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: 33617
- Lamp Material Data Sheet code (LMDS): HPS-09100A
- Supplier: PHILIPS LIGHTING, NORTH AMERICA
  200 Franklin Square Drive
  Somerset, NJ 08873-4186
- Tradename: PHILIPS HIGH PRESSURE SODIUM LAMPS
- Other means of identification: ALTO, non-ALTO – All Wattages

Relevant identified uses of the substance or mixture and uses advised against
- General description: High Pressure Sodium 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>INERT MATERIAL</td>
<td>-</td>
</tr>
<tr>
<td>SODIUM</td>
<td>7440-23-5</td>
</tr>
<tr>
<td>MERCURY</td>
<td>7439-97-6</td>
</tr>
<tr>
<td>BARIUM</td>
<td>7440-39-3</td>
</tr>
</tbody>
</table>

Remark: The product contains: 11 - 34 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: Barium 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>TWA (8 hours)</th>
<th>mg/m³</th>
<th>Exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURY</td>
<td>0.025</td>
<td>according to ACGIH</td>
</tr>
<tr>
<td>MERCURY</td>
<td>0.</td>
<td>according to NIOSH</td>
</tr>
<tr>
<td>MERCURY –</td>
<td>0.1</td>
<td>according to OSHA PEL</td>
</tr>
<tr>
<td>BARIUM</td>
<td>0.5</td>
<td>according to ACGIH</td>
</tr>
<tr>
<td>BARIUM–</td>
<td>0.5</td>
<td>according to NIOSH</td>
</tr>
<tr>
<td>BARIUM –</td>
<td>0.5</td>
<td>according to OSHA PEL</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>Protection</th>
<th>Requirement</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>
<tr>
<td>Eyes</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Under normal circumstances not applicable.</td>
</tr>
<tr>
<td>Skin</td>
<td>Under normal circumstances not applicable.</td>
</tr>
</tbody>
</table>
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 (20°C; 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>
<tr>
<td>Log Po/w</td>
<td>4.5</td>
</tr>
</tbody>
</table>

MERCURY

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: 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.
Inhalation:
  local : Not applicable.
  general : Not applicable.
Eyes:
  local : Not applicable.
Remarks symptoms : None

SECTION 12: Ecological information

Toxicity

Ecotoxicity

LC-50: 0.004 mg/l/96H (Fish)  MERCURY  Source : Easi View
EC-50: 0.0205 mg/l/48H (Daphnia)  MERCURY  Source : IFA- Gestis
IC-50: 0.3 mg/l/72H (Algae)  MERCURY  Source : Easi View

Persistence and degradability

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

Bioaccumulative potential

Bioconcentration factor (BCF) : >2500  MERCURY

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

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, Barium
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, Barium)

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.