QuakeBond™ 320LV Injection Resin Part B

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Identification

Trade name : QuakeBond™ 320LV Injection Resin Part B

Product code : 50151

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

QuakeWrap, Inc.
6840 S Tucson Blvd.
Tucson, Arizona 85756

1.4. Emergency telephone number

Emergency number : 800-535-5053 (Infotrac)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 2A	H319
Skin sensitization Category 1	H317
Reproductive toxicity Category 2	H361

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) :
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing mist/vapors/spray
P264 - Wash all contact areas thoroughly after handling
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection
P302+P352 - If on skin: Wash with plenty of mild soap and water
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/attention
P321 - Specific treatment: See SDS Section 4.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P405 - Store locked up
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations

*Specific component identification and/or percentages may be withheld as Trade Secret

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Benzyl Alcohol	(CAS No) 100-51-6	< 50	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:vapour), H332 Eye Irrit. 2B, H320
Polyamidoamine	(CAS No) 26950-63-0	< 50	Eye Dam. 1, H318 Skin Sens. 1, H317
1,2-cyclohexanediamine	(CAS No) 694-83-7	< 50	Flam. Liq. 4, H227 Skin Corr. 1C, H314 Eye Dam. 1, H318
Aliphatic polyamine blend	(CAS No) UNKNOWN	< 50	Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317
1,2-ethanediamine, N,N'-bis(2-aminoethyl)-	(CAS No) 112-24-3	< 50	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

First-aid measures after skin contact : Dispose of contaminated leather articles. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash clothing frequently. Keep work clothing separately. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Symptoms may be delayed.

Symptoms/injuries after inhalation : Not expected to present a respiratory hazard under ambient conditions of normal industrial use due to low vapor pressure. Vapors from heated material may cause mild respiratory irritation with dryness and cough.

Symptoms/injuries after skin contact : Redness. May cause moderate irritation. Swelling.

Symptoms/injuries after eye contact : Causes serious eye irritation. Swelling and conjunctivitis. Lacrimation.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating and/or toxic gases or fumes likely if involved in fire or exposed to extreme heat.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Combustion produces toxic gases.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Boots, gloves, goggles.

Emergency procedures : Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Impermeable boots and protective equipment. Protective gloves.

Emergency procedures : Stop leak if safe to do so. Ventilate area. Evacuate and limit access.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dike and contain spill.

Methods for cleaning up : Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : When heated, material emits irritating fumes.

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid contact with eyes.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a dry place.

Maximum storage period : 12 months

Storage temperature : 25 - 50 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzyl Alcohol (100-51-6)

Not applicable

1,2-cyclohexanediamine (694-83-7)

Not applicable

Aliphatic polyamine blend (UNKNOWN)

Not applicable

Polyamidoamine (26950-63-0)

Not applicable

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)

Not applicable

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Personal protective equipment	:	Gloves. In case of insufficient ventilation or if heated, wear suitable respiratory equipment. Chemical goggles or safety glasses. Chemical goggles.

Materials for protective clothing	:	butyl rubber. Nitrile rubber.
Hand protection	:	Protective gloves.
Eye protection	:	Safety glasses.
Skin and body protection	:	Wear suitable protective clothing.
Respiratory protection	:	Wear respiratory protection.
Thermal hazard protection	:	Use insulated gloves when handling this material hot.
Environmental exposure controls	:	Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Black
Odor	:	Ammoniacal
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	> 100 °C
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Vapor pressure	:	< 1 mm Hg @ 20 deg C
Relative density	:	No data available
Relative vapor density at 20 °C	:	No data available
Specific gravity / density	:	1.027 g/cm³
Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Viscosity, dynamic	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. . Reaction with epoxy resins or isocyanates in very large amounts or under uncontrolled conditions may produce extreme heat with noxious smoke and fumes.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Hazardous decomposition products may be released during prolonged heating like smoke, carbon monoxide and dioxide, nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Benzyl Alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg (Rat; Experimental value)
LC50 inhalation rat (mg/l)	4178 mg/m³ OECD403
ATE US (oral)	1620.000 mg/kg body weight
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	4178.000 mg/l/4h

1,2-cyclohexanediamine (694-83-7)	
LD50 oral rat	4556 mg/kg
LC50 inhalation rat (mg/l)	> 4.5 mg/l/4h (Rat)
ATE US (oral)	4556.000 mg/kg body weight

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
LD50 oral rat	1716 mg/kg
LD50 dermal rabbit	1465 mg/kg
ATE US (oral)	1716.000 mg/kg body weight
ATE US (dermal)	1465.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child .

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Benzyl Alcohol (100-51-6)	
NOAEL (oral,rat,90 days)	400 mg/kg bodyweight/day 103 weeks - 5days/wk
NOAEL (inhalation,rat,dust/mist/fume,90 days)	1072 mg/l/6h/day 4 weeks

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Not expected to present a respiratory hazard under ambient conditions of normal industrial use due to low vapor pressure. Vapors from heated material may cause mild respiratory irritation with dryness and cough.

Symptoms/injuries after skin contact : Redness. May cause moderate irritation. Swelling.

Symptoms/injuries after eye contact : Causes serious eye irritation. Swelling and conjunctivitis. Lacrimation.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Benzyl Alcohol (100-51-6)	
LC50 fish 1	460 mg/l 96 HR, Pimephales promelas
EC50 Daphnia 1	230 mg/l OECD 202
EC50 other aquatic organisms 1	390 mg/l Bacteria, 24 hrs ISO 8192
NOEC (chronic)	310 mg/l OECD 201 Algae

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Threshold limit algae 1	>= 100 mg/l (ErC50; DIN 38412-9; 72 h; Scenedesmus subspicatus)

12.2. Persistence and degradability

Benzyl Alcohol (100-51-6)	
Persistence and degradability	Readily biodegradable, according to appropriate OECD test.

1,2-cyclohexanediamine (694-83-7)	
Persistence and degradability	Biodegradability in water: no data available.

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available. Photodegradation in the air.

12.3. Bioaccumulative potential

1,2-cyclohexanediamine (694-83-7)	
Log Pow	0.09 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.

Waste disposal recommendations : Collect all waste in suitable and labeled containers and dispose according to local legislation.

Additional information : Material in "as sold" condition is not regulated as a hazardous waste under federal RCRA regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

QuakeBond™ 320LV Injection Resin Part B **(none)**	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Benzyl Alcohol (100-51-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

1,2-cyclohexanediamine (694-83-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard

Polyamidoamine (26950-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C))
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

efi Polymers Amine Hardener 50151 / Quakewrap 320LV Injection Resin Part B **(none)**
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

Aliphatic polyamine blend (UNKNOWN)
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

15.3. US State regulations

Benzyl Alcohol (100-51-6)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Massachusetts - Right To Know List

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Abbreviations and acronyms : N.A. - Not Applicable
N.E. - Not Established
N.D. - Not Determined
ACGIH = American Conference of Governmental Industrial Hygienists
OSHA = US Occupational Health and Safety Administration
TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs)
STEL = Short-Term Exposure Limit (15 min)
C = Ceiling Value
PEL = Permissible Exposure Limit
OEL = Occupational Exposure Limit
IDLH = Immediately Dangerous to Life and Health
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
PNEC = Predicted No Effect Concentration
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NOAEC = No Observed Adverse Effect Concentration.

Other information : DISCLAIMER: To the best of our knowledge, the information contained in this MSDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material.

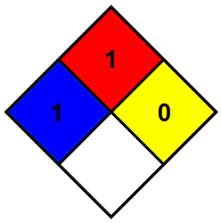
Full text of H-phrases:

H227	Combustible liquid
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : C - Safety glasses, Gloves, Synthetic apron

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product