



<b>(1) CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>
--

1.1 Product Details

Product Name : Optoelectronic epoxy hardener  
 Manufacturer's Code: LH 0622UV (Part B)  
 Use : Clear epoxy hardener for encapsulating of mainly LED Lamps and Radial devices

1.2 Company Identification

Manufacturer's Name : Oriem Technology Sdn. Bhd.  
 Manufacturer's Address : Plot 25, Bayan Lepas Industrial Estate,  
 Non-FTZ, Phase 4, 11900 Bayan Lepas,  
 Penang, Malaysia.  
 Distributor's Name : Oriem Technology Sdn. Bhd.  
 Distributor's Address : Plot 25, Bayan Lepas Industrial Estate,  
 Non-FTZ, Phase 4, 11900 Bayan Lepas,  
 Penang, Malaysia.  
 Tel. No. : +6-04-642 6363  
 Emergency Tel. No. : +6-04-642 6366

1.3 Contact Point

Designation : Technical Director  
 Tel. No. : +6-04-642 6363

<b>(2) COMPOSITION / INFORMATION ON INGREDIENTS</b>
---

<u>Chemical Name / Chemical Group</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>Exposure Limit</u>
Methylhexahydrophthalic anhydride with	19438-60-9	80%	Not established
Cycloaliphatic anhydride	85-42-7	20%	Not established

<b>(3) PHYSICAL AND CHEMICAL PROPERTIES</b>
---

Apperance : clear liquid  
 Odour : Weak acid  
 pH : 5  
 Solubility : Slightly soluble  
 Boiling Point (°C) : > 100  
 Crystalline point (°C) : Not applicable  
 Vapour Pressure (mm of Hg at 25°C) : Not determined  
 Percentage Volatiles : Not determined  
 Evaporation Rate : Not applicable  
 Vapour Density : Not applicable  
 Specific Gravity : 1.16 – 1.18  
 Flash Point (°C) : > 250  
 Autoignition Temperature (°C) : > 300  
 Decomposition Temperature (°C) : > 150  
 Flammable limit (%) : Not available  
 Explosive/oxidizing properties : Not to be expected

**(4) HAZARD IDENTIFICATION**Most important hazards

- R 36/38** Irritating to eyes and skin  
**R 51/53** Toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment

**(5) FIRST AID MEASURES**

- Ingestion : Induce vomiting and then drink plenty of water. Get medical attention.  
 Eye contact : Immediately flush with plenty of water for at least 15 minutes. Get medical attention.  
 Skin contact : Immediately flush with plenty of water for at least 15 minutes. Get medical attention.  
 Inhalation : Remove victim to fresh air. If breathing is difficult, give oxygen.

**(6) FIRE FIGHTING MEASURES**

- Extinguishing Media : Use dry chemical, foam, water jet or carbon dioxide  
 Fire Fighting Instruction : Shut off fuel to fire if it is possible to do so without hazard. For small out door fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. Respiratory and eye protections are required for fire fighting personnel.  
 Special hazards : COx as decomposition products.

**(7) ACCIDENTAL RELEASE MEASURES**

- Leak / Spill : Absorb with sand or sawdust.  
 Report as per regulatory requirements.  
 Environmental Protection : Do not allow to enter drainage system, surface or ground water.

**(8) HANDLING AND STORAGE**

- Handling : No special precaution is necessary. Observed good industrial housekeeping practices as for any chemical. Prevent contact with eyes and skin. Wear goggles and rubber gloves.  
 Storage : Store in cool & dry place in tightly closed containers.

**(9) EXPOSURE CONTROL AND PERSONAL PROTECTION**a. Exposure Limit

<i>Chemical Name</i>	<i>Standards*</i>	<i>Reference</i>
Methylhexahydrophthalic anhydride	N.E.	OSHA, ACGIH
Proprietary additives	N.E.	OSHA, ACGIH

*NOTE: \* Eight-hour time-weighted average exposure unless stated otherwise*

*N.E. – Not Established*

*OSHA – Occupational Safety and Health Act*

*ACGIH – American Conference of Government Industrial Hygienists*

b. Ventilation

Use general or local exhaust ventilation.

- c. Personal Protection
- |                          |   |
|--------------------------|---|
| Eye/skin protection :    | Safety goggles & cotton gloves are recommended.   |
| Respiratory Protection : | Not required where adequate ventilation conditions exist but face mask is advised. If airborne concentration exceeds exposure level, a high efficiency particulate respirator is recommended. |

#### (10) STABILITY AND REACTIVITY

Stability :	Stable under ordinary conditions of use and storage.
Conditions to avoid :	Excess heat, flame and sources of ignition
Incompatibles :	Acid, base, hydrocarbon solvent and oxidizing materials
Decompositions Products :	Oxide of carbon
Hazardous polymerization :	Will not occur by itself, but masses more than 500g of products with an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

#### (11) TOXICOLOGICAL INFORMATION

##### Toxicity Data

Oral: LD50	>11400mg/kg (rat)
Dermal: LD50	>2000mg/kg (rabbit)

##### Carcinogenicity

Not applicable

##### Reproductive Effect

Not applicable

##### Effects of overexposure

The product has primary irritant effect on the skin, mucous membranes, and eyes.

##### Chronic Effects

Not available

##### Target Organs

Eyes and skin

#### (12) ECOLOGICAL INFORMATION

Mobility :	Not miscible in water
Bioaccumulation :	Low bioconcentration factor (BCF)
Biodegradability :	Slightly biodegradable.
Aquatic Toxicity :	Rainbow trout: LC50/96h = 1.5 – 7.7mg/l Daphnia magna: EC50/24h = 1.1 – 3.6 mg/l.
Environmental Toxicity :	No information found

#### (13) DISPOSAL INFORMATION

Disposal of waste to be carry out at the city, state or federally permitted disposal facility. Handle in accordance with applicable regulations and/or local authorities.

**(14) TRANSPORTATION INFORMATION**

Land transport ADR/RID (cross-border)  
ADR/RID Class: Not Regulated.

Maritime transport IMDG  
IMDG Class: Not Regulated

Air transport ICAO-TI and IATA-DGR  
ICAO/IATA Class: Not Regulated

**(15) REGULATORY INFORMATION**

Designation according to EC: Symbol *N*

a. Proposed classification : Irritant

b. *Risk Phrase*

R22 Harmful if swallowed  
R36/38 Irritating to eyes and skin

c. *Safety Phrases*

S28 After contact with skin, wash immediately with plenty of soap and water  
S37/39 Wear suitable gloves and face protection  
S61 Avoid release to the environment. Refer to special instruction / safety data sheet

**(16) OTHER INFORMATION****WARRANTY AND DISCLAIMER**

The information contained herein is to the best of our knowledge true and accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Oriem Technology Sdn Bhd assumes no responsibility for any personal injury or property damage of any kind to vendees, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of the material. The above includes confidential and proprietary information of Oriem Technology Sdn Bhd and is furnished to you solely on product processes supplied by us to you.