SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date : 2019-01-25
Publication date : 2018-08-28
Version number : 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

SDS : 33623
Lamp Material Data Sheet code (LMDS) : Philips MHC 08100G

* Supplier : Signify North America Corporation
            200 Franklin Square Drive
            Somerset, NJ 08873-4186

Tradename : METAL HALIDE ELITE CDM LAMPS

Other means of identification : CDM-T Type Lamps - All Wattages - Protected and Unprotected

Relevant identified uses of the substance or mixture and uses advised against

General description : Medium Wattage Metal Halide Lamp
Recommended Use : Various
Uses advised against : No data available

Details of the supplier of the safety data sheet

Supplier safety data sheet : Philips Electronics Nederland B.V., Philips Environment & Safety, High
                          Tech Campus 37, 5656 AE Eindhoven, Tel. +31 (0)40 27 41 645

Responsible department : hazcom@philips.com

Emergency telephone number

Emergency telephone number:
CHEMTREC : +1 (0)800-424-9300

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification in accordance with 29 CFR 1910.1200
Not classified.
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article and as such does not require an SDS per the OSHA hazard communication standard.

Label elements

Labelling in accordance with 29 CFR 1910.1200

Label: not applicable
Remarks on labelling: none

Other hazards

none.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLAS</td>
<td>65997-17-3</td>
</tr>
<tr>
<td>SODIUM IODIDE</td>
<td>7681-82-5</td>
</tr>
<tr>
<td>CALCUIUM IODIDE</td>
<td>10102-68-8</td>
</tr>
<tr>
<td>CERIUM IODIDE</td>
<td>7790-87-6</td>
</tr>
<tr>
<td>MERCURY</td>
<td>7439-97-6</td>
</tr>
<tr>
<td>THALLIUM IODIDE</td>
<td>7790-30-9</td>
</tr>
<tr>
<td>KRYPTON^55</td>
<td>13983-27-2</td>
</tr>
</tbody>
</table>

Remark: The product contains: 3.8 – 8 mg Mercury

SECTION 4: First aid measures

Description of first aid measures

Skin : Not applicable.
Ingestion : Not applicable.
Inhalation : Not applicable.
Eyes : Not applicable.

Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>Component</th>
<th>local</th>
<th>general</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Under normal circumstances not applicable.</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Under normal circumstances not applicable.</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Under normal circumstances not applicable.</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Under normal circumstances not applicable.</td>
<td>Under normal circumstances not applicable.</td>
</tr>
</tbody>
</table>

Remarks symptoms : None

Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Extinguishing media

Suitable fire-extinguisher determined by surrounding.
Unsuitable fire-extinguisher
not traceable.

Special hazards arising from the substance or mixture
Hazardous decomposition products in fire: Mercury oxides

Advice for firefighters
In the event of fire, wear protective clothing and use breathing apparatus that is independent of the ambient air.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
In case of broken articles, use protective equipment. Evacuate area.

For non-emergency personnel
Protective equipment
Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedure
Ventilate affected area.

For emergency responders
Use appropriate respiratory protection. Personal protection equipment

Methods and material for containment and cleaning up

For containment
Collect materials needed to clean up broken bulb: stiff paper or cardboard; sticky tape; damp paper towels or disposable wet wipes (for hard surfaces); and a glass jar with a metal lid or a sealable plastic bag. Be thorough in collecting broken glass.

For cleaning up
DO NOT VACUUM. Vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor. Scoop up glass fragments using stiff paper or cardboard and sticky tape. Place cleanup materials in a sealable container.

Other information
No information available.

SECTION 7: Handling and storage

Precautions for safe handling
Local exhausting: Under normal circumstances not applicable.

Conditions for safe storage, including any incompatibilities
Storage conditions: No special precautions.

SECTION 8: Exposure controls/personal protection

Control parameters
Exposure limits:
applicable to: United States of America (25 ºC; 1013 mbar)
TWA (8 hours): 0.025 mg/m³  S  MERCURY - [according to ACGIH]
TWA (8 hours): 0.1 mg/m³  C  MERCURY - [according to NIOSH]
TWA (8 hours): 0.1 mg/10m³  C  MERCURY – [according to OSHA PEL]

C=Ceiling; S=Skin

Remarks exposure limits: none

Appropriate engineering controls: Under normal circumstances not applicable

Exposure controls
Advised personal protection:
- Hands: Under normal circumstances not applicable.
- Breakthrough time: Under normal circumstances not applicable.
- Eyes: Under normal circumstances not applicable.
- Inhalation: Under normal circumstances not applicable.
- Skin: Under normal circumstances not applicable.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state: article
Color: type dependent
Odor: odorless
Odor threshold (20°C; 1013 mbar): not traceable
pH: not applicable
Melting point/freezing point: not traceable
Boiling point/range: not traceable
Flash point/range: not traceable
Evaporation rate/range: not applicable
Vapor rate/range: not applicable
Flammability (solid, gas): data not available
Upper/lower flammability or explosive limit: not applicable
Vapor pressure: not applicable
Vapor density: not applicable
Density: not traceable
Solubility in water: not applicable
Log Po/w: 4.5  MERCURY  Source: Chemicalcards
Auto-ignition temperature: not applicable
Decomposition temperature: not traceable
Viscosity: not applicable
Dust explosions possible in air: not applicable
Oxidizing properties: no

SECTION 10: Stability and reactivity

Reactivity
Not applicable.

Chemical stability
The substance or mixture is stable under normal conditions.
Possibility of hazardous reactions

Reactions with water : no
Other hazardous conditions : Data not available.

Conditions to avoid
Data not available.

Incompatible materials

Hazardous reactions with : none
Hazardous decomposition products
Hazardous decomposition products at heating : none

SECTION 11: Toxicological information

Information on toxicological effects

Acute oral toxicity
No data available.

Acute dermal toxicity
No data available.

Acute inhalation toxicity
No data available.

Skin corrosion/irritation
The substance or mixture is not classified for skin corrosion/irritation.

Serious eye damage/irritation
The substance or mixture is not classified for serious eye damage/irritation.

Respiratory or skin sensitization
The substance or mixture is not classified for respiratory or skin sensitization.

Germ cell mutagenicity
The substance or mixture is not classified for germ cell mutagenicity.

Carcinogenicity

IARC: Group 3: Not classifiable as to its carcinogenicity to humans (Mercury)
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
The substance or mixture is not classified for reproductive toxicity.

Specific target organ toxicity-single exposure
The substance or mixture is not classified for specific target organ toxicity-single exposure.

Specific target organ toxicity-repeated exposure
The substance or mixture is not classified for specific target organ toxicity-repeated exposure.

Aspiration hazard
The substance or mixture is not classified for aspiration hazard.

Symptoms

Skin
local : Not applicable.
general : Not applicable.
Ingestion
local : Not applicable.
general : Not applicable.
SECTION 12: Ecological information

Toxicity

Ecotoxicity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC-50 (Fish)</td>
<td>0.004 mg/l/96H</td>
<td>Easi View</td>
</tr>
<tr>
<td>EC-50 (Daphnia)</td>
<td>0.0205 mg/l/48H</td>
<td>IFA- Gestis</td>
</tr>
<tr>
<td>IC-50 (Algae)</td>
<td>0.3 mg/l/72H</td>
<td>Easi View</td>
</tr>
</tbody>
</table>

Persistence and degradability

- Biological oxygen demand: not applicable
- Chemical oxygen demand: not applicable
- Degradability: not applicable

Bioaccumulative potential

- Bioconcentration factor (BCF): >2500

Mobility in soil

- Henry Constant: Not applicable

Other adverse effects

- Remarks on eco-toxicity: none

SECTION 13: Disposal considerations

Waste treatment methods

Remainder material or uncleaned empty packaging's have to be incinerated in a proper installation or dumped on an approved landfill, in accordance with local and national legislation.

SECTION 14: Transport information

UN number

- DOT/49CFR: none
- IMDG/IMO: none
- IATA/ICAO: 3506

Remarks IATA/ICAO: For transport exemptions consult IATA special provisions A48, A69 and A191.

UN proper shipping name

- DOT/49CFR: none
- IMDG/IMO: none
- IATA/ICAO: MERCURY CONTAINED IN MANUFACTURED ARTICLES

Transport hazard class(es)

- DOT/49CFR: none
- IMDG/IMO: none
- IATA/ICAO: 8 (6.1)
Packing group

Environmental hazards
Marine pollutant : no

Special precautions for user
EmS (IMDG/IMO) : none

Transport in bulk according to Annex II of Marpol and the IBC Code
Data not available.

SECTION 15: Regulatory information
Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal regulations
SARA 313: Mercury
SARA 311/312: not applicable.
HMIS Classification: not applicable.
U.S. Clean Water Act Section 307 – Toxic Pollutants: Mercury, Thallium iodide

National inventories
Articles are exempted from the Toxic Substances Control Act Inventory (TSCA-USA).

International inventories
DSL/NDSL:
This substance is on the DSL (Mercury, Sodium iodide)
This substance is on the NDSL (Thallium iodide, Calcium iodide)

SECTION 16: Other information
Remarks on SDS: Toxic mercury vapors can be released if the lamp is broken.
For transport exemptions consult applicable regulations.

Exemption values krypton-85: 1.E4 Bq, 1.E5 Bq/g.
The product contains 0 – 5.5 Bq krypton-85.
Activity concentration krypton-85: 0 – 6660 kBq/g.

A key or legend to abbreviations and acronyms used in the safety data sheet
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service
TGG = TWA: Time Weighted Average
LEL: Lower Explosive Limit
UEL: Upper Explosive Limit
NTP: National Toxicology Program
KHC: Known Human Carcinogen
RAHC: Reasonably Anticipated Human Carcinogen
IARC: International Agency for Research on Cancer
OSHA: Occupational Safety & Health Administration
DOT: US Department of Transportation
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RID</td>
<td>Règlement concernant le transport international ferroviaire des marchandises dangereuses</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>DSL</td>
<td>Canadian Domestic Substances List</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canadian Non-Domestic Substances List</td>
</tr>
</tbody>
</table>

* Point to alterations with regard to the previous version.

The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Philips Electronics Nederland B.V. makes no warranty as to its contents, nor as to its fitness for any particular purpose or use.