QuakeBond™ 220UR-SC Part B (Epoxy Hardener) (DOT non-regulated)

Safety Data Sheet

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

Date of issue: 10/03/2017 Revision date: 09/07/2017

SECTION 1: Identification

1.1. Identification

Product form : Mixtures

Trade name : QuakeBond™ 220UR-SC (Epoxy Hardener) (DOT non-regulated)

CAS No : mix

Product code : 50267

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 - F 520.791.0600
Office@quakewrap.com – Quakewrap.com

1.4. Emergency telephone number

Emergency number : 800-255-3924 (Infotrac 800-353-5053)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral) Category 4	H302
Acute toxicity (dermal) Category 4	H312
Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 1	H318
Skin sensitization Category 1	H317
Carcinogenicity Category 1A	H350
Hazardous to the aquatic environment - Acute Hazard Category 2	H401
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08 GHS09

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H302+H312 - Harmful if swallowed or in contact with skin.
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H350 - May cause cancer with repeated inhalation.
H411 - Toxic to aquatic life with long lasting effects

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
P270 - Do not eat, drink or smoke when using this product
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
P301+P312 - If swallowed: Call a poison center/doctor if you feel unwell

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
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment: See SDS Section 4.
P330 - Rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P391 - Collect spillage
P405 - Store locked up
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations

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
Trimethylolpropane poly(oxypropylene)triamine	(CAS No) 39423-51-3	>= 50	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
Talc substance with OEL values	(CAS No) 14807-96-6	15-30	Not classified
Benzyl Alcohol	(CAS No) 100-51-6	15-30	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:vapour), H331 Eye Irrit. 2B, H320
1,2-cyclohexanediamine	(CAS No) 694-83-7	8-15	Flam. Liq. 4, H227 Skin Corr. 1C, H314 Eye Dam. 1, H318
Amorphous silicate substance with OEL values	(CAS No) 67762-90-7	1-3	Not classified
Titanium dioxide	(CAS No) 13463-67-7	3-8	Carc. 2, H351
Polyamidoamine	(CAS No) 26950-63-0	15-30	Eye Dam. 1, H318 Skin Sens. 1, H317
Aliphatic polyamine blend	(CAS No) UNKNOWN	15-30	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	3-8	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317
Quartz	(CAS No) 14808-60-7	<0.5	Carc. 1A, H350

***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 general : IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.

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 : If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Cool skin rapidly with cold water after contact with hot product. 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 contaminated clothing before reuse. Wash skin with plenty of water. Take off contaminated clothing.

First-aid measures after eye contact : Get medical advice/attention. Direct contact with the eyes is likely to be irritating. IF IN EYES: Rinse cautiously 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. Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

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 : Gastrointestinal complaints. Abdominal pain. Cramps/uncontrolled muscular contractions. Nausea. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

1,2-cyclohexanediamine (694-83-7)	
Chronic symptoms	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea.

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.

Quartz (14808-60-7)	
Chronic symptoms	*This product contains encapsulated silicon dioxide (quartz, silica). No exposure to free respirable silica is anticipated during normal use of this product. It should be noted, however, that free respirable silica may be released by grinding or machining of cured compound. Respirable silica has been listed as a confirmed human carcinogen by NTP and IARC. Inhalation of free respirable silica may cause silicosis, lung cancer, or other serious delayed lung injury. Recent studies have also suggested that individuals with silicosis are at increased risk of developing tuberculosis, scleroderma, and/or increased incidence of kidney lesions.

Titanium dioxide (13463-67-7)	
Chronic symptoms	*Titanium Dioxide: In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m3 of respirable TiO2. Slight lung fibrosis was observed at 50 and 250 mg/m3 levels. Microscopic lung tumours were also observed in 13 percent of the rats exposed to 250 mg/m3, an exposure level that caused lung overloading and impairment of rat lungs' clearance mechanisms. In further studies, these tumours were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO2 particles exposure was also found to be much more severe in rats than in other rodent species. IARC has classified Titanium dioxide as Group 2B: "possibly carcinogenic to humans", based upon "inadequate evidence in humans and sufficient evidence in experimental animals" for the carcinogenicity of titanium dioxide. However, the conclusions of several epidemiology studies on more than 20000 TiO2 industry workers in Europe and the USA did NOT suggest a carcinogenic effect of TiO2 dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO2 dust. Mutagenicity : Did not cause genetic damage in animals. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

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 : Ventilate spillage area. Only qualified personnel equipped with suitable protective equipment may intervene.

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 soil and water pollution. Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill. Dike and contain spill. Soak up small spill with inert solids. Sweep or shovel spills into appropriate container for disposal.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Clean contaminated surfaces with a soap solution. 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 : Avoid breathing mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. Avoid contact with skin, eyes and clothing. Remove contaminated clothing immediately. Use personal protective equipment as required. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Protect eyes, face and skin from liquid splashes.

Hygiene measures : Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately. 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 : Heat sources. 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)		
AIHA	WEEL TWA (mg/m³)	44.2 mg/m³
AIHA	WEEL TWA (ppm)	10 ppm

1,2-cyclohexanediamine (694-83-7)
Not applicable

Polyamidoamine (26950-63-0)
Not applicable

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)		
AIHA	WEEL TWA (mg/m³)	6 mg/m³ Skin
AIHA	WEEL TWA (ppm)	1 ppm

Talc (14807-96-6)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
OSHA	Remark (OSHA)	(3) See Table Z-3.

Quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ Respirable dust
ACGIH	Remark (ACGIH)	Pulmonary fibrosis; suspected human carcinogen
OSHA	OSHA PEL (TWA) (mg/m³)	< 10 mg/m³ *NOTE - applies to respirable dust. REFER TO TABLE Z-3 - Actual value = 10mg/m3 / %SiO2 + 2 as determined by fraction passing AEC/NRC size-selector instrument in accordance with Table Z-3
OSHA	Remark (OSHA)	(3) See Table Z-3.
NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³

Amorphous silicate (67762-90-7)		
DNEL	DNEL	<=
OSHA	OSHA PEL (TWA) (mg/m³)	6 mg/m³ Respirable Dust

Aliphatic polyamine blend (UNKNOWN)
Not applicable

Titanium dioxide (13463-67-7)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ Total Dust
ACGIH	Remark (ACGIH)	LRT irr; A3
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ Total Dust

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

Materials for protective clothing : Butyl rubber. Nitrile rubber.

Hand protection : Protective gloves.

Eye protection : Chemical goggles or safety glasses. Safety glasses.

Skin and body protection : Long sleeved protective clothing. Use insulated gloves when handling this material hot.

Respiratory protection : On heating: gas mask with filter type A. 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 : white

Odor : Acrid 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) : 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 : 1.145 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 : No data available

Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
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.

10.3. Possibility of hazardous reactions

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

Overheating. Water, humidity.

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 : Oral: Harmful if swallowed. . Dermal: Harmful in contact with skin. .

QuakeBond™ 220UR-SC (Epoxy Hardener) (DOT non-regulated) (mix)	
ATE US (oral)	882.771 mg/kg body weight
ATE US (dermal)	1921.397 mg/kg body weight

Benzyl Alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg
LD50 dermal rabbit	2800 mg/kg
ATE US (oral)	1620.000 mg/kg body weight
ATE US (dermal)	2800.000 mg/kg body weight
ATE US (vapors)	8.800 mg/l/4h

1,2-cyclohexanediamine (694-83-7)	
LD50 oral rat	2300 mg/kg
LC50 inhalation rat (mg/l)	> 4.5 mg/l/4h (Rat)
ATE US (oral)	2300.000 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

Quartz (14808-60-7)	
LD50 oral rat	> 5000 mg/kg

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

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 10000 mg/kg

Titanium dioxide (13463-67-7)	
LC50 inhalation rat (mg/l)	> 6.8 mg/l/4h

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

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 : May cause cancerwith repeated inhalation. .

Talc (14807-96-6)	
IARC group	3 - Not classifiable

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans

Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

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 : Gastrointestinal complaints. Abdominal pain. Cramps/uncontrolled muscular contractions. Nausea. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

1,2-cyclohexanediamine (694-83-7)	
Chronic symptoms	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea.

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 liever or kidney effects. . Animal studies suggest chronic overexposure effects may target the liver.

Quartz (14808-60-7)	
Chronic symptoms	*This product contains encapsulated silicon dioxide (quartz, silica). No exposure to free respirable silica is anticipated during normal use of this product. It should be noted, however, that free respirable silica may be released by grinding or machining of cured compound. Respirable silica has been listed as a confirmed human carcinogen by NTP and IARC. Inhalation of free respirable silica may cause silicosis, lung cancer, or other serious delayed lung injury. Recent studies have also suggested that individuals with silicosis are at increased risk of developing tuberculosis, scleroderma, and/or increased incidence of kidney lesions.

Titanium dioxide (13463-67-7)	
Chronic symptoms	*Titanium Dioxide: In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m3 of respirable TiO2. Slight lung fibrosis was observed at 50 and 250 mg/m3 levels. Microscopic lung tumours were also observed in 13 percent of the rats exposed to 250 mg/m3, an exposure level that caused lung overloading and impairment of rat lungs' clearance mechanisms. In further studies, these tumours were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO2 particles exposure was also found to be much more severe in rats than in other rodent species. IARC has classified Titanium dioxide as Group 2B: "possibly carcinogenic to humans", based upon "inadequate evidence in humans and sufficient evidence in experimental animals" for the carcinogenicity of titanium dioxide. However, the conclusions of several epidemiology studies on more than 20000 TiO2 industry workers in Europe and the USA did NOT suggest a carcinogenic effect of TiO2 dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO2 dust. Mutagenicity : Did not cause genetic damage in animals. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

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. Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

Benzyl Alcohol (100-51-6)	
LC50 fish 1	460 mg/l 96 HR, Pimephales promelas (Flathead minnow)
EC50 Daphnia 1	230 mg/l OECD 202
EC50 other aquatic organisms 1	390 mg/l Bacteria, 24 hrs ISO 8192
LC50 fish 2	10 mg/l 96h, Lepomis macrochirus (Bluegill sunfish)
ErC50 (algae)	700 mg/l 72h
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)

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

Titanium dioxide (13463-67-7)	
LC50 fish 1	> 1000 mg/l Pimephales promelas (fathead minnow)
EC50 Daphnia 1	> 1000 mg/l Daphnia magna (Water flea)
ErC50 (algae)	> 100 mg/l Pseudokirchneriella subcapitata (green algae)
Threshold limit algae 1	61 mg/l (EC50; Other; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
LC50 fish 1	> 100 mg/l OECD 203 Fish

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

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.

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

Titanium dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable. Low potential for mobility in soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

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

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.

Amorphous silicate (67762-90-7)	
Bioaccumulative potential	No bioaccumulation data available.

Titanium dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.

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

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 : Dispose of contents/container in accordance with licensed collector's sorting instructions. Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.

Sewage disposal recommendations : Do not discharge into drains or the environment.

Waste disposal recommendations : Disposal through controlled entity or authorized waste dump. Collect all waste in suitable and labeled containers and dispose according to local legislation. Dispose in a safe manner in accordance with local/national regulations. For small amounts, mix resin and hardener according to product directions and allow to harden. When cured, product is non-hazardous, and may be placed in industrial or municipal landfill if local regulations permit.

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 applicable

Transport by sea

UN-No. (IMDG) : 3082

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Packing group (IMDG) : III - substances presenting low danger

Subsidiary risks (IMDG) : Polyoxyalkylamine

Limited quantities (IMDG) : 5 L

Marine pollutant : Yes (IMDG only)

Air transport

UN-No. (IATA) : 3082

Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.

Class (IATA) : 9 - Miscellaneous Dangerous Goods

Packing group (IATA) : III - Minor Danger

Subsidiary risks (IATA) : Polyoxyalkylamine

SECTION 15: Regulatory information

15.1. US Federal regulations

QuakeBond™ 220UR-SC (Epoxy Hardener) (DOT non-regulated) **(mix)**	
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

Talc (14807-96-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

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))

Titanium dioxide (13463-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

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

15.2. International regulations

CANADA

No additional information available

EU-Regulations

QuakeBond™ 220UR-SC (Epoxy Hardener) (DOT non-regulated) **(mix)**	
RoHS Substance	No
SVHC	No

Benzyl Alcohol (100-51-6)	
SVHC	No
RoHS Substance	No

1,2-cyclohexanediamine (694-83-7)	
SVHC	No
RoHS Substance	No

Polyamidoamine (26950-63-0)	
SVHC	No
RoHS Substance	No

1,2-ethanediamine, N,N'-bis(2-aminoethyl)- (112-24-3)	
SVHC	No
RoHS Substance	No

Talc (14807-96-6)	
SVHC	No
RoHS Substance	No

Quartz (14808-60-7)	
SVHC	No
RoHS Substance	No

Amorphous silicate (67762-90-7)	
SVHC	No
RoHS Substance	No

Aliphatic polyamine blend (UNKNOWN)	
SVHC	No
RoHS Substance	No

Titanium dioxide (13463-67-7)	
SVHC	No
RoHS Substance	No

Trimethylolpropane poly(oxypropylene)triamine (39423-51-3)	
SVHC	No
RoHS Substance	No

National regulations

QuakeBond™ 220UR-SC (Epoxy Hardener) (DOT non-regulated) (mix)
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

Quartz (14808-60-7)
Listed on IARC (International Agency for Research on Cancer)

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

Titanium dioxide (13463-67-7)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

Quartz (14808-60-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
U.S. - California - Proposition 65 - Other information		Free dust, respirable fraction		

Titanium dioxide (13463-67-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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

Talc (14807-96-6)
U.S. - New Jersey - Right to Know Hazardous Substance List

Quartz (14808-60-7)
U.S. - New Jersey - Right to Know Hazardous Substance List

Titanium dioxide (13463-67-7)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 09/07/2017

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.
H320	Causes eye irritation.
H331	Toxic if inhaled.
H350	May cause cancerwith repeated inhalation.
H351	Suspected of causing cancer by repeated inhalation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

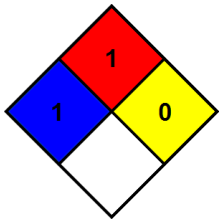
Abbreviations and acronyms:

	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

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