PSDS 1.1

PRODUCT SAFETY DATA SHEET
PSDS No. 1.1
FLUORESCENT LAMPS

SLi LIGHTING

Sli brand Fluorescent Lamps, manufactured by Sli INC./Sli LIGHTING , are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are "articles." The following information is provided by Sli LIGHTING . as a courtesy to its customers.

I. PRODUCT IDENTIFICATION

Trade Name: **Sli Fluorescent Lamps**

- This data sheet covers Sli Lighting (Cool White, Warm White, Daylight, etc; 700, 800, 900 series triphosphor) standard and Sli Luxline Fluorescent Lamps for General Lighting.
- This data sheet does not cover compact* fluorescent nor plant, aquarium/vivarium, photocopy, germicidal, blacklight, or any colored fluorescent lamps.
  *See PSDS No. 1.1.5 for Compact Fluorescent Lamps.

Manufacturer:

Sli Lighting
122East Laurel Street
Mullins, SC 29574
1(800) 922-6693

II. HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FORM EXPOSURE TO LAMPS THAT ARE INTACT.
If the lamp is broken, the following materials may be released:

Chemical Name	CAS Number	% by wt.	Exposure Limits in Air (mg/cubic m) ACGIH (TLV)	OSHA (PEL)
Glass (soda-lime)	-----	75-95	10 (2)	15(2)
Mercury(1,4)	7439-97-6	<0.01-<0.05	0.025	0.1 Ceiling
Lead Oxide(1,3,4)	1317-36-8	0.2-2.0	0.05	0.05
Aluminum Oxide	001-344-281	0-2.0	10(2)	15(2)
Fluorescent Phosphor and cathodes may contain:	-----	0.5-3.0	10(2)	15(2)
Fluoride (as F)	-----	0-0.1	2.5	2.5
Manganese(3) (as dust)	7439-96-5	0-0.1	0.2	5.0 Ceiling
Tin(3) (as dust)	7440-31-5	0-0.1	2.0	2.0
Yttrium(3) (as dust)	7440-65-5	0-0.5	1.0	1.0
Barium(3) (as dust)	7440-39-3	<0.1	0,5	0.5
Tungsten(3) (as dust)	7440-33-7	<0.1	1	15(2)

PSDS 1.1

Strontium[3] (as dust)	7440-24-6	0-0.1	10[2]	15[2]
Magnesium[3] (as dust)	7439-95-4	0-0.1	10[2]	15[2]
Calcium[3] (as dust)	—	0-0.1	10[2]	15[2]
Antimony[3] (as dust)	7440-36-0	0-0.1	0.5	0.5
Zinc[3] (as dust)	7440-66-6	0-0.1	10[2]	15[2]
Europium[3] (as dust)	7440-53-1	0-0.1	10[2]	15[2]
Cerium[3] (as dust)	7440-45-1	0-0.1	10[2]	15[2]
Lanthanum[3] (as dust)	7439-91-0	0-0.1	10[2]	15[2]
Terbium[3] (as dust)	7440-27-9	0-0.1	10[2]	15[2]
Aluminum[3] (as dust)	7429-90-5	0-0.1	10[2]	15[2]

(1) These chemicals are subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
(2) Limits as nuisance particulate.
(3) These elements are contained in the material as part of its chemical structure; the material is not a mixture.
(4) The mercury and lead in this product are substances known to the state of California to cause reproductive toxicity if ingested. [California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).]

III. PHYSICAL PROPERTIES

Not applicable to intact lamp.

IV. FIRE & EXPLOSION HAZARDS

Flammability: Non-combustible.
Fire Extinguishing Materials: Use extinguishing agents suitable for surrounding fire.
Special Firefighting Procedure: Use a self-contained breathing apparatus to prevent inhalation of dust and/or fumes that may be generated from broken lamps during firefighting activities.
Unusual Fire and Explosion Hazards: When exposed to high temperature, toxic fumes may be released from broken lamps.

V. HEALTH HAZARD

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT. 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 from broken lamps is the possibility of sustaining glass cuts.

***NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards* and/or *NIOSH Pocket Guide to Chemical Hazards* lists the following effects of overexposure to the chemicals/materials tabulated below when they are inhaled, ingested, or contacted with skin or eye:**

Mercury - Contact, inhalation, or ingestion may cause one or more of the following symptoms: eye irritation, skin irritation, cough, chest pain, dyspnea, bronchitis, pneumonitis, tremor, insomnia, irritability, indecision, headache, fatigue, weakness, stomatitis, salivation, GI tract disturbance, anorexia, weight loss, and proteinuria.

Lead - Contact, ingestion, or inhalation may cause one or more of the following symptoms: weakness, lassitude, insomnia, facial palor, pal eye, anorexia, weight loss, malnutrition, constipation, abdominal pain, colic, anemia, gingival lead line, tremor, wrist paralysis, ankles paralysis, encephalopathy, kidney disease, eye irritation, and hypotension.

Glass - Glass dust is considered to physiologically inert and as such has an OSHA exposure

limit of 15 mg/M^3 for total dust and 5 mg/M^3 for respirable dust. The ACGIH TLVs for particulates not otherwise classified are 10 mg/M^3 for total dust and 3 mg/M^3 for respirable dust.

Tin - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, skin irritation, and respiratory system irritation.

Manganese - Contact, ingestion, or inhalation may cause one or more of the following symptoms: Parkinson's, asthenia, insomnia, mental confusion, metal fume fever, dry throat, cough, chest tightness, dyspnea, rales, flu-like fever, low-back pain, vomiting, malaise, fatigue, and kidney damage.

Fluoride - Fluoride-containing dust may cause irritation of the eyes and respiratory tract. Swallowing fluoride may cause a salty or soapy taste, vomiting, abdominal pain, diarrhea, shortness of breath, difficulty in speaking, thirst, weakness of the pulse, disturbed color vision, muscular weakness, convulsions, loss of consciousness, and death. Kidney injury and bleeding from the stomach may occur. Repeated exposure to fluoride may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis, and spinal column. Stiffness and limitation of motion may result. Repeated or prolonged exposure of the skin to fluoride-containing dust may cause a skin rash.

Aluminum Oxide (Alumina) - Alumina is a non-toxic material. Sharp-edged particles can irritate the eyes, skin, and respiratory system.

Phosphor - Phosphor dust is considered to 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.

Yttrium - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, pulmonary irritation, and possible liver damage.

Barium (soluble compounds) - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, skin irritation, upper respiratory system irritation, skin burns, gastroenteritis, muscle spasm, slow pulse, extrasystole, and hypokalemia.

Tungsten - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, respiratory system irritation, diffuse pulmonary fibrosis, loss of appetite, nausea, cough, and blood changes.

Antimony - Contact, ingestion, or inhalation may cause one or more of the following symptoms: eye irritation, skin irritation, nose irritation, throat irritation, mouth irritation, cough, dizziness, headache, nausea, vomiting, diarrhea, stomach cramps, insomnia, anorexia, and unable to smell properly.

EMERGENCY AND FIRST AID PROCEDURES:

Glass Cuts: Perform normal first aid procedures. Seek medical attention as required.
Inhalation: If discomfort, irritation or symptoms of pulmonary involvement develop, remove from exposure and seek medical attention.
Ingestion: In the unlikely event of ingestion of a large quantity of material, seek medical attention.
Contact, Skin: Thoroughly wash affected area with mild soap or detergent and water and prevent further contact. Seek medical attention if irritation occurs.
Contact, Eye: Wash eyes, including under eyelids, immediately with copious amounts of water for 15 minutes. Seek medical attention.

CARCINOGENIC ASSESSMENT (NTP ANNUAL REPORT, IARC MONOGRAPHS, OTHER): None

PSDS 1.1

VI. REACTIVITY DATA

Stability: Stable
Conditions to avoid: None for intact lamps.
Incompatibility (materials to avoid): None for intact lamps.
Hazardous Decomposition Products (including combustion products): None for intact lamps.
Hazardous Polymerization Products: Will not occur.

VII. PROCEDURES FOR DISPOSAL OF LAMPS

If lamps are broken, ventilate area where breakage occurred. Clean-up with mercury vacuum cleaner or other suitable means that avoids dust and mercury vapor generation. Take usual precautions for collection of broken glass. Clean-up requires special care due to mercury droplet proliferation. Place materials in closed containers to avoid generating dust.

It is the responsibility of the waste generator to ensure proper classification of waste products. To that end, TCLP tests should be conducted on all waste products, including this one, to determine the ultimate disposition in accordance with applicable federal, state and local regulations. Some states have specific disposal requirements for lamps containing mercury.

Lamps which pass the EPA's TCLP test are considered non-hazardous waste in most states. Always review your local and state regulations which can vary. Based upon the NEMA* Standard LL 1 / LL 5 (*Procedures for Linear / U-Shaped Fluorescent Lamp Sample Preparation and the TCLP*) testing protocol.

VIII. SPECIAL HANDLING INFORMATION - FOR BROKEN LAMPS

Ventilation: Use adequate general and local exhaust ventilation to maintain exposure levels below the PEL or TLV limits. If such ventilation is unavailable, use respirators as specified below.
Respiratory Protection: Use appropriate NIOSH approved respirator if airborne dust concentrations exceed the pertinent PEL or TLV limits. All appropriate requirements set forth in 29 CFR 1910.134 should be met.
Eye Protection: OSHA specified safety glasses, goggles or face shield are recommended if lamps are being broken.
Protective Clothing: OSHA specified cut and puncture resistant gloves are recommended for dealing with broken lamps.
Hygienic Practices: After handling broken lamps, wash hands and face thoroughly before eating, smoking or handling tobacco products, applying cosmetics, or using toilet facilities.

Issue Date: October 08, 1998 Supersedes: March 23, 1998

In case of any questions, please call:
Sli Lighting
Product Manager
(843) 464-0554

*NEMA (National Electrical Manufacturers Association) standard may be obtained from NEMA, 1300 North 17th Street, Suite 1847, Rosslyn, VA 22209.

SLi LIGHTING

To: Sales and Customer Service 2-2-2001

Fr: Paul Rorer

There have been a number of questions regarding the regulations for protective lighting..

Sli Silicone and Teflon coated lamps comply with the following regulations:

USDA: Fixtures must have some method of preclude broken glass from contaminating the product and prevent collection of dirt in food processing areas.

FDA: Provide safety types of lamps over any step of food preparation to protect against contamination in food processing plants.

Light bulbs that are shielded, coated or otherwise shatter resistant are required to protect exposed food, cleaning equipment, utensils and linens, and unwrapped single-service and single-use articles from glass fragments in case of bulb breakage in the food service industry.

ASME (American Society of Safety Engineers): Lights and tubes that are coated or otherwise shatter resistant or shielded are required in elevator to contain glass in case bulbs accidentally break.

CFIA (Canadian Food Inspection Service Agency): Light bulbs and fixtures over all areas of food packaging and production must be of a safety type to prevent contamination in case of breakage.

Mexican Dept of Agriculture: Processing area lamps must be covered with a protective device of unbreakable material to avoid product contamination in case of breakage.

SLi's offering of coated lamps complies with and meets current FDA, OSHA, USDA, and ASME standards in the US as well as Canadian and Mexican standards.

Paul