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Safety Data Sheet

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SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name	LINQSOL™ EMC-9012
Applications:	Black epoxy molding compound for the encapsulation of semiconductor devices
Advised Against	No further relevant information available
Supplier Name	Caplinq Europe BV

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SECTION 2. HAZARDS IDENTIFICATION

PROPOSED CLASSIFICATION

HAZARD CLASS
Skin Sensitization

HAZARD CATEGORY
Category 1

HAZARD PICTOGRAMS



SIGNAL WORD
Warning

HAZARD STATEMENTS
H317 May cause an allergic skin reaction.

PREVENTION PRECAUTIONARY STATEMENTS
P280 Wear protective gloves/protective clothing/eye protection/face protection

RESPONSE PRECAUTIONARY STATEMENTS
P333+P317 If skin irritation or rash occurs: Get medical help.

DISPOSAL PRECAUTIONARY STATEMENTS
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

OTHER HAZARDS
This substance/mixture does not meet the PBT or vPvB criteria outlined in Annex XIII of the REACH regulation. The mixture is free from substances listed under Article 59(1) of REACH for having endocrine-disrupting properties. It is also not identified as having endocrine-disrupting properties per the criteria outlined in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

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SECTION 3. INGREDIENT COMPOSITION

No.	Component	CAS Reg. No.	Proportion (%)
1	Silicon Dioxide (Vitreous)	60676-86-0	70–90
2	Biphenyl, 4,4'-bis-3,3,5,5-tetramethyl-	85954-11-6	1–10
3	Phenol-formaldehyde polymer	9003-35-4	1–<10
4	Carbon Black	1333-86-4	0.5–1.5

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 Move the individual to fresh air and ensure their comfort for normal breathing. If symptoms persist, get medical attention immediately.

In case of skin contact In case of skin contact: Flush with plenty of water and soap and seek medical attention.

In case of eye contact After eye contact: Immediately flush with a soft jet of water for at least 5 minutes as a precaution and remove contact lenses.

If swallowed If swallowed and feel unwell, 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 labeling (See section 2) and/or in section 11

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable Water spray, dry powder, or foam.

Unsuitable No Information available

SPECIAL HAZARDS ARISING FROM SUBSTANCE OR MIXTURE

Fire hazard Non-combustible solids

Hazardous decomposition Toxic fumes may be released

ADVICE FOR FIREFIGHTERS

Protection during firefighting Do not attempt to take action without proper protective clothing and equipment. Self-contained breathing apparatus and complete protective clothing should be worn in extinguishing large fires involving chemicals.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

- Ensure adequate ventilation in the spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Do not attempt to take action without proper protective clothing and equipment. Observe emergency procedures, consult an expert. For personal protection, see Section 8.

ENVIRONMENTAL PRECAUTIONS

- Do not let products enter drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see Sections 7 and 10). Take up carefully. Dispose of properly. Clean up the affected area. Avoid generation of dust.

REFERENCE TO OTHER SECTIONS

- For disposal, see Section 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Advice on safe handling Ensure sufficient ventilation at the workstation. Avoid contact with skin and eyes. Avoid dust formation. Avoid inhaling substance/mixture dust/fume/gas/mist/vapors/spray.

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 in a tightly closed, dry container. Ensure the storage area is well-ventilated. Keep the product locked up or in a secure location accessible only to qualified or authorized personnel.

Storage class No information available.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

CONTROL PARAMETERS

Exposure Limits

No.	Components	Standards	Reference
1	Silicon Dioxide (Vitreous)	5 mg/m^3/0.1 mg/m^3	OSHA[1]/ACGIH[2]
2	Biphenyl, 4,4'-bis-3,3,5,5-tetramethyl-	Not Established	OSHA/ACGIH
3	Phenol-formaldehyde polymer	19 mg/m^3/19 mg/m^3	OSHA/ACGIH
4	Carbon black	3.5 mg/m^3/ 3 mg/m^3	OSHA/ACGIH

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[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

Eye and face protection	Safety glasses
Hand protection	Protective gloves
Body protection	Suitable protective clothing
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment
Control of environmental exposure	Do not release the product to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid black pellets/powder
Odor	Odorless
pH	Not available
Freezing/boiling point	Not applicable
Flash point	Not applicable
Flammability	Not flammable
Vapor pressure (mmHg at 25 °C)	Not available
Explosive limit	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Solubility	Insoluble
Density	1.9–2.1 g/cm^3

OTHER INFORMATION

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

SECTION 10. STABILITY & REACTIVITY

Chemical Stability and Reactivity	Stable and non-reactive under ordinary conditions of use and storage.
Materials and Conditions to Avoid	None under recommended storage and handling conditions (see Section 7)
Hazardous Polymerization	No hazard at room temperature. Reacts with strong oxidants. Polymerization may occur at elevated temperature or in the presence of incompatible materials
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

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

CAS NO:	Value Type	Value	Route of Exposure
Carbon Black 1333-86-4	LD50	> 15400 mg/kg	Oral
	LC50	> 4.6 mg/l/4h	Inhalation

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Acute Toxicity (Oral)	Not classified
Acute Toxicity (Dermal)	Not classified
Acute Toxicity (Inhalation)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive Toxicity	Not classified
Specific Target Organ Toxicity (Single and Repeated Exposure)	Not classified
Aspiration hazard	Not classified

INFORMATION ON OTHER HAZARDS

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	The product is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
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 not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified
Mobility in soil	No information found
Bioaccumulation	No significant bioaccumulation potential
Persistence and biodegradability	No information found
PBT and vPvB assessment	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

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/instructions and/or local authorities.

SECTION 14. TRANSPORT INFORMATION

Land transport ADR/RID (Cross-border)	
ADR, RID Class	Not subject to ADR classification
Maritime transport IMDG	
IMDG Class	Not subject to IMDG classification
Air transport ICAO-TI and IATA-DGR	
ICAO/IATA Class	Not subject to IATA regulations

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Notice for Transportation	Transport according to local and national regulations. Ensure containers will not leak, collapse, or be damaged when transported. DO NOT transport with incompatible materials. Transportation vehicles should be equipped with the right fire-fighting equipment in case of an emergency. Avoid solarization, drenched and high temperatures when transported.

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

The product is free from substances restricted by REACH Annex XVII, substances on the REACH candidate list at concentrations ≥0.1%, substances listed in REACH Annex XIV, substances regulated by EU No 649/2012 on the export and import of hazardous chemicals, and substances governed by EU No 2019/1021 on persistent organic pollutants.

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 CAPLINQ Corporation, nor CAPLINQ 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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