Sheet
LED Fixture
Cree, Inc.

No. 1010

Section 1: Identification

Cree, Inc.
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Product Name: **Cree LED FIXTURE (Luminaires)**

Product Identification (Package Types Included):

All product code designations

IMPORTANT NOTE: Cree's LED FIXTURE meet the requirements of an "Article" according to 29 CFR 1910.1200 (c) as described in Section 2.2 of this material safety data sheet (MSDS). MSDSs are not required for articles. As a service to customers, Cree provides Material Safety Data Sheets, formatted to ANSI A400.1-2004 and providing information as available for LED FIXTURE.

Section 2: Hazards Identification

Cree LED FIXTUREs are electronic devices. When used as intended, Cree LED FIXTUREs do not have any special health or safety hazards

For product applications, please see individual product specifications at:

<http://www.cree.com/lighting/products>

As a service to customers, this MSDS does provide information about hazards that may result if the products are damaged, broken, abraded, or reduced in size by mechanical means or if the products are used improperly.

NFPA Rating: Health 1 Fire 0 Reactivity 0

Primary Routes of Entry of Particulate: Ingestion, Eye/Skin Contact.

Effects of Overexposure:

Skin Exposure: Minor laceration and/or abrasion may occur if product is broken and comes into contact with skin. Alteration/damage to the product can result in exposure to electrical hazards.

Eye Exposure: Injury may occur if product is altered or damaged resulting in prolonged direct exposure to the eyes of unfiltered light from LEDs.

2.1 Emergency Overview

This article is essentially inert under most conditions including those most likely to be present in a fire or other emergency situation. Broken pieces of the article may form sharp edges and thereby cause lacerations if not handled properly.

2.2 OSHA Regulatory Status

This product, when intact, is not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200. This product is exempt from OSHA's Hazard Communication Standard requirements for an MSDS because it meets the definition of an "article". An article is a manufactured item: (1) which is formed to a specific shape or design during manufacture (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (3) which does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use. Any product which meets the definition of an "article" is exempt from the requirements of the Standard.

2.3 Potential Health Effects

Inhalable dust and particulates may be generated if fixture components are pulverized. As with any particulate matter, respirable particles may cause mechanical irritation of the respiratory tract.

2.4 Potential Environmental Effects

This material is not considered to be harmful to aquatic life.

Section 3: Composition/Information on Ingredients

Component	CAS No.	Percent by Weight
Matrix of various metals, silicones and plastics	various	100%

Section 4: First Aid Measures**Emergency and First Aid Procedures**

Eyes: Not Applicable

Skin: Wash with soap and water. Treat lacerations using standard first aid procedures. Seek medical attention.

Inhalation: Not Applicable

Section 5 – Fire Fighting Measures**5.1 Flammable Properties**

Flash point: Not Applicable

Lower/Upper Explosive Limit: Not Applicable

5.2 Extinguishing Media: Water, CO₂, and sand.

Extinguishing Media to Avoid: None

5.3 Protection of Firefighters

Hazardous Decomposition Products: In normal combustion, CO₂ and CO.

Unusual Fire and Explosion Data: Material may be electrically conductive.

Protective Equipment and Precautions for Firefighters: Standard protective equipment and precautions – Self-contained breathing apparatus (SCBA) and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Pieces of broken fixture components may form sharp edges and fine particulate matter can be created. Sweep up loose material while wearing eye protection, respiratory protection, and gloves as needed to prevent irritation and/or lacerations. Place gathered material in an impermeable container and label appropriately.

Section 7: Handling and Storage

Use normal good material and housekeeping practices to avoid breakage.

Section 8: Exposure Controls/Personal Protection**8.1 Exposure Guidelines**

Component	OSHA PEL		ACGIH [®] TLV [®]		NIOSH REL	
	Total	Respirable	Total	Respirable	Total	Respirable
Certain components had exposure limits established at the time of publication. Columns to the right provide applicable ranges	0.05 mg/m ³ - 15 mg/m ³	5 mg/m ³	0.05 mg/m ³ - 10 mg/m ³	1 mg/m ³ - 3 mg/m ³	0.05 mg/m ³ - 10 mg/m ³	5 mg/m ³

Notes:

- 1) NE = None Established.
- 2) OSHA = U.S. Occupational Safety and Health Administration, PEL= Permissible Exposure Limit, 8-Hour Time Weighted Average.
- 3) ACGIH[®] = American Conference of Governmental Industrial Hygienists, TLV[®] = Threshold Limit Value, 8-Hour Time Weighted Average.
- 4) NIOSH = National Institute for Occupational Safety and Health, REL = Recommended Exposure Limit, 8-Hour Time Weighted Average.

- 5) mg/m^3 = milligrams per cubic meter of workroom air, measured within employee's breathing zone.

8.2 Engineering Controls

If a fixture is damaged in a manner where direct exposure to the LED light emissions is possible and can cause uncomfortable lighting levels, remove power from the fixture, and repair or replace the damaged portion before returning it to service.

If any materials are to be processed in such a manner as to create particulates (mechanical breaking as part of end of product life disposal and recycling), use exhaust ventilation and/or wet working methods to minimize release of particulate to workroom air and employee breathing zone.

8.3 Personal Protective Equipment

- 8.3.1 Respiratory: None required under normal use conditions. Appropriate local ventilation or an air purifying respirator should be used if the articles are being abraded or reduced in size using mechanical methods.
- 8.3.2 Skin Protection: Rubber/neoprene or other impermeable gloves should be worn if risk of breakage is present.
- 8.3.3 Eye/Face Protection: Wear safety glasses with side shields to avoid chance of product getting into unprotected eye. If service personnel need to work with an energized fixture without light diffusers and filters installed, appropriate light filtering eye wear should be used.

8.4 General Hygiene Considerations

Workers should wash their face and hands prior to eating, drinking, or smoking.

8.5 Additional Exposure Information

Section 9: Physical and Chemical Properties
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Boiling Point:	None	Volatile by Weight:	$<0.01\%$
Sublimes at:	$\sim 500^\circ\text{C}$	Vapor Pressure:	Negligible at room temp.
Evaporation Rate:	0	Vapor Density:	Negligible at room temp.
Solubility in Water:	Insoluble.	Density:	Not applicable
Appearance:	Solid	Odor:	None

Section 10: Stability and Reactivity

Hazardous Polymerization:	Will not occur.
Stability:	Stable.
Materials to Avoid (incompatibility):	None known.

Section 11: Toxicological Information

Carcinogenicity: Some components within the power supply of the LED FIXTURE may contain carcinogens listed by IARC, but these quantities typically are well below 0.1% of the total product weight.

Section 12: Ecological Information

Not applicable.

Section 13: Disposal Considerations

Waste Disposal Method: Disposal must be in compliance with all Federal, local and state laws and regulations. Local requirements may be more stringent than regional or national requirements. Most electronic products should be recycled whenever practical.

Section 14: Transport Information

This material is not classified as a hazardous material or dangerous good by the U.S. Department of Transportation, the International Air Transport Association, or the International Civil Aviation Organization.

Section 15: Regulatory Information

Content declarations for other regulations (RoHS, REACH, etc) pertinent to these products are available on the Cree website: <http://www.cree.com/environmental/index.asp>.

U.S. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product may contain chemical(s) known to the State of California to cause cancer:

Lead and lead compounds

Antimony and antimony compounds

Section 16: Other Information

Reserved

Disclaimer

The information contained in this Material Safety Data Sheet is supplied in conformity with 29 CFR 1910.1200 of the OSHA Hazard Communication Standard. The information set forth herein is presented in good faith and believed to be correct. Cree, Inc., however, makes no representations as to the completeness or accuracy thereof. The purchaser is solely responsible for compliance with all applicable laws and regulations concerning the use of this product. Cree, Inc. assumes no liability or responsibility for its use.

Prepared By: Cree, Inc., Product Compliance Department

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