KELMAR® PC Hardener - Part B

SECTION 1. IDENTIFICATION

Product Identifier	KELMAR® PC Hardener - Part B
Other Means of Identification	N/A
Product Family	Epoxy Hardeners
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

Acute toxicity (Oral) - Category 4; Skin corrosion - Category 1B; Serious eye damage - Category 1; Skin sensitization - Category 1; Germ cell mutagenicity - Category 2; Reproductive toxicity - Category 1B; Specific target organ toxicity (repeated exposure) - Category 2; Aquatic hazard (Acute) - Category 3; Aquatic hazard (Chronic) - Category 3

Label Elements

Danger

Hazard Statement(s):

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement(s):

P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands and skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 Immediately call a POISON CENTRE or doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333 + P313 If skin irritation or rash 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.
P310 Immediately call a POISON CENTRE or doctor.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
Storage:
P233 Keep container tightly closed.
P235 + P410 Keep cool. Protect from sunlight.
Disposal:
P501 Dispose of contents and container in accordance with local, regional, national and international regulations.
Note:
57.8
% of the mixture consists of an ingredient or ingredients of unknown acute toxicity inhalation.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
4-Nonylphenol, branched (mixed isomers)	84852-15-3	52-60	
Aminoethylethanolamine	111-41-1	12-15	
Benzyl alcohol	100-51-6	5-8	
Morpholine, 4-aminopropyl-	123-00-2	5-7	
Phenol	108-95-2	0.05-0.7	
Polypropylene glycol, liquids	25322-69-4	0.75-2.0	

Notes

Concentrations are expressed in % weight/weight. Any concentration shown as a range is to protect confidentiality or due to batch variations.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Call a Poison Centre or doctor. Keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Avoid mouth-to-mouth contact by using a barrier device.

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 rinse with lukewarm, gently flowing water for 15-20 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present, after the initial 1-2 minutes and continue flushing for several additional minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Immediately call a Poison Centre or doctor. Rinse mouth with water. Do not induce vomiting. 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. Avoid mouth-to-mouth contact by using a barrier device.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training.

Most Important Symptoms and Effects, Acute and Delayed

Can cause severe irritation of the nose and throat. May burn the skin. Permanent scarring may result. Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

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

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

Not applicable.

Specific Hazards Arising from the Product

Closed containers may rupture violently when heated releasing contents.
In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Dike and recover contaminated water for appropriate disposal. Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.
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

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

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. Minimize the use of water to prevent environmental contamination.

Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Contaminated absorbent poses the same hazard as the spilled product. Large spills or leaks: dike spilled product to prevent runoff. Dike and recover contaminated water for appropriate disposal.

Other Information

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

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing in this product. Do not get in eyes, on skin or on clothing. Avoid generating vapours or mists. Avoid

release to the environment. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Get medical advice or attention for all exposures. Symptoms can be delayed. 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. Remove contaminated clothing and protective equipment before entering eating areas or leaving work area.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated. Store in the original, labelled, shipping container. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Not available.

Consult local authorities for provincial or state exposure limits.

Appropriate Engineering Controls

General ventilation is usually adequate. For large scale use of this product: use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists. Workers must use appropriate certified respirators when facing concentrations above the exposure limits.

Individual Protection Measures

Eye/Face Protection

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

Skin Protection

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.
Suitable materials are: butyl rubber, nitrile rubber, Silver Shield/4H® (PE/EVAL/PE).

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a powered air-purifying respirator with an appropriate cartridge. In case of inadequate ventilation wear respiratory protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless - yellowish oily liquid. Particle Size: Not applicable
Odour	Ammonia-like (Polypropylene glycol, liquids)
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	> 100 ºC (212 ºF) (closed cup) (Benzyl alcohol)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
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)	0.961
Solubility	Moderately soluble in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available

Viscosity	Not available (dynamic)

Other Information

Physical State	Liquid
Molecular Formula	Not applicable
Molecular Weight	Not applicable
Bulk Density	Not available
Surface Tension	Not available
Critical Temperature	Not available
Electrical Conductivity	Not available
Saturated Vapour Concentration	Not available
VOC	5.17 % w/w

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Prolonged exposure to high temperatures. Freezing.

Incompatible Materials

None known.

Hazardous Decomposition Products

None known.

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; eye contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
4-Nonylphenol, branched (mixed isomers)		1412 mg/kg (rat)	2140 mg/kg (rabbit)
Benzyl alcohol	> 4.168 mg/L (rat) (4-hour exposure) (vapour)	1230 mg/kg (rat)	2000 mg/kg (rabbit)
Polypropylene glycol, liquids		1100 mg/kg (rat)	1555 mg/kg (rabbit)
Aminoethylethanolamine	51.3 mg/m3 (rat) (vapour)	~ 2000 mg/kg (rat)	> 2000 mg/kg (rabbit)

Inhalation ATEmix = 28.25 mg/L (4-hour exposure) (vapour)
57.84% of the mixture consists of an ingredient or ingredients of unknown acute toxicity (inhalation)

Oral ATEmix = 1923.26 mg/kg

Dermal ATEmix = 2747.54 mg/kg

Skin Corrosion/Irritation

There is limited evidence of skin corrosion. Animal tests show skin corrosion. (Polypropylene glycol, liquids)

Serious Eye Damage/Irritation

Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes nose and throat irritation.

Skin Absorption

Causes thermal burns.

Ingestion

May cause severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause damage to organs based on animal studies. May cause effects on the central nervous system.

Respiratory and/or Skin Sensitization

No information was located for respiratory sensitization. May cause an allergic reaction (skin sensitization) based on limited evidence. 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
4-Nonylphenol, branched (mixed isomers)	Group 3			
Benzyl alcohol	Not evaluated	Not Listed	Not Listed	

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

Animal studies show effects on the offspring. However, these effects are only seen with significant toxicity in the mothers. (4-Nonylphenol, branched (mixed isomers)) may cause effects on the unborn child based on limited evidence.

Sexual Function and Fertility

May cause effects on sexual function and/or fertility based on limited evidence.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

May be mutagenic based on limited evidence. (4-Nonylphenol, branched (mixed isomers))

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains a substance which causes risk of hazardous effects to the environment. (4-Nonylphenol, branched (mixed isomers))

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae

4-Nonylphenol, branched (mixed isomers)	0.128 mg/L (96-hour; flow-through)	0.085 mg/L (Daphnia magna (water flea); 48-hour; static)	1.3 mg/L (Desmodesmus subspicatus (algae); 72-hour; static)	
Benzyl alcohol	460 mg/L (Pimephales promelas (fathead minnow); 96-hour)	230 mg/L (Daphnia magna (water flea); 48-hour)		700 mg/L (Pseudokirchneriella subcapitata (algae); 72-hour; static)
Polypropylene glycol, liquids	> 100 mg/L (96-hour)	15 mg/L (Daphnia magna (water flea); 48-hour)		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Benzyl alcohol	51 mg/L (Daphnia magna (water flea); 21-day)			

Persistence and Degradability

No information was located.

Bioaccumulative Potential

The product has potential for bioaccumulation.

Mobility in Soil

No information was located. Studies are not available.

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. 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	UN2735	Amines, Liquid, Corrosive N.O.S. (Polyoxypropylenediamine)	8	II
US DOT	UN2735	Amines, Liquid, Corrosive N.O.S. (Polyoxypropylenediamine)	8	II

Environmental Hazards Potential Marine Pollutant (4-Nonylphenol, branched (mixed isomers))

Special Precautions Not applicable

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
Date of Preparation	October 11, 2016
Date of Last Revision	October 11, 2016
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 NTP = National Toxicology Program RTECS® = Registry of Toxic Effects of Chemical Substances 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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