SAFETY DATA SHEET
Regulation (EC) No 1907/2006 (REACH) and 2015/830

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier
Product Name: Bovi-Bond Block Adhesive 46120, 46139C, Fast Set, Clear Part A

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Product Use: Adhesive

1.3 Details of the Supplier of the Safety Data Sheet
Supplier: METREX® RESEARCH
28210 Wick Rd
Romulus, MI 48174
U.S.A.

1.4 Emergency Telephone Number
CHEMTREC: 1-703-527-3887 (Outside the US)

Information Phone Number: 1-800-841-1428 (Customer Service)
SDS Date of Preparation/Revision: March 26, 2018

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture

GHS Classification:
Acute Toxicity Category 4 H332
Skin Irritation Category 2 H315
Skin Sensitization Category 1 H317
Eye Irritation Category 2 H319
Respiratory Sensitization Category 1 H334
Specific Target Organ Toxicity – Single Exposure Category 3 H335
Carcinogen Category 2 H351
Specific Target Organ Toxicity – Repeated Exposure Category 2 H373

2.2 Label Elements

Danger!

Contains 4,4'-Methylenediphenyl diisocyanate, oligomers, Isocyanic acid, 3-(triethoxysilyl)propyl ester

Hazard Phrases
H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory Irritation.
H351 Suspected of causing cancer.
H373 May cause damage to respiratory tract through prolonged or repeated exposure by inhalation.

Prevention:
P260 Do not breathe vapors.
P280 Wear protective gloves.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P304 + P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other Hazards: This product contains isocyanates. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

Section 3. Composition/Information On Ingredients

3.2 Mixture

Component	CAS No./ EC No.	Amount	GHS Classification
4,4'-Methylenediphenyl diisocyanate, oligomers	None/ 500-0403	50-80	Acute Tox. 4 H332 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Resp. Sens. 1 H334 Skin Sens. 1B H317 Carc. 2 H351 STOT SE 3 H335 STOT RE 2 H373
Diphenylmethanediisocyanate prepolymer	68424-09-9	15-40	Not hazardous
3-(Trimethoxysilyl)propyl glycidyl ether	2530-83-8 / 219-784-2	<5	Eye Dam 1 H318
Isocyanic acid, 3-(triethoxysilyl)propyl ester	24801-88-5 / 246-467-6	<1	Acute Tox. 1 H330 Acute Tox. 4 H302, H312 Skin Corr 1B H314 Skin Sens. 1 H317 Eye Dam 1 H318 Resp. Sens. 1 H334

Section 4. First Aid Measures

4.1 Description of First Aid Measures

Eyes: Immediately flush eyes with water for 15 minutes while lifting the upper and lower lids. Get medical attention if

irritation persists.

Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation or rash develop, get medical attention. Launder clothing before re-use.

Inhalation: Immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention. Asthma-like symptoms may develop immediately or delayed up to several hours.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to a person who is unconscious or convulsing. Do not induce vomiting. Get medical attention.

4.2 Most Important symptoms and effects, both acute and delayed: Irritating to eyes, skin and respiratory system. May cause allergic skin and respiratory reaction. Harmful if inhaled. Symptoms include respiratory irritation, breathlessness, and chest discomfort and reduced pulmonary function, bronchitis, bronchial spasms and pulmonary edema. Symptoms may be delayed. Individuals sensitized to isocyanates may have a life-threatening allergic reaction. Prolonged or repeated exposure may cause damage to the lungs by inhalation. May cause cancer based on animal data.

4.3 Indication of any immediate medical attention and special treatment needed: If respiratory sensitization reaction occurs, get immediate medical attention. Symptoms may be delayed for several hours after exposure. Respiratory sensitization may be life threatening.

Section 5. Firefighting Measures

5.1 Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding fire. Cool fire exposed containers with water.

5.2 Special Hazards arising from the Substance or Mixture: Combustion may produce carbon and nitrogen oxides, hydrogen cyanide and other toxic gases.

5.3 Advice for Firefighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Do not allow run-off from firefighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing as described in Section 8. Isolate the area and prevent access. Ventilate the area. Evacuate area. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

6.2 Environmental Precautions: Avoid release to the environment. Report spill as required by local and federal regulations.

6 6.3 Methods and Material for Containment and Cleaning Up: Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Place in an

approved container for disposal. Do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent. Ventilate the area with fresh air.

6.4 Reference to Other Sections:
Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

Section 7. Handling and Storage

7.1 Precautions for Safe Handling: Do not breathe vapors or mists. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids and strong bases.

7.3 Specific end use(s): Adhesive

Section 8. Exposure Controls/Personal Protection

8.1 Control Parameters:

Chemical	Exposure Limit
4,4'-Methylenediphenyl diisocyanate, oligomers	None Established
Diphenylmethanediisocyanate prepolymer	None Established
3-(Trimethoxysilyl)propyl glycidyl ether	None Established
Isocyanic acid, 3-(triethoxysilyl)propyl ester	None Established

8.2 Exposure Controls:

Recommended Monitoring Procedures: Contact professional occupational hygienist for monitoring.

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits. If ventilation is not adequate, use respiratory protection equipment.

Personal Protective Measurers

Respiratory Protection: If the exposure limits are exceeded or if exposure levels are unknown, an approved positive pressure air supplied respirator with a full facepiece or air supplied hood should be used. Based on the results of the exposure assessment, a half-face full facepiece air-purifying respirator suitable for organic vapors and particulates should be used with A & P filters. Select in accordance with EU standard EN 140 or EN 136, other applicable regulations and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves such as butyl rubber or fluoroelastomer are recommended. Select in accordance with EU standard EN 374

Eye Protection: Indirect vented goggles are recommended. Select in accordance with EU standard EN 166.

Skin Protection: Wear protective clothing as needed to avoid skin contact.

Other protection: Wash contaminated clothing or dispose of properly. A safety shower and eye wash should be available in the immediate work area.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties:

Appearance:	Viscous liquid	Vapor Pressure:	<0 pa @ 20°C
Odor:	No detectable odor.	Vapor Density:	>1 (air = 1)
Odor Threshold:	Not available	Relative Density /Specific Gravity:	1.2
pH:	Not applicable	Solubility in Water:	Negligible
Melting/Freezing Point:	Not available	Partition Coefficient: (n-octanol/water)	Not applicable
Initial Boiling Point/Range:	>204.4°C / >399.9°F	Auto-ignition Temperature:	Not applicable
Flash Point:	>143.3°C (>289.94°F) TCC	Decomposition Temperature:	Not applicable
Evaporation Rate:	Gels with exposure to humidity	Viscosity:	Not determined
Flammability: (solid/gas)	Not applicable	Explosive Properties:	None
Flammable/ Explosive Limits:	Not applicable	Oxidizing Properties:	None

9.2 Other Information: None

Section 10. Stability and Reactivity

10.1 Reactivity: Reacts with water to form carbon dioxide.
10.2 Chemical Stability: Stable under normal storage and handling conditions.
10.3 Possibility of Hazardous Reactions: Polymerization will occur when exposure to water or moisture.
10.4 Conditions to Avoid: Avoid contamination with moisture.
10.5 Incompatible Materials: Water, strong acids and strong bases.
10.6 Hazardous Decomposition Products: Thermal decomposition will produce oxides of carbon and nitrogen, hydrogen cyanide and other highly toxic gases.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Effects:

Inhalation: Harmful if inhaled. May cause respiratory irritation with coughing, sneezing, nasal discharge, headache, hoarseness and nose and throat pain. May cause allergic respiratory reaction with difficulty in

breathing, wheezing, cough and tightness of the chest. Symptoms may be delayed for several hours after exposure. The allergic respiratory reaction may be life threatening.

Skin Contact: Causes skin irritation with localized redness, swelling, itching, dryness, cracking, blistering, and pain. May cause allergic skin reaction with redness, swelling, blistering, and itching.

Eye Contact: Causes eye irritation with redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion: Swallowing may cause gastrointestinal irritation, abdominal pain, nausea, vomiting and diarrhea.

Acute Toxicity Values: No toxicity data is available for the product.
Acute Toxicity Estimate (ATE): Oral: >5,000 mg/kg, Inhalation 1.73 mg/L/4 hr, Dermal: >5,000 mg/kg
4,4'-Methylenediphenyl diisocyanate, oligomers: Oral rat LD50 31,600 mg/kg; Inhalation rat LC50 0.368 mg/L/4 hr; Dermal rabbit LD50 >5,000 mg/kg.
3-(Trimethoxysilyl)propyl glycidyl ether: Oral rat LD50 7,010 mg/kg; Inhalation rat LC50 >5.3 mg/L/4 hr; Dermal rabbit LD50 4,000 mg/kg.
Isocyanic acid, 3-(triethoxysilyl)propyl ester: Oral rat LD50 706 mg/kg, Inhalation rat LC50 0.36 mg/L/4 hr, Dermal rabbit 1259 mg/kg

Skin corrosion/irritation: Isocyanates are known to cause skin irritation in studies with laboratory animals.

Eye damage/ irritation: Isocyanates are known to cause eye irritation is studies with laboratory animals

Skin Sensitization: Isocyanates are known to cause skin sensitization in studies with laboratory animals.

Respiratory Sensitization: Isocyanates are known to cause respiratory sensitization in humans. Animal tests have indicated that respiratory sensitization can result from skin contact with isocyanates.

Germ Cell Mutagenicity: None of the components have been shown to cause gem cell mutagenicity.

Carcinogenicity: 4,4'-Methylenediphenyl diisocyanate, oligomers is classified as a "Suspected of causing cancer" (Carcinogen Category 2) by the EU CLP.

Developmental / Reproductive Toxicity: None of the components are classified as reproductive or developmental toxins.

Specific Target Organ Toxicity (Single Exposure): Isocyanates are known to cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Prolonged exposure to isocyanates may cause chronic irritation, decreased lung function and lung damage and conjunctivitis.

Aspiration Toxicity: None of the components are aspiration hazards.

Section 12. Ecological Information

12.1 Toxicity: No toxicity data available for product
4,4'-Methylenediphenyl diisocyanate, oligomers: 24 hr EC50 daphnia magna >100 mg/L
3-(Trimethoxysilyl)propyl glycidyl ether: 96 hr LC50 Common Carp 55 mg/L, 48 hr LC50 Crustecea 324 mg/L, 96 hr LC50 green algae 350 mg/L

Isocyanic acid, 3-(triethoxysilyl)propyl ester: 96 hr LC50 zebra fish >934 mg/L, 48 hr EC50 daphnia magna 331 mg/L, 72 hr EC50 green algae >1,000 mg/L

12.2 Persistence and Degradability: 4,4'-Methylenediphenyl diisocyanate, oligomers is not readily biodegradable.

12.3 Bioaccumulative Potential: Isocyanates hydrolyze rapidly in aqueous solutions, therefore bioconcentration is not an important environmental fate process.

12.4 Mobility in Soil: Isocyanates hydrolyze rapidly in aqueous solutions, therefore leaching and adsorption to moist soil and sediment will not be an important environmental fate process.

12.5 Results of PBT and vPvB assessment: This product is not a PBT and vPvB.

12.6 Other Adverse Effects: None known.

Section 13. Disposal Considerations

13.1 Waste Treatment Methods:

Dispose of contents and container in accordance with all local and national regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incine polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations.

Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

Section 14. Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Transport Hazard Class(es)	14.4 Packing Group	14.5 Environmental Hazards
US DOT		Not Regulated			
EU ADR/RID		Not Regulated			
IMDG		Not Regulated			
IATA/ICAO		Not Regulated			

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable

Section 15. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

16. Other Information

GHS Classification for Reference (See Sections 2 and 3):
Acute Tox. 1 Acute Toxicity Category 1
Acute Tox. 4 Acute Toxicity Category 4
Skin Corr 1B Skin Corrosion Category 1B
Skin Irrit. 2 Skin Irritation Category 2 H315
Skin Sens. 1BSkin Sensitization Category 1 H317
Eye Dam 1 Eye Damage Category 1
Eye Irrit. 2 Eye Irritation Category 2
Resp. Sens. 1 Respiratory Sensitization Category 1
Carc. 2 Carcinogen Category 2 H351
STOT SE 3 Specific Target Organ Toxicity – Single Exposure Category 3
STOT RE 2 Specific Target Organ Toxicity – Repeated Exposure Category 2

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.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory Irritation.
H351 Suspected of causing cancer.
H373 May cause damage to respiratory tract through prolonged or repeated exposure by inhalation.

Effective Date: March 26, 2018
Supersedes Date: New SDS
Revision Summary: New SDS

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date of preparation, however, METREX® RESEARCH makes no warranty with respect to the accuracy or suitability of the recommendations, and assumes no liability to any use thereof.

SAFETY DATA SHEET
Regulation (EC) No 1907/2006 (REACH) and 2015/830

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier
Product Name: Bovi Bond Block Adhesive 46120 Part B

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Product Use: Adhesive

1.3 Details of the Supplier of the Safety Data Sheet
Supplier: METREX® RESEARCH
28210 Wick Rd
Romulus, MI 48174
U.S.A.

1.4 Emergency Telephone Number
CHEMTREC: 1-703-527-3887 (Outside the US)

Information Phone Number: 1-800-841-1428 (Customer Service)
SDS Date of Preparation/Revision: April 2, 2018

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture

GHS Classification:
Skin Irritation Category 2 H315
Skin Sensitization Category 1 H317
Eye Irritation Category 2 H319

2.2 Label Elements

Warning!

Contains M-xylene-alpha,alpha'-diamine

Hazard Phrases
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Prevention:

P280 Wear protective gloves.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical 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.

2.3 Other Hazards: Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

Section 3. Composition/Information On Ingredients

3.2 Mixture

Component	CAS No./ EC No.	Amount	GHS Classification
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	9082-00-2	40-70	Not hazardous
Trimethylolpropane Poly(Oxypropylene) Triether	25723-16-4 / 500-041-9	10-30	Not hazardous
Tetrakis(2-hydroxypropyl)ethylenediamine	102-60-3 / 203-041-4	10-30	Eye Irrit 2 H319
M-xylene-alpha,alpha'-diamine	1477-55-0/ 216-032-5	<3	Acute Tox. 4 H302, H332 Skin Corr. 1B H314 Eye Damage 1 H318 Skin Sens. 1B H317 Aquatic Chronic 3 H412 EUH 071 Corrosive to respiratory tract

Section 4. First Aid Measures

4.1 Description of First Aid Measures

Eyes: Immediately flush eyes with water for 15 minutes while lifting the upper and lower lids. Get medical attention if irritation persists.

Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation or rash develop, get medical attention. Launder clothing before re-use.

Inhalation: Immediately remove to fresh air. If breathing is difficult or other symptoms develop, get medical attention.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to a person who is unconscious or convulsing. Do not induce vomiting. Get medical attention.

4.2 Most Important symptoms and effects, both acute and delayed: Causes eye and skin irritation. May cause allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed: None needed under normal conditions of use.

Section 5. Firefighting Measures

5.1 Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding fire. Cool fire exposed containers with water.

5.2 Special Hazards arising from the Substance or Mixture: Combustion may produce carbon and nitrogen oxides and aldehydes.

5.3 Advice for Firefighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Do not allow run-off from firefighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing as described in Section 8. Ventilate the area. Evacuate area. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

6.2 Environmental Precautions: Avoid release to the environment. Report spill as required by local and federal regulations.

6.3 Methods and Material for Containment and Cleaning Up: Contain spill. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Place in an approved container for disposal. Seal container.

6.4 Reference to Other Sections:
Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

Section 7. Handling and Storage

7.1 Precautions for Safe Handling: Avoid breathing vapors or mists. Avoid contact with eyes, skin, or clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a well-ventilated place. Store away from oxidizing agents and other incompatible materials.

7.3 Specific end use(s): Adhesive

Section 8. Exposure Controls/Personal Protection

8.1 Control Parameters:

Chemical	Exposure Limit
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	None Established
Trimethylolpropane Poly(Oxypropylene) Triether	None Established

Tetrakis(2-hydroxypropyl)ethylenediamine	None Established
M-xylene-alpha,alpha'-diamine	0.1 mg/m^3 STEL France OEL

8.2 Exposure Controls:

Recommended Monitoring Procedures: Contact professional occupational hygienist for monitoring.

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits. If ventilation is not adequate, use respiratory protection equipment.

Personal Protective Measurers

Respiratory Protection: Based on the results of the exposure assessment, a half-face air-purifying respirator suitable for organic vapors and particulates should be used with A & P filters. Select in accordance with EU standard EN 140 or EN 136, other applicable regulations and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves such as butyl rubber, neoprene or fluoroelastomer are recommended. Select in accordance with EU standard EN 374

Eye Protection: Indirect vented goggles are recommended. Select in accordance with EU standard EN 166.

Skin Protection: Wear protective clothing as needed to avoid skin contact.

Other protection: Wash contaminated clothing or dispose of properly. A safety shower and eye wash should be available in the immediate work area.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties:

Appearance:	Clear, viscous liquid	**Vapor Pressure:**	Not available
Odor:	Slight ammonia like odor. .	**Vapor Density:**	>1 (air = 1)
Odor Threshold:	Not available	**Relative Density /Specific Gravity:**	1.02
pH:	Not applicable	**Solubility in Water:**	Negligible
Melting/Freezing Point:	Not available	**Partition Coefficient: (n-octanol/water)**	Not applicable
Initial Boiling Point/Range:	>204.4°C / >399.9°F	**Auto-ignition Temperature:**	Not applicable
Flash Point:	>143.3°C (>289.94°F) TCC	**Decomposition Temperature:**	Not applicable
Evaporation Rate:	>1 (water = 1)	**Viscosity:**	1,300-2,000 mPas
Flammability: (solid/gas)	Not applicable	**Explosive Properties:**	None
Flammable/ Explosive Limits:	Not applicable	**Oxidizing Properties:**	None

9.2 Other Information: None

Section 10. Stability and Reactivity

10.1 Reactivity: Not expected to react under normal handling.
10.2 Chemical Stability: Stable under normal storage and handling conditions.
10.3 Possibility of Hazardous Reactions: None known.
10.4 Conditions to Avoid: None known.
10.5 Incompatible Materials: Strong acids and strong oxidizing agents. .
10.6 Hazardous Decomposition Products: Thermal decomposition will produce oxides of carbon and nitrogen and aldehydes.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Effects:

Inhalation: May cause respiratory irritation with coughing, sneezing, nasal discharge, headache, hoarseness and nose and throat pain.

Skin Contact: Causes skin irritation with localized redness, swelling, itching, dryness, cracking, blistering, and pain. May cause allergic skin reaction with redness, swelling, blistering, and itching.

Eye Contact: Causes eye irritation with redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion: Swallowing may cause gastrointestinal irritation, abdominal pain, nausea, vomiting and diarrhea.

Acute Toxicity Values: No toxicity data is available for the product.
Acute Toxicity Estimate (ATE): Oral: >5,000 mg/kg, Inhalation >5 mg/L/4hr, Dermal >2000 mg/L
Glycerol Poly(Oxyethylene,Oxypropylene) Ether: Oral rat LD50 >10,000 mg/kg, Dermal rabbit LD50 >5,000
Trimethylolpropane Poly(Oxypropylene) Triether: Oral rat LD50>2,500 mg/kg, Dermal rabbit LD50 >2,000 mg/kg
Tetrakis(2-hydroxypropyl)ethylenediamine: Oral rat LD50 2890 mg/kg, Dermal rabbit LD50 >2,000 mg/kg
M-xylene-alpha,alpha'-diamine: Oral rat LD50 980 mg/kg, Inhalation rat LC50 1.34 mg/L/4 hr, Dermal rabbit LD50 >3100 mg/kg

Skin corrosion/irritation: M-xylene-alpha,alpha'-diamine is corrosive to rabbit skin. Tetrakis(2-hydroxypropyl)ethylenediamine is irritating to rabbit eyes. The product is classified as a skin irritant.

Eye damage/ irritation: M-xylene-alpha,alpha'-diamine is corrosive to rabbit eyes. Tetrakis(2-hydroxypropyl)ethylenediamine is irritating to rabbit eyes. This product is classified as an eye irritant.

Skin Sensitization: M-xylene-alpha,alpha'-diamine was positive in a mouse local lymphnode assay.

Respiratory Sensitization: No data available. This product is not expected to cause respiratory sensitization. .

Germ Cell Mutagenicity: None of the components have been shown to cause gem cell mutagenicity.

Carcinogenicity: None of the components are classified as a carcinogen by the EU CLP.

Developmental / Reproductive Toxicity: None of the components are classified as reproductive or developmental toxins.

Specific Target Organ Toxicity (Single Exposure): No data available.

Specific Target Organ Toxicity (Repeated Exposure): This product is not expected to cause adverse effects from chronic exposure.

Aspiration Toxicity: None of the components are aspiration hazards.

Section 12. Ecological Information

12.1 Toxicity: No toxicity data available for product
Glycerol Poly(Oxyethylene, Oxypropylene) Ether: 96 hr LC50 Danio rerio >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50 green algae >100 mg/L
Trimethylolpropane Poly(Oxypropylene) Triether: 96 hr LC50 Danio rerio >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC0 Desmodesmus subspicatus >100 mg/L (read across)
Tetrakis(2-hydroxypropyl)ethylenediamine: 96 hr EC50 Leuciscus idus 4600 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50 Desmodesmus subspicatus 150.67 mg/L (read across)
M-xylene-alpha,alpha'-diamine: 96 hr LC50 Oryzias latipes 87.6 mg/L, 48 hr EC50 daphnia magna 15.2 mg/L, 72 hr EC50 Pseudokirchneriella subcapitata 20.3 mg/L

12.2 Persistence and Degradability: Trimethylolpropane poly(oxypropylene) triether is readily biodegradable. Tetrakis(2-hydroxypropyl)ethylenediamine and M-xylene-alpha,alpha'-diamine are not readily biodegradable.

12.3 Bioaccumulative Potential: Tetrakis(2-hydroxypropyl)ethylenediamine and trimethylolpropane poly(oxypropylene) triether have a BCF <3. M-xylene-alpha,alpha'-diamine has a BCF 3.16. This indicates the potential for bioaccumulation is low.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: This product is not a PBT and vPvB.

12.6 Other Adverse Effects: None known.

Section 13. Disposal Considerations

13.1 Waste Treatment Methods:

Dispose of contents and container in accordance with all local and national regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incine polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations.

Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EU Waste Code (as sold): 080409 Waste adhesives and sealants containing organic solvents or other dangerous substances.

Section 14. Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Transport Hazard Class(es)	14.4 Packing Group	14.5 Environmental Hazards
US DOT		Not Regulated			
EU ADR/RID		Not Regulated			
IMDG		Not Regulated			
IATA/ICAO		Not Regulated			

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable

Section 15. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Other EU Regulations: This product is classified and labeled in accordance with CLP Regulation. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH)

16. Other Information

GHS Classification for Reference (See Sections 2 and 3):
Acute Tox. 4 Acute Toxicity Category 4
Skin Corr 1B Skin Corrosion Category 1B
Skin Sens. 1B Skin Sensitization Category 1
Eye Dam 1 Eye Damage Category 1
Eye Irrit 2 Eye Irritation Category 2
Aquatic Chronic 3 Hazardous to the Aquatic Environment Chronic Hazard Category 3

H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.
EUH 071 Corrosive to respiratory tract

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Revision Summary: New SDS

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