



Philips Lighting Company

MATERIAL SAFETY DATA SHEET

Revision: 8/02

**PRODUCT: MasterColor%o ALTO MHC and Protected Lamps
(50 Watt through 150 Watt)**

SECTION 1: MANUFACTURER

Manufacturer's Name and Address: Philips Lighting Company
A division of Philips Electronics
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08875

Emergency Telephone No.: (800) 424-9300 CHEMTREC
(732) 563-3197 Environmental
Other Information Calls: (607) 776-3311 Ext. 300



A division of
Philips Electronics North America Corporation

200 Franklin Square Drive
P.O. Box 6800
Somerset, NJ 08875-6800
Tel: 732.563.3000

SECTION 2: HAZARDOUS INGREDIENTS

	OSHA (PEL) mg/m ³	ACGIH (TLV) mg/m ³	% by Wt.
Mercury (7439-97-6)	.05 Less than .02	.025	
Sodium Iodide (7681-82-5)		None Established	Less than .001
Thallium Iodide (7790-30-9)	.1 Less than .0001	.1	
Inert Iodine (7553-56-2)		1	Less than .001
Rare Earths	None	Established	
Krypton 85**		15-25 nCi	

**This material is inside the ceramic arc tube

SECTION 3: PHYSICAL DATA

This item is a light bulb. The outer bulb is glass, the base is brass, and the inner arc tube is ceramic. Other chemical or physical characteristics are not applicable. The 100 watt lamp weighs 64 grams.

SECTION 4: FIRE AND EXPLOSION DATA

The outer envelope encloses a ceramic arc tube, which is refractory. There is a partial vacuum within the outer envelope. If the lamp is dropped or struck, a possible implosion could result which would cause flying glass.

WARNING: The arc tubes of metal halide lamps are designed to operate under high pressure and at temperatures up to 900• C. If the arc tube ruptures for any reason, the outer bulb might break and pieces of extremely hot glass might be discharged into the surrounding environment, with the associated risk of property damage or personal injury.

SECTION 5: REACTIVITY DATA

Stability: Lamp is stable.
Incompatibility: Glass envelope will react with hydrofluoric acid.
CAUTION: If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition to the bulb glass.
Polymerization: Will not occur.

SECTION 6: HEALTH HAZARD DATA

WARNING: These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes when envelope is broken unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken are available commercially.

The inner envelope is composed of a ceramic material -- breakage of this envelope may result in some exposure to elemental mercury, iodine compound vapor, as well as small amounts of thallium and other iodides. You should avoid skin contact with any of the contents or fragments.

Thallium is not listed as a carcinogen by NTP, IARC, Or OSHA. It is a cumulative poison. It or its salts can be absorbed through intact skin; if they are ingested, they can be absorbed by the gastrointestinal tract.

Thallium acts as a mitotic (affecting cell division) and a general cellular poison. Acute poisoning chiefly affects the central nervous system (CNS) and the GI tract. The ingestion of soluble thallium salts causes effects rather than the pure metal. Medical conditions aggravated by the long-term exposure -- disorders of the CNS, GI, kidneys, liver and eyes.

EMERGENCY FIRST AID:

- Eyes: Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes.
- Skin: Immediately wash the affected area with soap and water.
- Inhalation: Remove the exposed person to fresh air. Restore and/or support his/her breathing as required.
- Ingestion: Treat as an emergency. If the exposed person is responsive, give him or her several glasses of milk or water -- then induce vomiting.

GET MEDICAL HELP FOR ALL EXPOSURES. While the amount of thallium in the arc tube is small, avoid breaking lamps. If lamps are to be broken, use adequate personal protection and ventilation.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

Normal precautions should be taken for the collection of broken glass.

Waste Disposal Method: At the end of rated life, when this lamp is removed from service, it will be subjected to the current Toxic Characteristic Leaching Procedure (TCLP) prescribed by the Environmental Protection Agency. This test is used to determine whether an item is a hazardous waste or a non-hazardous waste under current E. P. A. definition. Philips Lighting will provide the test data on request. This result will allow the generator to evaluate all of the disposal options, which may be available in the particular state in which the generator's facility is located. The generator should check with federal, state and local officials for their guidance. In most states ALTO lamps are considered non-hazardous subtitle D waste. Philips encourages recycling of its products by qualified recyclers.

Safe Handling: The following Good Lamp Practices must be followed to reduce the possibility of arc tube rupture:

- 1) Turn off lamps at least once per week for at least 15 minutes in systems which are operating on a continuous basis.
 - 2) Re-lamp fixtures at or before the end of rated life. Allowing the lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
 - 3) Operate lamp only in its recommended position.
 - 4) Operate lamp with proper circuits and auxiliary position.
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SECTION 8: CONTROL MEASURES

Respiratory Protection: None while operating. Dust mask should be used if large volumes of lamps are being broken for disposal.

Ventilation: Avoid inhalation of any airborne dust.

Hand and Eye Protection: Should be worn when handling broken inner arc tubes.

SECTION 9: REGULATORY ISSUES

As a product these mercury containing lamps being shipped in the manufacturer's original packaging are not regulated by air, truck or ocean shipment. As a waste, spent ALTO lamps maybe regulated in various states and local communities. This material safety data sheet does not constitute "knowledge of the waste", in certain jurisdictions. TCLP data will be furnished upon request.

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