KELMAR® 1920 Hardener - Part B

SECTION 1. IDENTIFICATION

Product Identifier	KELMAR® 1920 Hardener - Part B
Other Means of Identification	N/A
Product Family	Epoxy Hardeners
Recommended Use	Commercial 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	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
Date of Preparation	April 19, 2021

SECTION 2. HAZARD IDENTIFICATION

Classification

Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1; Skin sensitization - Category 1; Reproductive toxicity - Category 1; 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.
H360 May damage fertility or the unborn child.
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.
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.
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 or attention.
P363 Wash contaminated clothing before reuse.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice or attention.
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.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P410 Protect from sunlight.
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	Other Names
Polyoxypropylenediamine	9046-10-0	15-40		
4-Nonylphenol, branched (mixed isomers)	84852-15-3	10-30		
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	25085-99-8	10-30		
Triethylenetetramine	112-24-3	10-30		
Aminoethylethanolamine	111-41-1	5-10		
Morpholine, 4-aminopropyl-	123-00-2	1.0-7.0		
Tetraethylenepentamine	112-57-2	0-3.0		
N-(2-Aminoethyl)piperazine	140-31-8	0-3.0		

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

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.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation or a rash occurs, get medical advice or attention. Call a Poison Centre or doctor if you feel unwell. 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. Continue eye irrigation for not less than 15 minutes. Immediately call a Poison Centre or doctor.

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. Call a Poison Centre or doctor if you feel unwell.

First-aid Comments

If exposed or concerned, get medical advice or attention. This compound contains a skin sensitizer. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure.

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.

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

None known.

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

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. Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

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: 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.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin or on clothing. Avoid generating vapours or mists. Avoid heating that will increase the amount of vapours. Avoid release to the environment. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Prevent accidental contact with incompatible chemicals. General hygiene considerations: 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. Immediately remove contaminated clothing using the method that minimizes exposure. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated. Restrict access to authorized personnel only. Store in the original, labelled,

shipping container.

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.

Individual Protection Measures

Eye/Face Protection

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

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots. Chemical-resistant, impervious gloves which comply with an approved standard should be worn at all times when handling.
Butyl rubber, neoprene rubber, nitrile rubber, polyvinyl chloride.

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 organic vapour cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Light yellow oily liquid. Particle Size: Not available
Odour	Phenolic (4-Nonylphenol, branched (mixed isomers))
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	> 240 ºC (464 ºF) (Aminoethylethanolamine)
Flash Point	>= 112.8 ºC (235.0 ºF) (closed cup)
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)	0.997
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

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. Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide). Absorbent materials such as ground corn cobs moist organic absorbents peat moss sawdust avoid unintended contact with amines.

Hazardous Decomposition Products

Can include, but not limited to: corrosive, flammable ammonia. volatile amines very toxic carbon monoxide, carbon dioxide.

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; skin absorption; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
4-Nonylphenol, branched (mixed isomers)		1412 mg/kg (rat)	2140 mg/kg (rabbit)
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	Not applicable	> 15,000 mg/kg (rat)	23,000 mg/kg (rabbit)
Polyoxypropylenediamine		1146 mg/kg (rat)	1620 mg/kg (rabbit)
Aminoethylethanolamine	51.3 mg/m3 (rat) (vapour)	~ 2000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Triethylenetetramine	Not available	504.00 mg/kg (rat)	1108.00 mg/kg (rabbit)

LC50: No information was located.

Oral ATEmix = 1112.27 mg/kg

Dermal ATEmix = 1864.15 mg/kg

Skin Corrosion/Irritation

May burn the skin. Permanent scarring may result. Animal tests show skin corrosion.

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

Exposure to heated vapours may cause irritation to the nose, throat or mucous membranes. May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.

Skin Absorption

Harmful based on limited evidence. (4-Nonylphenol, branched (mixed isomers)) causes thermal burns.

Ingestion

May cause severe irritation or burns to the mouth, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Permanent damage can result.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause effects on the central nervous system.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Can cause an allergic reaction (skin sensitization) based on animal tests. 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. Sensitization may occur following exposure to the liquid or vapour.

Carcinogenicity

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

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

Sexual Function and Fertility

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

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

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

May be 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
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)	
Polyoxypropylenediamine	> 100 mg/L (96-hour)	15 mg/L (Daphnia magna (water flea); 48-hour)		

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

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. 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. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	2735	Amines, Liquid, Corrosive N.O.S. (Polyoxypropylenediamine)	8	II
US DOT	2735	Amines, Liquid, Corrosive N.O.S. (Polyoxypropylenediamine)	8	II

Special Precautions Not applicable

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

Not applicable

Proof of Dangerous Goods Classification

Date of Classification April 19, 2021

Technical Name Polyoxypropylenediamine

Classification Class 8 PG II

Classification Method Based on the formulary percentages of each ingredient, this product has been determined to be primarily Amine based. The technical name has been determined mathematically by greatest combined quantity of a particular amine.

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 April 19, 2021

Date of Last Revision	April 19, 2021
Revision Indicators	The following SDS content was changed on April 19, 2021: SECTION 2. HAZARD IDENTIFICATION; Classification; Label Elements. SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS; Ingredient Information. SECTION 14. TRANSPORT INFORMATION; Shipping Information; Proof of Dangerous Goods Classification; Classification Method.
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 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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