



Lamp Material Information Sheet

Material Safety Data Sheets (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. The following Lamp Material Information Sheet contains applicable Material Safety Data Sheet information.

I. Product Identification

GE Lucalox Lamps

GE Consumer & Industrial Lighting

1975 Noble Road
Nela Park
Cleveland, OH 44112
(216) 266-2222

II. Lamp Materials and Hazardous Ingredients

Lamp Content

Lucalox lamps consist of an inner, high purity alumina ceramic tube enclosed in an outer envelope of heat-resistant glass that contains 5-10% lead. The small amount of lead used in the glass does not affect the results of the TCLP test. Depending on the lamp type, the envelope is either clear or coated with a diffusing material. The material used as a diffuser on the coated lamps is a specially prepared aluminum oxide.

The ceramic tube contains a very small amount of sodium/mercury amalgam, ranging from 8.3 mg mercury in a 50-watt lamp up to 25 mg in a 1000-watt lamp. The sodium/mercury ratio varies from approximately 1/10 to 1/3. The fill gas used in the ceramic tube is high purity xenon gas, considered to be inert. The electrodes in the arc tube are manufactured from tungsten and are coated with an emission mix of barium calcium tungstate. Neither of these materials presents a significant exposure risk due to their physical form and insolubility. The support structure of the lamp uses nickel-plated iron or stainless steel wires.

III. Health Concerns

Exposure

The air concentration of mercury resulting from the breakage of one or a small number of tubes should result in no significant exposure to the individual. This is due in part to the small amount of mercury amalgam present in the lamp, and also to the use of an external amalgam reservoir. All of the sodium/mercury amalgam, except for the amount that is present as a vapor in the arc tube during operation, remains in the external reservoir. However, when breaking a large number of lamps for disposal, appropriate monitoring and controls should be implemented to control airborne levels or surface contamination. We recommend that such work be done in a well-ventilated area, and local exhaust ventilation or personal protective equipment may be needed.

Other than the normal concerns for electrical safety, there are no safety issues involved with Lucalox lamps during normal use. As for disposal, no special precautions are necessary since the amalgam is contained in the external amalgam reservoir and in the inner arc tube. Unlike broken low pressure sodium lamps, high pressure sodium lamps will not react with water.

Although the lamp does contain a small amount of mercury, as an amalgam with the sodium, there is very little ultraviolet light emitted by the lamp

IV. Disposal Concerns

TCLP

A Toxicity Characteristic Leaching Procedure (TCLP) test conducted on the lamp for lead could cause the lamp to be classified as a hazardous waste. Lucalox lamps use lead solder on the base of the lamp. The lead solder should pose little risk of exposure under normal use and handling. While small numbers of these lamps placed in the ordinary trash should not appreciably effect the nature or method of disposal of the trash in most states, under some circumstances disposal of large quantities may be regulated. You should review your waste handling practices to assure that you dispose of waste lamps properly. Please check with state environmental departments regarding individual state disposal requirements.

Lead-free Lucalox lamps that consistently pass the TCLP test are available and marketed under the ECOLUX® trade name. For more information on Ecolux High Pressure Sodium lamps visit www.gelighting.com.