

SAFETY DATA SHEET

Manufactured fluorescent lamps are exempt from the requirements of OSHA Hazard Communication **Standard 29CFR1910.1200**. Defined as manufactured “articles,” an individual would not be subject to the materials contained inside during normal intended use. Light Sources, Incorporated provides this safety data sheet as a courtesy to its customers to provide relevant information in the event the article it covers encounters unintended or abnormal circumstances.

1. IDENTIFICATION:

1.1 Product name: **Light Sources, Incorporated Quartz Germicidal Lamps**

1.2 Product uses: **Professional use only.**

1.3 Manufacturer: **Light Sources, Incorporated
37 Robinson Boulevard
Orange, CT 06477**

1.4 Supplier: **Light Sources, Incorporated
37 Robinson Boulevard
Orange, CT 06477**

1.5 Emergency Contact: **Light Sources, Incorporated
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Orange, CT 06477
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1.6 SDS Prepared by: **Light Sources, Incorporated
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2. HAZARD IDENTIFICATION:

2.1 Product Hazards:
There are no known health hazards from exposure to intact, un-energized lamps.

2.2 Other Hazards:
See section 9, 11, and 12.

3. COMPOSITION:

3.1 Ingredients and Exposure Limits:
There are no known health hazards from exposure to intact, un-energized lamps. If a lamp is broken the following materials may be released:

Ingredients	CAS-number	Quantity (%)	Exposure Limits in Air (mg/cubic meter)	
			OSHA PEL	ACGIH TLV
Quartz (Fused Silica) *	60676-86-0	75-90	0.1	0.1
Mercury	7439-97-6	<0.1	0.10	0.025
Tin	7440-31-5	0-<1	2.0	2.0
Lead	7439-92-1	0-<1	0.05	0.05
Argon	7440-37-1	0-<1	**	**
Neon	7440-01-9	0-<1	**	**
Xenon	7440-63-3	0-<1	**	**

* When quartz tubing is heated to working temperatures, the silica vapors given off condense as amorphous silica. Amorphous silica has an exposure limit of 10mg/cubic meter per OSHA and 0.025mg/cubic meter per ACGIH.

** The TLV for a simple asphyxiant is a minimum atmospheric oxygen content of 18% by volume, at 1 atmosphere pressure.

4. FIRST AID MEASURES:

4.1 First Aid:

None applicable to intact lamps.

4.2 Other:

See section 8 and 11.

5. FIRE FIGHTING MEASURES:

5.1 Combustibility:

Non-combustible

5.2 Extinguishing Agents:

Use an extinguishing media that is suitable for surrounding the fire such as extinguishing powder, foam, or water.

5.3 Special Fire Hazards:

When exposed to high temperatures, toxic vapors may be released from broken lamps.

5.4 Firefighting Hazards:

Use a self-contained breathing apparatus to prevent the inhalation of dust and/or fumes that may be generated from broken lamps during firefighting activities.

5.5 Post Fire:
All contaminated extinguishing media must be contained and disposed of in accordance with federal, state, and local requirements.

6. ACCIDENTAL RELEASE MEASURES:

6.1 Incidental Breakage:
Incidental breakage of a lamp may result in exposure to elemental mercury. No adverse effects are expected, however; prolonged or frequent exposure should be avoided through the use of adequate ventilation when disposing of large quantities of lamps.

6.2 Method for Cleaning Up a Broken Lamp:
If lamps are broken, ventilate the area where the breakage occurred. Take the usual precautions for collecting broken glass. Clean up with a mercury vacuum cleaner or with other suitable means that avoids dust and mercury vapor generation. DO NOT USE A STANDARD VACUUM CLEANER. Place collected materials in a closed container to avoid generating dust.

Additional guidance on cleaning up broken lamps may be obtained at: <http://www2.epa.gov/cfl/cleaning-broken-cfl#instructions>.

6.3 Personal Precautions and Protective Equipment:
Use personal protective clothing under adequate ventilation to maintain exposure levels below the OSHA PEL or TLV limits. After handling broken lamps, remove protective clothing and thoroughly wash hands before eating, smoking, or using toilet facilities. Normal precautions should be taken for collecting broken glass.

6.4 Environmental precautions:
Dispose of spent and broken lamps in accordance with all applicable federal, state, and local requirements.

Additional guidance on the disposal of fluorescent lamps may be obtained at: <http://www.lamprecycle.org/>

6.5 Reference to other sections:
See section 7. 8. and 13.

7. HANDLING AND STORAGE:

7.1 Precautions for Safe Handling and Storage:
Use proper personal protective equipment to protect hands and eyes when installing and removing intact lamps. Keep lamps packaged in a closed and labeled container. Store in a cool, well-ventilated area away from direct sunlight, heat, and sources of ignition.

7.2 Storage Incompatibility and Special Requirements:
None for intact lamps.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION:

8.1 Exposure Limit Values:
See section 3.1

8.2 Occupational exposure controls:
Use adequate ventilation and other engineering controls to maintain exposure levels below the PEL limits. If proper ventilation is unavailable, use only NIOSH approved respirators in airborne dust concentrations that exceed the exposure limits.

8.3 Personal protective equipment:
Use OSHA recommended safety glasses, goggles, or face shields when handling broken lamps. Protect hands and skin by use of appropriate protective gloves and outerwear. Use only NIOSH approved respirators when airborne dust concentrations exceed the exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES:

9.1. Physical and chemical properties:
Not applicable to an intact lamp.

10. STABILITY AND REACTIVITY:

10.1 Reactivity: Stable under normal conditions.

10.2 Chemical stability: Stable under normal conditions.

10.3 Hazardous reactions: None for intact lamps.

10.4 Materials to avoid: None for intact lamps.

10.5 Hazardous decomposition of products: Hazardous decomposition of an intact lamp will not occur.

11. TOXICOLOGICAL INFORMATION:

11.1 Toxic Effects:
There are no known health hazards from exposure to intact, un-energized lamps. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice, avoid prolonged or frequent exposure to broken lamps unless there is adequate ventilation. The major hazard of broken lamps is the possibility of sustaining injuries due to broken glass.

11.2 Toxic Effects of Overexposure to Broken Lamps by Inhalation, Ingestion, or Contact with Skin or Eye:

Mercury: Exposure to high concentrations of mercury vapors for brief periods can cause acute symptoms such as pneumonitis (inflammation of lung tissue), chest pains, shortness of breath, coughing, gingivitis, salivation, and possibly stomatitis (inflammation of the mouth and lips). Chronic exposure may cause tremors and neuropsychiatric problems. Contact with the skin or eyes may result in redness to exposed areas.

Inert gases: Inert gases such as Argon, Neon, and Xenon can cause asphyxia by displacing the ambient oxygen. Some symptoms of asphyxia are headache and dizziness.

Lead: Avoid any Ingestion or inhalation of dust or fumes. Lead is a toxic and cumulative substance, affecting the kidneys, reproductive system, and nervous system. Symptoms of chronic overexposure include anemia, insomnia, weakness, irritability, constipation and stomach pains.

Quartz glass: Glass lacerations are the primary potential hazard of this product. The dust produced in cutting or grinding glass, when in excess of OSHA TLV and PEL limits, may result in respiratory irritation and possible lung disease (silicosis). Symptoms include coughing, wheezing, and respiratory distress.

Tin: Although not considered toxic, excessive exposure can cause fever, nausea, stomach cramps or diarrhea. The chemical inertness and insolubility of this material is expected to reduce the potential for systemic lead toxicity as noted above.

12. ECOLOGICAL INFORMATION:

12.1 Ecological Release:

Do not release to public or private sewer, surface water, or ground water.

13. DISPOSAL CONSIDERATIONS:

13.1 Waste Management:

It is the responsibility of the generator to ensure proper classification and ultimate disposition of all waste products. Dispose of spent and broken lamps in accordance with all applicable federal, state, and local requirements.

14. TRANSPORT INFORMATION:

14.1 As a Product:

As a product, mercury-containing lamps, when shipped in the manufacturer's original packaging, are not regulated by air, truck, or ocean shipment.

14.2 As a Waste:

As a waste, mercury-containing lamps may be regulated in various states and local communities. This safety data sheet does not constitute "knowledge of the waste" in all jurisdictions. Dispose of spent and broken lamps in accordance with all applicable federal, state, and local requirements

15. REGULATORY INFORMATION: (Reserved)

16. OTHER INFORMATION:

Revisions:

Date of revisions	Version Number	Changes
7-20-2015	1.0	Original document

This safety data sheet (SDS) had been prepared on the basis of information provided by the manufacturer.

The information, data, and recommendations contained herein are provided in good faith, obtained from reliable sources, and believed to be true and accurate as of the date issued. No representation is made as to the comprehensiveness of the information. This SDS shall be used only as a guide for handling the product under normal operating conditions. In the course of

handling and using the product, other considerations may arise or be required. Since the conditions of handling, storage, and disposal of this product are beyond the control of the manufacturer, distributor, and preparer; no warranty, expressed or implied, regarding the product described shall be created or inferred by any of the statements contained within this SDS. No responsibility is assumed regarding the accuracy, completeness, or suitability of any or all of the information contained herein nor other results obtained from the use thereof at any given time. In no way shall the manufacturer, distributor, or preparer of this SDS be liable for any claims, losses, or damages of third parties, personal injury, property damage, lost profits, or any special, direct, indirect, incidental, consequential or exemplary damages resulting from the use of or reliance upon this information. Users are cautioned to determine the appropriateness and applicability of this information to their particular circumstances and purposes and, therefore; will assume all risks associated with the use of this product. It is the responsibility of the user to fully comply with local, state, national, and international regulations concerning the use and disposal of this product.