KELMAR® LME Resin (Part A)

SECTION 1. IDENTIFICATION

Product Identifier	KELMAR® LME Resin (Part A)
Other Means of Identification	N/A
Product Family	Epoxy Resins
Recommended Use	Industrial concrete coating.
Restrictions on Use	This product is designed as part of a system in 2 parts and must be mixed, according to manufacturer's instructions, with the appropriate partner product before use.
Manufacturer/Supplier Identifier	R&D Technical Solutions Ltd., 7000 Davand Drive, Mississauga, ON, L5T 1J5, 905-795-9900, www.rdsolutions.ca
Emergency Phone No.	CANUTEC, 1-613-996-6666, 24 HR

SECTION 2. HAZARD IDENTIFICATION

Classification

Skin irritation - Category 2; Serious eye damage - Category 2; Skin sensitization - Category 1; Aquatic hazard (Chronic) - Category 2

Label Elements

Warning
Hazard Statement(s):
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
Precautionary Statement(s):
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands and skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear eye protection/face protection.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P315 Get immediate medical advice/attention.
P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P314 Get medical advice/attention if you feel unwell.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	55-60	
Alkyl Glycidly Ether	68609-97-2	20-25	
Neopentyl glycol diglycidal ether	0017557-23-2	18-21	

Notes

Any concentration shown as a range is to protect confidentiality or due to batch variations.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation or a rash occurs, get medical advice or attention. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

Skin sensitizer. May cause an allergic skin reaction in some people. In sensitized people, contact with a very small amount of product can cause an allergic reaction. Symptoms include redness, rash, itching and swelling. This reaction can spread from the hands or arms to the face and body. Repeated exposure will make the reaction worse.

Immediate Medical Attention and Special Treatment

Target Organs

This product is unlikely to target specific organs. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

Skin allergies.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Unsuitable Extinguishing Media

Do not use direct water stream - may cause fire to spread.

Specific Hazards Arising from the Product

During a fire, smoke may contain the original material in addition to combustion products which may be toxic and/or irritating.
In a fire, the following hazardous materials may be generated: corrosive phenols; very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

No special precautions are necessary. Dike and recover contaminated water for appropriate disposal.
Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Non-emergency personnel: evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Emergency responders: do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Contain and soak up spill with absorbent that does not react with spilled product. Contaminated absorbent poses the same hazard as the spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Suitable absorbents are: clay, dirt, sand, Milsorb®.

Other Information

Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not breathe in this product. Do not get in eyes, on skin or on clothing. Avoid repeated or prolonged skin contact. Avoid generating vapours or mists. Avoid release to the environment. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Avoid heating that will increase the amount of vapours. Avoid ALL unprotected contact with this product or with contaminated equipment/surfaces. Wear personal protective equipment to avoid direct contact with this chemical. Do NOT eat, drink or store food in work areas. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.

Conditions for Safe Storage

Store in an area that is: well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Restrict access to authorized personnel only. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Not available.

No known exposure limits. Consult local authorities for provincial or state exposure limits. TLV® = Threshold Limit Value. ACGIH® = American Conference of Governmental Industrial Hygienists.

Appropriate Engineering Controls

General ventilation is usually adequate.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Use personal protective equipment as required. Chemical-resistant, impervious gloves which comply with an approved standard should be worn at all times when handling. In case of an emergency (e.g. an uncontrolled release): wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Not usually required when working with small quantities. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge. During spraying, wear suitable respiratory equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless - yellow liquid. Particle Size: Not available
Odour	characteristic sweet, slight aromatic
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	> 150 ºC (302 ºF)
Flash Point	> 110 ºC (230 ºF)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.063 (estimated)
Solubility	Not available in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid
Molecular Formula	Not available
Molecular Weight	Not available
Bulk Density	Not available
Surface Tension	Not available
Critical Temperature	Not available
Electrical Conductivity	Not available
Vapour Pressure at 50 deg C	Not available
Saturated Vapour Concentration	Not available
VOC	<5 g/l-water

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Exothermic reactions, including polymerization, may occur in contact with amines.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Polymerizes in the presence of aliphatic amines.

Conditions to Avoid

Heat. Prolonged exposure to high temperatures. Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Avoid contact with: strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide), oxidizing agents (e.g. peroxides), strong oxidizing agents (e.g. perchloric acid). Avoid unintended contact with amines.

Hazardous Decomposition Products

Can include, but not limited to: very toxic carbon monoxide, carbon dioxide; very toxic, flammable aldehydes.

SECTION 11. TOXICOLOGICAL INFORMATION

No data for the product itself. ATE values are calculated based on toxicity values of individual components of this product.

Likely Routes of Exposure

Skin contact; skin absorption; inhalation; eye contact.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	Not applicable	> 15,000 mg/kg (rat)	23,000 mg/kg (rabbit)
Neopentyl glycol diglycidal ether		4500 mg/kg (rat)	> 2100 mg/kg (rat)
Alkyl Glycidly Ether	Not available	17100-1920 mg/kg (rat)	> 4500 mg/kg (rabbit)

LC50: Not applicable.

Oral ATEmix = 5192.26 mg/kg

Dermal ATEmix = 6050.37 mg/kg

Skin Corrosion/Irritation

There is limited evidence of moderate or severe irritation. Symptoms include pain, redness, and swelling.

Serious Eye Damage/Irritation

There is limited evidence of mild irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Exposure to vapour is minimal due to low volatility at room temperature. Exposure to heated vapours may cause irritation to the nose, throat or mucous membranes.

Skin Absorption

May be harmful.

Ingestion

May be harmful May cause irritation of the mouth, throat and stomach.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms can include redness, rash, swelling and itching.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. May cause sensitization by skin contact. Human experience shows an allergic skin reaction (skin sensitization) in rare cases following exposure at work. In sensitized people, contact with a very small amount of product can cause an allergic reaction. Symptoms include redness, rash, itching and swelling. This reaction can spread from the hands or arms to the face and body. Repeated exposure will make the reaction worse.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	Group 3	Not Listed	Not Listed	

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

Conclusions cannot be drawn from the limited studies available.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available. Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This product has not been tested. The toxicity value statements have been derived from the properties of individual components.

Ecotoxicity

Harmful to aquatic life, Contains a substance which causes risk of hazardous effects to the environment.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	2 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; semi-static)	1.8 mg/L (Daphnia magna (water flea); 48-hour; static)	11 mg/L (Selenastrum capricornutum (algae); 72-hour; fresh water; static)	
Alkyl Glycidly Ether	> 1800 mg/L (96-hour)	6.07-7.2 mg/L		844 mg/L (72-hour)

Persistence and Degradability

Does not degrade rapidly based on quantitative tests.

Bioaccumulative Potential

The product has potential for bioaccumulation.

Mobility in Soil

If released into the environment, this product is expected to move slowly through the soil, based on physical and chemical properties.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Empty containers retain product residue. Follow label warnings even if container appears to be empty.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN3082	Environmentally Hazardous Substance, Liquid N.O.S. (Epoxy Resin)	9	III
US DOT	UN3082	Environmentally Hazardous Substance, Liquid N.O.S. (Epoxy Resin)	9	III

Special Precautions Please note: ROAD/RAIL: Not regulated in packages 450 litres or less.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

SECTION 16. OTHER INFORMATION

SDS Prepared By Compliance & Documentation Coordinator

Phone No. 905-795-9900

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Revision Indicators Not applicable.

Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
IARC = International Agency for Research on Cancer
NIOSH = National Institute for Occupational Safety and Health
OSHA = US Occupational Safety and Health Administration

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Accelrys, Inc. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

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