SAFETY DATA SHEET

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

Revision date: 2018-08-28
Publication date: 2018-08-28

Version number: 1.0

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

Product identifier

SDS: 33615
Lamp Material Data Sheet code (LMDS): MV-09100C
Supplier: PHILIPS LIGHTING, NORTH AMERICA
200 Franklin Square Drive
Somerset, NJ 08873-4186

Tradename: PHILIPS MERCURY VAPOR LAMPS – All Wattages
Other means of identification: All Standard Mercury Vapor Lamps – Medium and Mogul Base, H33, H36, H37, H38, H39, H43, H44, H45, H46, SAH Types

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

General description: Mercury Vapor 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: dangerous.goods@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>-</td>
</tr>
<tr>
<td>FLUORESCENT POWDER</td>
<td>-</td>
</tr>
<tr>
<td>TIN</td>
<td>7440-31-5</td>
</tr>
<tr>
<td>INDIUM</td>
<td>7440-74-6</td>
</tr>
<tr>
<td>MERCURY</td>
<td>7439-97-6</td>
</tr>
<tr>
<td>BISMUTH</td>
<td>7440-69-9</td>
</tr>
</tbody>
</table>

Remark: The product contains: 13.7 - 72 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
Skin  local : Under normal circumstances not applicable.
         general : Under normal circumstances not applicable
Ingestion local : Under normal circumstances not applicable
                general : Under normal circumstances not applicable
Inhalation local: Under normal circumstances not applicable
general: Under normal circumstances not applicable
Eyes local: Under normal circumstances not applicable
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: Tin oxide, Mercury oxides, metal oxide

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)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit (mg/m³)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA (8 hours):</td>
<td>0.025</td>
<td>S MERCURY- [according to ACGIH]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>0.1</td>
<td>C MERCURY- [according to NIOSH]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>0.1/m³</td>
<td>C MERCURY – [according to OSHA PEL]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>2</td>
<td>TIN (inorganic compounds, except oxides)– [according to ACGIH]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>2</td>
<td>TIN (inorganic compounds, except oxides)– [according to NIOSH]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>2</td>
<td>TIN (inorganic compounds, except oxides) – [according to OSHA PEL]</td>
</tr>
<tr>
<td>TWA (8 hours):</td>
<td>2</td>
<td>INDIUM- [according to NIOSH]</td>
</tr>
</tbody>
</table>

C=Ceiling; S=Skin

Remarks exposure limits : none

Appropriate engineering controls: Under normal circumstances not applicable

Exposure controls

Advised personal protection:

<table>
<thead>
<tr>
<th>Body Part</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Breakthrough time</td>
<td>Under normal circumstances not applicable.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>article</td>
</tr>
<tr>
<td>Color</td>
<td>type dependent</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor threshold (20ºC; 1013 mbar)</td>
<td>not traceable</td>
</tr>
<tr>
<td>pH</td>
<td>not applicable</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not traceable</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>not traceable</td>
</tr>
<tr>
<td>Flash point/range</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate/range</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapor rate/range</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>data not available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limit</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>not traceable</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

Log Po/w: 4.5  
Source: Chemicalcards

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

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.

Inhalation
local : Not applicable.
general : Not applicable.

Eyes
local : Not applicable.

Remarks symptoms : None

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

Hazard identification number (ADR/RID): none
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

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, Indium, Bismuth, Tin)
SECTION 16: Other information

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

**A key or legend to abbreviations and acronyms used in the safety data sheet**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS</td>
<td>Globally Harmonized System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service</td>
</tr>
<tr>
<td>TGG = TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>LEL</td>
<td>Lower Explosive Limit</td>
</tr>
<tr>
<td>UEL</td>
<td>Upper Explosive Limit</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>KHC</td>
<td>Known Human Carcinogen</td>
</tr>
<tr>
<td>RAHC</td>
<td>Reasonably Anticipated Human Carcinogen</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>DOT</td>
<td>US Department of Transportation</td>
</tr>
<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.