

Environmental information on quartz and ceramic metal-halide lamps

Product description and operating information

In quartz and ceramic metal-halide lamps, a discharge arc burns at high pressure in an atmosphere of halogen and mercury vapour and rare earths. Quartz metal-halide lamps are available in wattages from 10W to 2000W; ceramic metal-halide lamps are available in wattages from 20W to 400W.

When the lamps are in a cold state, in other words at room temperature (21°C), the mercury is generally present in the form of small metallic droplets in the discharge vessel (burner). When the lamp is started, the mercury vaporizes as the temperature in the burner rises and heats up in the arc between the electrodes. The temperature of the outer bulb is several hundred °C. When thermal equilibrium is reached, metal-halide lamps exert a maximum pressure of 40 bar on the discharge vessel.

Lamps put on the EU market are in compliance with Directive 2002/95/EC RoHS.

Handling information for broken lamps

The lamp must be switched off immediately when the bulb ruptures. Measures must be taken to ensure that the lamp cannot be switched on again in this state. The metal parts in the lamp are live. Before removing the remains of the lamp, make sure that power is disconnected (risk of fatal electric shock).

If the outer bulb or the luminaire cover breaks, the lamp must be switched off immediately. To avoid health risks, the following procedure is recommended if the discharge vessel is broken:

- Carefully ventilate the room for at least 20 to 30 minutes
- Remove all the lamp and glass fragments, dispose them of as hazardous waste according to national legislation
- Once the luminaire has cooled down and certainly before it is used again, all residual mercury must be thoroughly removed from the inside of the luminaire. To avoid contact with the skin, the use of disposable gloves is recommended. Commercial glass cleaners can be used to assist the cleaning process.

Health risks

Inhaling mercury or mercury compounds in vapour or powder form can lead to health problems. Mercury can also be absorbed through the skin. The lamp may only be operated with its outer bulb intact as otherwise the intense UV radiation escaping from the lamp may cause eye damage and skin irritation. Lamps without outer bulbs may only be used in enclosed luminaires.

Disposal of used metal halide lamps

Since metal halide lamps contain noxious substances (particularly mercury), they have to be disposed of in Europe as hazardous waste under EWC Code 20 01 21* "Fluorescent tubes and other waste containing mercury".

Being in the scope of EU Directive 2002/96/EC - WEEE – Metal halide lamps at end of life shall not be disposed of together with household waste. Within the EU they are taken back free of charge at certain national collection facilities. More information can be found under www.elcfd.org and your national ELC member partner.

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CONTACT US

ELC Federation asbl/vzw
Diamant Building
Boulevard Reyers 80
B-1030 Bruxelles
Belgium
secretary.general@elcfd.org
Tel: +32 (0)2 706 86 08
Fax: +32 (0)2 706 86 09
www.elcfd.org

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