Compact Fluorescent Safety Data Sheet (SDS) SDS-001 rev | Issue date: 05.21.19

Section 1. IDENTIFICATION

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This document pertains to all Longstar CFL items.

Longstar's CFL Lamps meet the requirements of an "Article" according to 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.

Section 2. HAZARDOUS IDENTIFICATION

GHS classification in accordance with 29 CFR 19100.1200

Not a hazardous substance according to OSHA GHS.

Component	CAS#	Weight
Glass	308066-74-2	99.33
Phosphor Powder (as		
nuisance dust)	NA644	0.1
Yttrium oxide (Y2O3)	1314-36-9	0.12
Barium carbonate	513-77-9	0.1
Manganese carbonate	598-62-9	0.1
Mercury	7439-97-6	0.25

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

Section 4. FIRST-AID MEASURES

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT AND USED AS INTENDED. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice, avoid prolonged or frequent exposure tor broken lamps unless there is adequate ventilation. The major hazard from broken lamps is the possibility of sustaining glass cuts, apply normal first-aid.

Section 5. FIRE AND EXPLOSION HAZARDS

NOT APPLICABLE TO AN INTACT LAMP THAT IS USED AS INTENDED.

Flammability: Non-combustible Fire Extinguishing: Use extinguishing agents suitable for surrounding fire. If exposed to extreme heat the plastic and glass components may crack or melt and may release toxic fumes. Lamp may be electrically conductive.

Section 6. ACCIDENTAL RELEASE MEASURES

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT AND USED AS INTENDED. Breakage of lamp may result in some exposure to phosphor powder and elemental mercury. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice avoid prolonged exposure through the use of adequate ventilation during clean up or disposal.

Mercury: The mercury in the air as a result of breaking one or a small number of fluorescent lamps should not result in significant exposures to an individual. However, when breaking a large number of lamps for disposal, appropriate industrial hygiene monitoring and controls should be implemented to minimize airborne levels or surface contamination. We recommend a well-ventilated area, and local exhaust ventilation or personal protective equipment.

Phosphor Powder (as nuisance dust): 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 of 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.

Eye/Skin Contact: Wash eyes/skin, including under eyelids, immediately with copious amounts of water and seek medical attention.

Section 7. HANDLING AND STORAGE

Use good material handling and storage practices to avoid breakage. Take usual precautions for collection of broken glass. Place materials in closed containers to avoid generating dust. All compact fluorescent lamps contain some amount of mercury. The EPA recommends that if a CFL breaks carefully sweep up all the fragments—wipe the area with a wet towel and dispose of all fragments, including the used towel, in a sealed plastic bag. Follow all disposal instructions. If possible open windows to allow the room to ventilate. Do NOT use a vacuum. Place all fragments in a sealed plastic bag and follow disposal instructions. All disposal options should be evaluated with respect to federal, state, and local laws and requirements. Before disposing check with officials for current CFL disposal regulations.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If lamp breaks, sharp edges and dust can be created. Wear eye protection, gloves, and respiratory protection when cleaning up breakage. Contain in closed container and dispose based on applicable Federal, State, and local regulations.

Ventilation: Avoid prolonged exposure through the use of adequate ventilation during clean up or disposal. **Respiratory:** Use NIOSH approved respirator if large quantities of lamps are being broken for disposal **Hand and Eye Protection:** OSHA specified safety glasses, goggles, or face shield and puncture resistant gloves are recommended if lamps are being broken

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid, white Upper/lower flammability or explosive limits: NA Odor: None Vapor Pressure: 0 Odor Threshold: NA Vapor Density: 0 pH: NA Relative Density: NA Melting Point: ~500C Solubility: Insoluble

Section 10. STABILITY AND REACTIVITY

Reactivity: NA Chemical Stability: Stable

Section 11. TOXICOLOGICAL INFORMATION

Mercury (Hg) is less than 0.025% by weight.

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

Section 12. ECOLOGICAL INFORMATION

NA

Section 13. DISPOSAL CONSIDERATIONS

The EPA recommends that if a CFL breaks carefully sweep up all the fragments—wipe the area with a wet towel and dispose of all fragments, including the used towel, in a sealed plastic bag. Follow all disposal instructions. If possible open windows to allow the room to ventilate. Do NOT use a vacuum. Place all fragments in a sealed plastic bag and follow disposal instructions.

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

RoHS content declaration available upon request.

Section 16. OTHER INFORMATION

Although Xiamen Longstar Lighting Co., Ltd attempts to provide current and accurate information herein, it makes no representations regarding the accuracy of completeness of the information and assumes no liability for any loss, damage or injury of any kind which may result from or arise out of the use of/or reliance on the information by any person.