



(1) CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
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1.1 Product Details

Product Name : Optoelectronic epoxy hardener
 Manufacturer's Code: LH 1622 (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

(2) COMPOSITION / INFORMATION ON INGREDIENTS

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

(3) PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear to slightly yellowish 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 IDENTIFICATIONMost 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 PROTECTIONa. Exposure Limit

Chemical Name	Standards*	Reference
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 INFORMATIONToxicity 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**

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