



MATERIAL SAFETY DATA SHEET

Product: Metal Halide Family

SECTION 1: MANUFACTURER

Manufacturer's Name and Address: Halco Lighting Technologies
2940 Pacific Drive
Norcross, GA 30071
Telephone: 770-242-3609
Fax: 770-242-3615

SECTION 2: HAZARDOUS INGREDIENTS

Glass

These lamps are composed of an inner quartz arc-tube enclosed in an outer envelope of heat resistant glass. Lamps that are coated have an inner layer of a diffusing material inside the outer envelope. The material used as a diffuser is a kaolin clay that is generally considered to be toxicologically a relatively inert material.

Arc Tube

The quartz arc tube contains a small amount of mercury, the amount of mercury included in the lamp increased with wattage. The arc tube also includes a small quantity of inert argon gas. In addition to these materials, there is a very small quantity of other materials used as an emission mix on the electrodes, there would be no significant exposure upon lamp breakage. Also contained in the arc tube are small quantities of sodium and scandium iodide, and in some cases thorium iodide. None of these materials are expected to be hazardous in the small quantities present in the arc tube. The end of the arc tubes may be coated with aluminum oxide, which is generally considered to have a low order of toxicity.

Metals

Internally, the support wires used in the lamp construction are made from nickel-coated iron or stainless steel. The electrodes are composed of tungsten. The base of the lamp may be brass or nickel-coated brass and use a lead solder.

SECTION 3: PHYSICAL CHEMICAL CHARACTERISTICS

Not applicable. This item is a light bulb.

SECTION 4: FIRE AND EXPLOSION DATA

Fire and explosion data: Not applicable

Under extreme heat the glass envelope might melt or crack.

SECTION 5: REACTIVITY DATA

Chemical Stability:	Lamp is stable
Incompatibility to other substances:	Glass will react with hydrofluoric acid
Hazardous Polymerization:	Will not occur

SECTION 6: HEALTH HAZARD DATA

For the intact lamp: Not applicable

R WARNING! These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. These lamps comply with FDA radiation performance standards 21 CFR Chapter 1, Subchapter J.

The inner envelope is composed of quartz. Breakage of this envelope may result in some exposure to elemental mercury vapor or iodine compound vapors. No adverse affects are expected from occasional exposure to broken lamps. As a matter of good practice, breakage should be avoided. Prolonged or frequent exposure to broken envelopes should be avoided through the use of adequate ventilation during disposal of large quantities of lamps.

EMERGENCY FIRST AID: NORMAL FIRST AID PROCEDURE FOR GLASS CUTS IF SUCH OCCUR THROUGH LAMP BREAKAGE.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

Normal precautions should be taken for collection of broken glass.

WASTE DISPOSAL METHOD: The arc tube contains a small amount of mercury. A toxic characteristic leachate test conducted on based HID lamps for lead and/or mercury will cause the lamp to be classified as a hazardous waste for mercury and lead. These lamps will come under the Universal Waste Rule published by EPA on July 6, 1999. State regulations will vary. Check with local and state authorities. Halco Lighting Technologies recommends recycling of spent Metal Halide lamps. The lead used in the solder should pose little risk of exposure under normal use and handling.

SECTION 8: PROTECTIVE MEASURES

Respiratory protection:	Appropriate dust mask should be used if large volumes of lamps are being broken for disposal.
Ventilation:	Avoid inhalation of any airborne dust. Provide local exhaust when disposing large quantities of lamps.
Hand and eye protection:	Appropriate hand and eye protection should be worn when disposing of lamps or handling broken glass.

SECTION 9: REGULATORY INFORMATION

For Air Shipment: This lamp will require a manifest of dangerous goods if it is a 1000W or higher.