SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name	LINQSOL™ EMC-G374
Applications:	Epoxy mold compound
Advised Against	No further relevant information is available
Supplier Name	Krayden Europe BV

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SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE/MIXTURE
Classification according to Regulation (EC) No 1272/2008

Hazard Class	**Hazard Category**
Skin sensitization	Category 1A
Hazardous to the aquatic environment, chronic	Category 1

LABEL ELEMENTS
Labeling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard Pictogram

Signal Word Warning

Hazard Statements

H317	May cause an allergic skin reaction
H410	Very toxic to aquatic life with long lasting effects.

Prevention Precautionary Statements

P261	Avoid breathing dust.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection, face protection.

Response Precautionary Statements

P321	Specific treatment (see information on the label and safety datasheet)
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice, attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Disposal Precautionary Statements

P391	Collect Spillage
P501	Dispose of contents or container to approved waste disposal.

OTHER HAZARDS No available data to assess PBT and vPvB
Ecological information: No available data
Toxicological information: No available data

SECTION 3. INGREDIENT COMPOSITION

SUBSTANCES
Not applicable. This product is a mixture.

MIXTURES
Product Description: Epoxy molding compound.
Chemical Nature: Mixture of inorganic filler, epoxy-based resin system, curing agents/catalyst and additives.

Components and concentration ranges:

No.	Components	CAS No.	Proportion (%)[1]
1	Silica, Fused	60676-86-0	80~84
2	Epoxy resin	13676-54-5	3.0~6.0
3	Phenolic resin	9003-35-4	1.0~4.0
4	Bismaleimide resin	Confidential[1]	6.0~10
5	Wax	8015-86-9	0.1~0.3
6	Catalyst	Confidential[1]	0.1~0.3
7	Carbon black	1333-86-4	0.1~0.3
8	Silane additive	2530-83-8	0.4~0.6

[1]*Specific chemical identity and/or exact concentration of certain components are withheld as confidential business information, where permitted. Hazard classifications, concentration ranges, and other information necessary for safe handling and emergency response are provided*

SECTION 4. FIRST AID MEASURES

DESCRIPTION OF FIRST-AID MEASURES

General advice First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled After inhalation, move the patient to fresh air until discomfort disappears, if breathing is difficult, provide oxygen; if breathing stops, perform artificial respiration and seek medical attention immediately.

In case of skin contact In case of skin contact, rinse the affected skin with water and soap until the contaminant is removed. If allergic reactions or rashes occur, seek medical attention immediately.

In case of eye contact After eye contact, hold the eyelid open and rinse with plenty of water until the contaminant is removed. Seek medical attention immediately.

If swallowed If swallowed, seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious) and consult a doctor as quickly as possible.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Skin sensitisation Itching, rash; possible delayed allergic dermatitis.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED
No specific antidote. Treat symptomatically. Monitor for delayed respiratory symptoms.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable	Water spray, carbon dioxide foam, dry chemical powder.
Unsuitable	No information available

SPECIAL HAZARDS ARISING FROM SUBSTANCE OR MIXTURE

Fire hazard	When comes into contact with sufficient quantity and proportion of air, organic dust can form a flammable or explosive dust/air mixture
Hazardous decomposition	Carbon monoxide, carbon dioxide and other irritating organic gases.

ADVICE FOR FIREFIGHTERS

Precautions during firefighting	Evacuate personnel and isolate the fire area. Keep unauthorized individuals away from the fire area. Move the product to a safe location if possible and ensure the safety of personnel. When extinguishing the fire, maintain a safe position or distance. Water spray is effective in putting out the fire. After the fire is fully extinguished and there is no risk of re-ignition, use water spray to cool the fire area and the container holding the product.
Protection during firefighting	Firefighting and rescue teams must wear appropriate protective equipment including gloves, glasses, and shoes. Stay in the danger area only with self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
Do not attempt to take any action without wearing the proper protective clothing and equipment, assess depending on dust concentration in the area. Follow emergency procedures and consult an expert. Only trained personnel should handle the cleanup of the spillage. For personal protection information, refer to Section 8.

ENVIRONMENTAL PRECAUTIONS
Do not let products enter drains, drinking water sources, surface water, and soil.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Small spill:	No special procedures are needed. Clean up any loose materials and dispose of them in a labeled waste disposal bin. Wash away any residue with soap and water; ventilate area.
Large spill:	No special procedures are needed. Clean up any loose materials and dispose of them in a labeled waste disposal bin. Wash away any residue with soap and water; ventilate area.

Dispose via licensed hazardous-waste contractor; see Section 13.

REFERENCE TO OTHER SECTIONS
For exposure controls/personal protection, see Section 8. For disposal considerations, see Section 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Advice on safe handling	Ensure sufficient ventilation at the workstation to avoid duster accumulation during handling. Avoid contact with skin and eyes. Avoid material leakage.

Hygiene measures Contaminated work clothing should not be worn outside workplace premises. Work clothing should be washed before reuse. Wash hands and face after handling the product. For precautions, see Section 2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage conditions Store tightly closed in a cool (below 5°C), dry, well-ventilated place (RH ≤60 %), protected from direct sunlight, rain and rapid temperature changes. Keep away from ignition sources. Shelf-life under recommended conditions is 183 days.

Storage class Non-combustible.

SPECIFIC END USE(S)

Semiconductor molding encapsulation compound used by transfer or compression molding equipment. Substrates must be clean, dry, and grease-free. Not for consumer use.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

CONTROL PARAMETERS

Exposure Limits

No.	Components	Standards	Reference
1	Silica, Fused	0.7 mg/m^3/0.3 mg/m^3	OSHA[1]/ACGIH[2]
2	Epoxy resin	Not Established	OSHA/ACGIH
3	Phenolic resin	Not Established	OSHA/ACGIH
4	Bismaleimide resin	Not Established	OSHA/ACGIH
5	Wax	Not Established	OSHA/ACGIH
6	Catalyst	Not Established	OSHA/ACGIH
7	Carbon black	3.5 mg/m^3/ 3 mg/m^3	OSHA/ACGIH
8	Silane additive	Not Established	OSHA/ACGIH

[1]*Occupational Safety and Health Administration (OSHA) 8-hour total weight average (TWA) permissible exposure limit (PEL)*
[2]*American Conference of Governmental Industrial Hygienists (ACGIH) 8-hour total weight average (TWA) threshold limit value (TLV)*

EXPOSURE CONTROLS

Engineering controls Use general exhaust ventilation to meet exposure limit requirements.

Individual protection The selection of protective equipment should at least comply with the local/applicable guidelines of selecting personal protective equipment.

- **Eye and face protection** Use appropriate goggles and face protection., if necessary.
- **Hand protection** Wear suitable protective gloves (e.g. nitrile or butyl-rubber gloves)
- **Body protection** Wear long sleeves and appropriate clothing to minimize exposure. Remove/clean contaminated clothing.
- **Respiratory protection** Use appropriate respiratory protection.
- **Thermal Hazards** None under normal handling temperatures.

Environmental exposure controls Prevent discharge to drains—see Section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black pellet/powder
Odor	None
pH	Not determined
Melting point	Not determined
Boiling point	Not applicable
Flash point	Not applicable
Flammability	No data available
Vapor pressure	Not applicable
Explosive limit	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	460°C
Solubility	Not soluble in water, soluble in acetone
Specific gravity	1.80–1.92

OTHER INFORMATION

Information with regard to physical hazard classes	No additional information available
Other safety characteristics	No additional information available

SECTION 10. STABILITY & REACTIVITY

Reactivity	Not self-reactive at ambient conditions. Resistant to strong oxidizing agents, strong acids and strong bases.
Chemical Stability	Stable under recommended storage (5 °C, dry, sealed). Avoid moisture ingress and sunlight.
Possibility of hazardous reactions	Non-violent polymerisation occurs only at high temperatures and high pressure with incompatible materials.
Conditions to avoid	Temperatures above 5 °C will affect the quality of the product.
Incompatible materials	None under recommended storage and handling conditions.
Hazardous decomposition products	On thermal decomposition or fire: oxides and sulfur, oxides of carbon, hydrolyzed hydrocarbon, and other irritating organic vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON HAZARD CLASSES AS DEFINED (EC) No 1272/2008

No directly available laboratory toxicological data for this substance.

CAS NO:	Value Type	Value	Route of Exposure
60676-86-0	LD50	> 3160mg/kg (Rat)	Oral

Acute Toxicity (Oral)	Not classified, based on available data
Acute Toxicity (Dermal)	Not classified, based on available data
Acute Toxicity (Inhalation)	Not classified, based on available data
Skin corrosion/irritation	Not classified, based on available data
Serious eye damage/irritation	Not classified, based on available data
Respiratory or skin sensitisation	May cause an allergic skin reaction

Germ cell mutagenicity	Not classified, based on available data
Carcinogenicity	Not classified, based on available data
Reproductive Toxicity	Not classified, based on available data
Specific Target Organ Toxicity (Single and Repeated Exposure)	Not classified, based on available data
Aspiration hazard	Not classified, based on available data

INFORMATION ON OTHER HAZARDS

Endocrine-disrupting properties	None of the components are listed as endocrine-disrupting under current EU criteria.
Adverse health effects caused by endocrine disrupting properties	No data available. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Potential adverse human health effects and symptoms	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecological Toxicity	Prevent from spreading or entering into drains, surface water, groundwater and rivers The product is considered toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
Hazardous to the aquatic environment, short term (acute)	No available data
Hazardous to the aquatic environment, long-term (chronic)	Very toxic to aquatic life with long lasting effects.
Bioaccumulation potential	No available data
Mobility in soil	No available data
PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine-disrupting properties	No components are listed as endocrine disruptors in current EU databases.
Other adverse effects	No available data

SECTION 13. DISPOSAL CONSIDERATIONS

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

WASTE NATURE
Non-hazardous waste

WASTE TREATMENT METHODS

Uncured and cured compound	Material may be disposed of as non-hazardous industrial solid waste if allowed by local regulations. Chemical incineration may be used for disposal, including contaminated packaging materials. Do not discharge to sewers or surface water.
Contaminated absorbents, wipes and PPE	Treat as non-hazardous industrial solid waste, incinerate with the product.
Empty packaging	Dispose as non-hazardous industrial solid waste following local regulations.

WASTE TREATMENT PRECAUTIONS

Warning: Generated waste is hazardous. Wear appropriate PPE. Avoid random disposal; comply with city, state, or national regulations.

SECTION 14. TRANSPORT INFORMATION

UN Number or ID Number

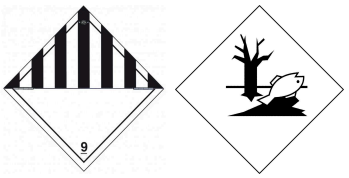
ADR/RID/ADN, IMDG, IATA	UN3077

Proper Shipping Name

ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (1,1'-(methylenedi-p-phenylene)bismaleimide)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (1,1'-(methylenedi-p-phenylene)bismaleimide)
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (1,1'-(methylenedi-p-phenylene)bismaleimide)

Transport Hazard Class

ADR/RID/ADN, IMDG, IATA



Hazard Class	9 Miscellaneous dangerous substances and articles
Label	9

Packing Group

ADR/RID/ADN, IMDG, IATA	III

Environmental hazards

Hazard	Product contains environmentally hazardous substances
Marine pollutant	Symbol (fish and tree)
Special marking (ADR/RID/ADN)	Symbol (fish and tree)
Special marking (IATA)	Symbol (fish and tree)

Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
Hazard identification number (Kemler code)	90
EMS Number	F-A, S-F
Stowage Category	A

Maritime transport in bulk according to IMO instruments	Not applicable

Transport/Additional information

ADR/RID/ADN	
Limited quantities (LQ)	5 kg
Excepted quantities (EQ)	E1
Transport category	3
Tunnel restriction code	(-)
UN "Model Regulation"	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (1,1'-(methylenedi-p-phenylene)bismaleimide), 9, III

TRANSPORTATION PRECAUTIONS

- Ensure the container is leak-proof.
- During transport, prevent falling, tipping, collisions, and exposure to direct sunlight.
- Pack and transport in a sealed container.
- Transportation must adhere to applicable national and international regulations.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized safety officer. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No. 1907/2006 (REACH) – Annex XVII (Restriction):
This substance/mixture does not contain any substances subject to restrictions under Annex XVII.
Regulation (EC) 1907/2006 (REACH) – Annex XIV (Authorisation):
This substance/mixture does not contain any substances subject to authorization under Annex XIV.
Regulation (EC) No. 1907/2006 (REACH) – Candidate List of Substances of Very High Concern (SVHC):
None of the ingredients are listed as SVHCs established under REACH Article 59.
Regulation (EC) No. 1272/2008 (CLP):
Classification, labeling, and packaging of substances and mixtures comply with CLP requirements.
Directive 2012/18/EU (Seveso III Directive) – Annex I:
This substance/mixture is not classified as a named dangerous substance under the Seveso III Directive.
Directive 2011/65/EU (RoHS Directive) – Annex II:
The substance is not listed as a restricted material under the RoHS Directive.
National Regulations:
Observe national and local worker-protection and environmental release rules

CHEMICAL SAFETY ASSESSMENT
No chemical-safety assessment has been carried out for this mixture.

SECTION 16. OTHER INFORMATION

The information in this safety data sheet was obtained from reputable sources and to the best of our knowledge is accurate and current at the mentioned date. Neither Krayden Inc. nor Krayden Europe BV accept any liability arising out of the use of the information provided here or the use, application or processing of the product described herein.

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