



QuakeBond™ 220TC Part B Hardener

Safety Data Sheet

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

Date of issue: 02/09/2018

Revision date: 09/10/2018

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Trade name : QuakeBond 220TC Part B Hardener
CAS No : MIX
Product code : 50270

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 - USA
T 520.791.7000

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 1	H318
Skin sensitization Category 1	H317
Hazardous to the aquatic environment - Acute Hazard Category 3	H402
Hazardous to the aquatic environment - Chronic Hazard Category 3	H412

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

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
P273 - Avoid release to the environment
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
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment: See SDS Section 4.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations

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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
Polyamide Resin Blend	(CAS No) TRADE SECRET	30 - 60	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
Trimethylolpropane poly(oxypropylene)triamine	(CAS No) 39423-51-3	10 - 30	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Amorphous silicate substance with OEL values	(CAS No) 67762-90-7	1 - 10	Not classified
1,2-ethanediamine, N,N'-bis(2-aminoethyl)-	(CAS No) 112-24-3	1 - 10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

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 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. Keep work clothing separate. 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 continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate 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 : Delayed adverse effects possible.
- 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.
- Chronic symptoms : Cross-sensitization, or allergic response away from direct contact area may occur. . Symptoms of chronic overexposure may not be readily apparent.

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Chronic symptoms	*Triethylenetetramine (TETA) caused embryofetal toxicity and fetal malformations when fed to pregnant rats. Similar effects were not seen in studies in which this material was applied to the skin of rabbits, a more relevant route of industrial exposure. These effects are believed to be secondary to copper deficiency, resulting from the chelating activity of the amine. Repeated and prolonged overexposure may cause liver or kidney effects. . Animal studies suggest chronic overexposure effects may target the liver.

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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 moderately and if possible collect or contain it. Use water spray or fog for cooling exposed containers. Dike water and extinguishing agents away from drains and waterways if possible.
Protection during firefighting : Complete protective clothing. Use self-contained breathing apparatus and chemically 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. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Soak up small spill with inert solids. Contain or absorb spilled liquid with clay or other absorbent material. Dike and contain spill. Sweep or shovel spills into appropriate container for disposal.
Methods for cleaning up : On land, sweep or shovel into suitable containers. Clean/flush spill area with mild detergent solution.
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 : Avoid contact with skin and eyes. Wear personal protective equipment. Protect eyes, face and skin from liquid splashes.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store indoors in closed containers with closure in upper position. Store in accordance with local/national regulations. 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

Polyamide Resin BLEND

Not applicable

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1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)		
AIHA	WEEL TWA (mg/m ³)	6 mg/m ³ Skin
AIHA	WEEL TWA (ppm)	1 ppm
Polyamidoamine (26950-63-0)		
Not applicable		
Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)		
Not applicable		
Amorphous silicate (67762-90-7)		
DNEL	DNEL	<=
OSHA	OSHA PEL (TWA) (mg/m ³)	6 mg/m ³ Respirable Dust

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 : PICM009.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable protective clothing.
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 : amber
Odor : Amine-like Ammoniacal
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : > 100 °C
Flash point : > 150 °C
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : < 1 mm Hg @ 20 deg C
Relative vapor density at 20 °C : No data available
Relative density : No data available
Specific gravity / density : 0.98 g/cm³
Solubility : Moderately soluble in water.
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : 150000 cP
Viscosity, dynamic : No data available
Explosion limits : No data available

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Explosive properties : No data available
Oxidizing properties : 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 of use and storage.

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

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

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
LD50 oral rat	550 mg/kg OECD 425
LD50 dermal rat	> 1000 mg/kg OECD 402
ATE US (oral)	550.000 mg/kg body weight
ATE US (dermal)	1100.000 mg/kg body weight

Amorphous silicate (67762-90-7)	
LD50 oral rat	5000 mg/kg
ATE US (oral)	5000.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

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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.
Chronic symptoms	: Cross-sensitization, or allergic response away from direct contact area may occur. . Symptoms of chronic overexposure may not be readily apparent.

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
Chronic symptoms	*Triethylenetetramine (TETA) caused embryofetal toxicity and fetal malformations when fed to pregnant rats. Similar effects were not seen in studies in which this material was applied to the skin of rabbits, a more relevant route of industrial exposure. These effects are believed to be secondary to copper deficiency, resulting from the chelating activity of the amine. Repeated and prolonged overexposure may cause liver or kidney effects. . Animal studies suggest chronic overexposure effects may target the liver.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

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)

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
LC50 fish 1	> 100 mg/l OECD 203 Fish
EC50 Daphnia 1	13 mg/l OECD 202 Daphnia
ErC50 (algae)	4.4 mg/l OECD 201
NOEC (chronic)	1 mg/l 72 hr, Algae OECD 201
NOEC chronic algae	1 mg/l

Amorphous silicate (67762-90-7)	
LC50 fish 1	10000 mg/l
EC50 Daphnia 1	10000 mg/l

12.2. Persistence and degradability

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.

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
Persistence and degradability	Not readily biodegradable in water.

Amorphous silicate (67762-90-7)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

QuakeBond 220TC Part B Hardener (MIX)	
Bioaccumulative potential	Low bioaccumulation potential.

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

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
Log Pow	-1.13
Bioaccumulative potential	No bioaccumulation data available.

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Amorphous silicate (67762-90-7)

Bioaccumulative potential	No bioaccumulation data available.
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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 | : Dispose of contents or partial containers in accordance with local/regional regulations. Direct disposal of free liquid without treatment to landfill IS NOT recommended. |
| 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

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Polyamide Resin BLEND

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))

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

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

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)

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

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Amorphous silicate (67762-90-7)	
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))

15.2. International regulations

CANADA

No additional information available

EU-Regulations

QuakeBond 220TC Part B Hardener (MIX)	
RoHS Substance	No
SVHC	No
Polyamide Resin BLEND	
SVHC	No
RoHS Substance	No
1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
SVHC	No
RoHS Substance	No
Polyamidoamine (26950-63-0)	
SVHC	No
RoHS Substance	No
Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
SVHC	No
RoHS Substance	No
Amorphous silicate (67762-90-7)	
SVHC	No
RoHS Substance	No

National regulations

No additional information available

15.3. US State regulations

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

Revision date	: 02/09/2018
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.

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Full text of H-phrases:

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.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

	<p>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</p>
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NFPA health hazard

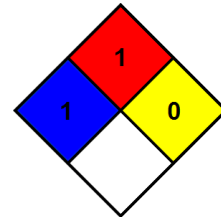
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

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

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