MATERIAL SAFETY DATA SHEET

Section I  - Product and Company Identification

Trade Name: CEC TUNGSTEN HALOGEN LAMPS/GENERAL LIGHTING HALOGEN LAMP as MB, MC, MR and PAR LAMPS TYPES.

Manufacturer: CEC INDUSTRIES LTD
599 BOND STREET
LINCOLNSHIRE, IL 60069
USA.
TEL: (847)821-1199
FAX: (847)821-1133

Section II  - Composition/Information on ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>% by wt</th>
<th>ACCIHL/TLV</th>
<th>OSHA/PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen Bromide</td>
<td>10035-10-6</td>
<td>0-&lt;1.0</td>
<td>10.0 Ceiling</td>
<td>10.0</td>
</tr>
<tr>
<td>Tungsten</td>
<td>7440-33-7</td>
<td>0.05-1.0</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>( Insoluble compounds )</td>
<td>----</td>
<td>----</td>
<td>5.0</td>
<td>----</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>7439-98-7</td>
<td>0.02-1.0</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>( Insoluble compounds )</td>
<td>----</td>
<td>----</td>
<td>10.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Glass ( Alkaline Earth Aluminosilicate )</td>
<td>----</td>
<td>0-95</td>
<td>10.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Quartz, Fused</td>
<td>60676-86-0</td>
<td>0-95</td>
<td>0.1 Resp. Dust</td>
<td>0.1</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>0-70</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Copper(as dust)</td>
<td>7440-50-8</td>
<td>0&lt;3.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Glass(Alkaline Earth Borosilicate)</td>
<td>----</td>
<td>0-95</td>
<td>10.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Ceramic(Steatite or Porcelain)</td>
<td>----</td>
<td>0-95</td>
<td>10.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Materials listed on this data sheet are contained in varying percentages in this product. Exact percentages are proprietary and will not be disclosed other as required in Accordance with the regulations of Federal, State and Local.

Section III  - Hazards Identification
A. OPERATING LAMPS
Consult the OSRAM SYLVANIA Product Catalog or relevant technical data sheets for complete warnings, operating and installation guides for specific lamp types.

WARNING:
Burns: All tungsten halogen lamps operate at higher temperatures than standard incandescent lamps; some as high as 1832°F, 1000ºC. Therefore, caution must be used when replacing lamps. Allow enough time for lamp to cool before attempting replacement.

Shattering: Some tungsten halogen lamps are at high pressure at all times and may unexpectedly shatter. Care must be taken to read and follow the directions and warnings accompanying the specific product to avoid personal injury and/or property damages.

UV Radiation: Some tungsten halogen lamps produce UV (ultraviolet) radiation which can cause skin burns and/or eye injury if not properly shielded. Care must be taken to read and follow the directions and warnings accompanying the specific product to avoid personal injury.

B. LAMP MATERIALS
THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS 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:

Hydrogen Bromide – Short-term exposure to hydrogen bromide may cause irritation of the eyes, nose, and throat. It will cause a burn when a solution is splashed onto skin or into eyes. Repeated or prolonged exposure to hydrogen bromide may cause irritation of the nose and throat with mucous production and indigestion.

Copper – Inhalation of fumes can cause “Metal Fume Fever” with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle aches, and a sweet metallic taste in the mouth. Contact may cause mechanical irritation of the skin and eyes. Ingestion may cause irritation to the stomach lining or intestines.

Aluminum – Aluminum is a non-toxic material which may cause irritation to the eyes skin and respiratory system.

Quartz, Fused – Fibrosis of lungs causing shortness of breath and coughing has been associated with silica exposure.
Glass – Glass dust is considered to be physiologically inert and as such, has an OSHA exposure limit of 15 mg/cubic meter for total dust and 5 mg/cubic meter for respirable dust. The ACGIH TLVs for particulates not otherwise classified are 10 mg/cubic meter for total dust 3 mg/cubic meter for respirable dust.

Tungsten – Inhalation of dust may cause mild irritation of nose and throat. Contact may cause mechanical irritation of skin and eyes.

Molybdenum – Oxides have caused irritation to the eyes, nose, and throat; weight loss and digestive disturbances in the experimental animals.

Section IV  - First AID Measures

First AID:

Inhalation: If discomfort, irritation or symptoms of pulmonary involvement develop, remove from exposure and seek medical attention as need.

Ingestion: In the unlikely event of ingesting a large quantity of material, seek medical attention immediately.

Skin Contact: Thoroughly wash affected area with mild soap or detergent and water and prevent further contact. Seek medical attention as need.

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

Section V  - Fire-Fighting Measures

Fire Extinguishing Materials: Water, water fog, dry chemical, foam. Use extinguishing agents suitable for surrounding fire.

Special Firefighting Procedure:
Use a self-contained breathing apparatus to prevent inhalation of dust and/or fumes that may be generate from material during firefighting activities.

Unusual Fire & Explosion Hazards:
During a fire irritating & toxic gases & aerosol may be generated by thermal decomposition & combustion.

Section VI  - Accidental release measures
Step to be taken in case material is released or spilled: If molten, allow material to cool down and place into an appropriate marked container for disposal.

**Section VII - Handling and Storage**

Spill Release Procedures: NORMAL PRECAUTIONS SHOULD BE TAKEN FOR COLLECTION OF BROKEN GLASS.

Waste Disposal Methods: UNDER NEW TOXICITY CHARACTERISTIC LEACHING PROCEDURES (TCLP) PROMULGATED BY US ENVIRONMENTAL PROTECTION AGENCY (EPA), TESTS OF USED/SPENT FLUORESCENT, INCANDESCENT, & HIGH INTENSITY DISCHARGE LAMPS IN DICATE THAT SOME TYPES OF THESE (SUPDAT)

Handling And Storage Precautions: APPROPRIATE HAND AND EYE PROTECTION SHOULD BE WORN WHEN DISPOSING OF LAMPS OR HANDLING BROKEN GLASS. Other Precautions: NONE SPECIFIED BY MANUFACTURER.

**Section VIII - Exposure Control/Personal Protection**

Hand Protection: OSHA Specified cut and puncture-resistant gloves are recommended.

Eye Protection: Safety glasses with side shields are recommended.

Skin and Body Protection: No specified skin protection requirements during normal handling and use.

Additional Protective Measures: After handling the material, wash hand and face thoroughly before eating, drinking, smoking or handling tobacco products, applying cosmetics or using toilet facilities.

**Section IX - Physical and chemical properties**

Appearance and Odor: THIS IS A LIGHT BULB WITH GLASS TUBES AND PLASTIC BASE.

**Section X - Stability and Reactivity**

Stability: Stable
Conditions to avoid: None for intact lamps
Incompatibility (materials to avoid): None for intact lamps
Hazardous decomposition products (including combustion products): None for intact lamps
Hazardous polymerization products: Will not occur.

Section XI  - Toxicological Information
No specific toxicological information is available.

Section XII  - Ecological Information
No specific ecological information is available.

Section XIII  - Disposal considerations
If lamps are broken, ventilate area where breakage occurred. Clean-up by vacuuming or other method to avoid dust generation. Take usual precautions for collection of broken glass. Place material in closed containers to avoid generating dust.

It is the responsibility of the waste generator to ensure proper classification and disposal of waste products. To that end, TCLP tests should be conducted on all waste products, including this one, to determine the ultimate disposition in accordance with applicable federal, state and local regulations.

Lamps which pass the EPA’s TCLP test are considered non-hazardous waste in most states. Always review your local and state regulations which can vary.

Section XIV  - Transportation information

Land transport (DOT)
Non-Regulated list under US Department of Transportation.

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

Section XV  - Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous when glass tube broken.
Status Code: C
Label Date: 06/16/1998
Origination
Chronic Hazard IND: Y
Eye Protection IND: YES
Skin Protection IND: YES
Signal Word: CAUTION
Respiratory Protection IND: YES
Health Hazard: Slight
Contact Hazard: Slight
Fire Hazard: Slight
Reactivity Hazard: None

US Toxic Substances Control Act: Listed on the TSCA Inventory.

US.EPA CERCLA Hazardous Substances (40 CFR 302)
Components
None

SARA Section 311/312 Hazard Categories:
Non-hazardous under Section 311/312.

US.EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):
Components
None

US.EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemical (40 CFR 372.65)-Supplier Notification Required:
Components
None

Section XVI - Other Information

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Issue Date: October 30, 2014
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