

100S, 100S/M and 100CF bulbs supplied by Spectronics Corporation are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are “articles.” We provide the following information as a courtesy to our customers.

Section 1. Identification of the Product and Company

PRODUCT NAME: 100S, 100S/M and 100CF
DESCRIPTION: Medium-Pressure, Mercury-Vapor Bulbs
EMERGENCY TELEPHONE #: 800-424-9300 (24 HOURS)
 CHEMTREC; Call collect outside continental U.S.: 703-527-3887.
PRODUCT INFORMATION: Spectronics Corporation, 956 Brush Hollow Road, Westbury, NY 11590, 800-274-8888.
 For calls originating outside continental U.S.: 516-333-4840.

Section 2. Composition/Information on Ingredients

Chemical Name	CAS Number	% by wt.	Exposure Limits in Air (mg/cubic m)	
			ACGIH (TLV)	OSHA (PEL)
Lead Solder (as PB) (1,2)	7439-92-1	0-<1.0	0.05	0.05
Mercury (1,2)	7439-97-6	0.01-<0.1	0.025	0.1 Ceiling
Quartz, fused Glass (Lead Borosilicate) (1,2)	60676-86-0	5-15	0.1 Resp. Dust	0.1
(as Lead Oxide, 6%) (1,2)	—	0-75	10 (3)	15 (3)
Glass (Borosilicate)	1317-36-8	—	0.05	0.05
(Yttrium Vanadate)	—	0-75	10 (3)	15 (3)
Aluminum Oxide	13566-12-6	0-<0.5	1.0	1.0
	1344-28-1	0-<0.03	10 (3)	15.(3)

- (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) The mercury and lead in this product are substances known in the state of California to cause reproductive toxicity if ingested. [California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).]
- (3) Limits as nuisance particulate.

Section 3. Hazards Identification

EMERGENCY OVERVIEW:
THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO BULBS THAT ARE INTACT. IF A BULB IS BROKEN, THE MATERIALS CITED IN SECTION 2 MAY BE RELEASED.
Carcinogenic Assessment (NTP Annual Report, IARC Monographs, Other): None.

Section 4. Physical Properties

Not applicable to intact bulbs.

Section 5. Fire and Explosion Hazards

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

Section 6. Operating Lamps with Mercury Bulbs

- WARNING:**
- Mercury lamp arc-tubes operate at high pressure and high temperature and may unexpectedly rupture.
 - If the outer jacket is broken and the lamp continues to operate, ultraviolet radiation will be emitted. Prolonged exposure to UV may cause skin and eye irritation. Immediately shut power off and replace lamp.
 - Mercury bulbs must be operated only in suitably designed fixtures.

Section 7. Bulb Materials

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO BULBS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken bulbs. As a matter of good practice, avoid prolonged or frequent exposure to broken bulbs unless there is adequate ventilation. The major hazard from broken bulbs or lamps is the possibility of sustaining glass cuts. NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards and/or NIOSH Pocket Guide to Chemical Hazards list the following effects of overexposure to the chemicals/materials tabulated below when they are inhaled, ingested, or contacted with skin or eye.

- **Lead:** Ingestion and inhalation of lead dust or fume must be avoided. Irritation of the eyes and respiratory tract may occur. Excessive lead absorption is toxic and may include symptoms such as anemia, weakness, abdominal pain and kidney disease.
- **Mercury:** Exposure to high concentrations of vapors for brief periods can cause acute symptoms such as pneumonitis, chest pains, shortness of breath, coughing, gingivitis, salivation and possibly stomatitis. May cause redness and irritation as a result of contact with the skin and/or eyes.
- **Quartz, Fused:** Fibrosis of the lungs causing shortness of breath and coughing has been associated with silica exposure.
- **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. The ACGIH TLVs for particulates not otherwise classified are 10 mg/cubic meter for total dust and 3 mg/cubic meter for respirable dust.
- **Yttrium Vanadate:** Inhalation of vanadium compounds can cause irritation of the nose, throat, and respiratory tract. Eye contact and prolonged, repeated skin contact may also cause irritation. Studies of workers exposed to this material showed no evidence of chronic or systemic effects.
- **Aluminum Oxide (Alumina):** Alumina is a nontoxic material that is very low in free-silica content. Sharp-edged particles can irritate the eyes, perhaps the skin, and definitely the mucous membranes of the respiratory tract.

Section 8. Emergency and First-Aid Measures

Glass Cuts: 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:** Seek medical attention. **Contact, Skin:** Thoroughly wash affected area with mild soap and water. If irritation

occurs, seek medical attention. **Contact, Eye:** Wash eyes immediately, including under eyelid, with water for 15 minutes. Seek medical attention.

Section 9. Stability and Reactivity

Stability: Stable.

Conditions to Avoid: None for intact bulbs.

Incompatibility (Materials to Avoid): None for intact bulbs.

Hazardous Decomposition Products: None for intact bulbs.

Hazardous Polymerization Products: Will not occur.

Section 10. Disposal of Lamps

Cleanup: If lamps are broken, ventilate area where breakage occurred. Clean with a special mercury vacuum (not a standard vacuum) or other suitable means that avoids dust and mercury vapor generation. Take usual precautions for collection of broken glass.

Recycling: Mercury lamps can be recycled. For a list of lamp recyclers, and to obtain state regulatory disposal information, log onto www.lamprecycle.org.

Disposal: It is the responsibility of the waste generator to ensure proper classification and disposal of waste products. 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.

Section 11. Special Handling of Broken Lamps/

Personal Protection

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.

jacket is broken, the lamps should be shut off and replaced to avoid exposure to ultraviolet radiation.

Protective Clothing: OSHA-specified cut and puncture-resistant gloves are recommended for dealing with broken lamps.

Hygienic Practices: After handling broken lamps, wash thoroughly before eating, smoking or handling tobacco products, applying cosmetics or using toilet facilities.

Section 12. Other Information

USER'S RESPONSIBILITY: A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions (in addition to those described herein) are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be.

DISCLAIMER OF LIABILITY: The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the users to comply with all applicable federal, state and local laws and regulations.

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Eye Protection: OSHA-specified safety glasses, goggles or face shield are recommended if lamps are being broken. In the event an outer