Kelmar® RC Hardener (Part B)

SECTION 1. IDENTIFICATION

Product Identifier	Kelmar® RC Hardener (Part B)
Other Means of Identification	n/a
Product Family	Epoxy Hardeners
Recommended Use	For use as a coating in areas subject to light-medium duty traffic such as manufacturing facilities, schools, hospitals and clean industrial spaces.
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 1; Reproductive toxicity - Category 1; Specific target organ toxicity (repeated exposure) - Category 2; Aquatic hazard (Acute) - Category 1; Aquatic hazard (Chronic) - Category 1

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.
H340 May cause genetic defects.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P314 Get medical advice or attention if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice or attention.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
Disposal:
P501 Dispose of contents and container in accordance with local, regional, national and international regulations.
Note:
60-70
% of the mixture consists of ingredient(s) of unknown acute toxicity inhalation.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
4-Nonylphenol, branched (mixed isomers)	84852-15-3	60-75	
Benzyl alcohol	100-51-6	7-10	
Triethylenetetramine	112-24-3	6-10	
Aminoethylethanolamine	111-41-1	3-5	
Morpholine, 4-aminopropyl-	123-00-2	1-4	

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

Immediately call a Poison Centre or doctor. 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 breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Get medical advice or attention if you feel unwell. If skin irritation 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. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Immediately call a Poison Centre or doctor. Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again.

First-aid Comments

Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result. 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. If inhaled:

can cause severe irritation of the nose and throat.

Immediate Medical Attention and Special Treatment

Target Organs

Skin, eyes, respiratory system.

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. 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

Closed containers may rupture violently when heated releasing contents. Contain fire water runoff if possible - may cause environmental damage.
In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

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

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

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.

Other Information

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

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Avoid generating vapours or mists. Avoid release to the environment. General hygiene considerations: do NOT smoke in work areas. Do NOT eat, drink or store food in work areas. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated. 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

The hazard potential of this product is relatively low. General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

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

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: neoprene rubber, nitrile rubber. Chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Yellowish oily liquid. Particle Size: Not applicable
Odour	amine-like
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)	0.963 at 20 ºC (68 ºF)
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
Surface Tension	Not available
Critical Temperature	Not available
Saturated Vapour Concentration	Not available

Other Physical Property 1 VOC = 7.97%

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

High temperatures.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong acids (e.g. hydrochloric acid), alcohols (e.g. ethanol), aldehydes (e.g. acetaldehyde).

Hazardous Decomposition Products

Can include, but not limited to: very toxic carbon monoxide, carbon dioxide; corrosive, flammable ammonia; corrosive, oxidizing nitrogen oxides.

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; eye contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Triethylenetetramine	Not available	1716 mg/kg (rat)	1465 mg/kg (rabbit)
Aminoethylethanolamine	51.3 mg/m3 (rat) (vapour)	~ 2000 mg/kg (rat)	> 2000 mg/kg (rabbit)
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)

ATE (oral) = 796 mg/kg

Skin Corrosion/Irritation

There is limited evidence of skin corrosion. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

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. Prolonged or widespread skin contact may result in absorption of potentially harmful amounts.

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 effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above. May cause effects on the central nervous system. May cause lung injury. (Triethylenetetramine)

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Human experience shows an allergic skin reaction (skin sensitization) in rare cases following exposure at work. (Triethylenetetramine) 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.

Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 3 = Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity

Development of Offspring

Animal studies show effects on the offspring. However, these effects are only seen with significant toxicity in the mothers. May cause effects on the unborn child based on limited evidence.

Sexual Function and Fertility

Contains components which have been shown to interfere with fertility, in animal studies.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

May be mutagenic based on limited evidence.

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

Very toxic, with long lasting effects to aquatic life,. (4-Nonylphenol, branched (mixed isomers))

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Triethylenetetramine	330 mg/L (Pimephales promelas (fathead minnow); 96-hour; static)	31.1 mg/L (Daphnia magna (water flea); 48-hour; static)	20 mg/L (Pseudokirchneriella subcapitata (algae); 72-hour; semi-static)	
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)

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Triethylenetetramine	1.9 mg/L (21-day; semi-static)			
Benzyl alcohol	51 mg/L (Daphnia magna (water flea); 21-day)			

Persistence and Degradability

Does not degrade rapidly based on quantitative tests. (4-Nonylphenol, branched (mixed isomers))

Bioaccumulative Potential

This product or its degradation products are expected to bioaccumulate. Fish Bioconcentration Factor: ~740. (4-Nonylphenol, branched (mixed isomers))

Mobility in Soil

Studies are not available.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN3145	Alkylphenols, Liquid, N.O.S. ((Nonyl Phenol))	8	II
US DOT	UN3145	Alkylphenols, Liquid, N.O.S. ((Nonyl Phenol))	8	II
IMO (Marine)	UN3145	Alkylphenols, Liquid, N.O.S. ((Nonyl Phenol))	8	II

Environmental Hazards 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

NFPA Rating	**Health - 3** **Flammability - 1** **Instability - 0**
	Based on 4-Nonylphenol, branched (mixed isomers)
SDS Prepared By	Compliance & Documentation Coordinator
Phone No.	905-795-9900
Date of Last Revision	May 10, 2016
Key to Abbreviations	IARC = International Agency for Research on Cancer NIOSH = National Institute for Occupational Safety and Health RTECS® = Registry of Toxic Effects of Chemical Substances
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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