

**PRODUCT SAFETY DATA SHEET**  
**PSDS No.:2.9**



EYE brand Metal Halide Lamps, manufactured at EYE Lighting International, Inc. are exempted from the requirements of the OSHA Hazard Communication Standard (CFR 1910.1200) because they are “articles”. The following information is provided by EYE Lighting as a courtesy to its customers.

**PRODUCT: METAL HALIDE LAMPS DESIGNATED AS:**

MT250D/HTL-BLUE; MT400D/BUD/HTL-BLUE; MT400D/HOR/HTL-BLUE; MT1000B-D/HOR/HTL-BLUE

Or the **TRADE NAME** (as labeled): EYE HORTILUX-BLUE™

**SECTION 1: MANUFACTURER**

**Manufacturer's Name and Address:** Iwasaki Electric Co., LTD.  
6th Floor, Bakurocho-daiichi Bldg,  
1-4-16, Nihonbashi-bakurocho, Chuo-ku,  
Tokyo, 103-0002, Japan

**Emergency Telephone Number:** Tel: +81 (0)3 5847 8630  
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**SECTION 2: HAZARDOUS INGREDIENTS**

**There are no known health hazards from exposure to lamps that are intact.**

If a lamp is broken, the following materials may be released:

| <u>Chemical Name</u>                  | <u>CAS Number</u> | <u>% by wt.</u> | <u>Exposure limits in Air (mg/cubic m)</u> |                   |
|---------------------------------------|-------------------|-----------------|--|-------------------|
|                                       |                   |                 | <u>ACGIH (TLV)</u>                         | <u>OSHA PEL</u>   |
| (1,2) Lead Solder (as Pb)             | 7439-92-1         | 0.1-<1.1        | 0.05                                       | 0.05              |
| (1,2) Mercury                         | 7439-97-6         | <0.1            | 0.025 mg/m <sup>3</sup>                    | 0.1 Ceiling       |
| Sodium Iodide                         | 7681-82-5         | <0.01           | -----                                      | -----             |
| Quartz Fused                          | 60676-86-0        | 10-30           | 0.1 Resp. Dust                             | 0.1               |
| Glass (Tungsten-Sealing Borosilicate) | -----             | 50-75           | 10 <sub>(3)</sub>                          | 15 <sub>(3)</sub> |
| (1,2) Glass (as Lead Oxide, 6%)       | 1317-36-8         | -----           | 0.05                                       | 0.05              |
| Yttrium Vanadate                      | 13566-12-6        | 0-<0.5          | 1  | 1                 |
| Zirconium Oxide                       | 1314-23-4         | 0<0.3           | 10 <sub>(3)</sub>                          |                   |

- (1) This chemical is 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 in this product is one of the 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).]
- (3) Limits as nuisance particulate.

**SECTION 3: PHYSICAL DATA**

This item is a metal halide high intensity discharge (HID) lamp; chemical characteristics are not applicable to an intact lamp.

**SECTION 4: FIRE AND EXPLOSION DATA**

Fire and explosion characteristics are not applicable. Under extreme heat, outer glass envelope might

melt or crack. Inner arc tube is composed of silicon dioxide (quartz) which is a refractory material.

## **SECTION 5: HEALTH HAZARDS**

### **A. OPERATING LAMPS**

Consult the Iwasaki Product Catalog or relevant technical data sheets for complete warnings, operating and installation guides for specific lamp types.

**Warning:**

1. Metal Halide arc tubes operate at high pressure and high temperature and may unexpectedly rupture.
2. If the outer jacket is broken and the lamp continues to operate, ultraviolet radiation which may cause skin and eye irritation with prolonged exposure may be emitted. Immediately shut power off and replace lamp.
3. Metal Halide lamps must be operated only in suitable designed fixtures.

### **B. LAMP MATERIALS**

**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 – 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 skin and/or eyes.

Barium Peroxide– May be fatal if swallowed. Harmful dust. Avoid skin and eye contact.

Quartz Fused – Fibrosis of the lungs causing shortness of breathe and coughing has been associated with silica exposure.

Sodium – Skin contact can cause thermal and/or alkali burns. Fumes from burning sodium are highly irritating to skin, eyes and mucous membranes.

Glass – Glass dust is considered to be physiologically inert and as such, has an OSHA exposure limit of 15mg/cubic meter for total dust and 5mg/cubic meter for respirable dust. The ACGIH TLVs for particulates not otherwise classified are 10mg/cubic meter for total dust and 3mg/cubic meter for respirable dust.

Zirconium Oxide (Zirconia) – Zirconia is a non-toxic 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.

### C. EMERGENCY AND FIRST AID PROCEDURE:

**Glass Cuts:** Perform normal first aid procedures. Seek medical attention if 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 or detergent and water and prevent further contact. Seek medical attention if irritation occurs.

**Contact Eye:** Wash eyes, including eyelids, immediately with copious amounts of water for 15 minutes. Seek medical attention.

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

### SECTION 6: REACTIVITY DATA

Stability: Lamp is stable.

Incompatibility: Glass envelope will react with hydrofluoric acid.

Polymerization: Will not occur.

### SECTION 7: PROCEDURES FOR DISPOSAL OF LAMPS

**EYE Lighting International** recommends that all mercury-containing lamps be recycled. For a list of lamp recyclers and to obtain state regulatory disposal information, log on to [www.lamprecycle.org](http://www.lamprecycle.org).

This is not applicable to an intact lamp. If lamps are broken, ventilate the 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. Place material in closed containers to avoid generating dust and mercury vapor.

The inner envelope is composed of quartz. Breakage of this envelope may result in some exposure to very small quantities of elemental mercury vapor or iodine compound vapors. No adverse effects are expected from occasional exposure to broken inner envelopes. However, 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, in which breaking of the inner envelopes occurs.

The arc tube (inner envelope) of a metal halide lamp contains somewhat less mercury than that of a mercury vapor lamp. Under the Toxicity Characteristic Leachate Procedure (TCLP) promulgated by the U.S. Environmental Protection Agency (USEPA), tests of used or spent lamps must be made prior to their disposal, to determine if such lamps are hazardous waste. TCLP tests of used or spent fluorescent, incandescent, and HID lamps indicate that some types of these lamps may be classified as characteristic hazardous waste.

If the outer glass envelope of the lamp is broken or punctured and if the lamp continues to operate, these lamps can cause serious skin burns and eye inflammation from short wave ultraviolet radiation. If the outer envelope is broken or punctured, do not use this lamp in areas where people will remain for more than a few minutes, unless adequate shielding or other safety precautions are used. For example, certain lamps that will automatically extinguish when the outer envelope is broken or punctured are available commercially.

It is the responsibility of the waste generator to properly classify and dispose of waste lamps. A TCLP test for lead, when conducted on based HID lamps, could cause the waste lamp to be classified as a hazardous waste. The lead used in the solder for such lamps should pose little risk of exposure under normal use and handling. In any case, waste lamps should be disposed in accordance with applicable Federal, State, and Local requirements.

## **SECTION 8: CONTROL 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 breaking large quantities of lamps for disposal.

### **Hand and Eye Protection:**

Appropriate hand and eye protection (e.g. gloves and safety glasses) should be worn when disposing of lamps or handling broken glass.

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