

SAFETY DATA SHEETS

This SDS packet was issued with item:

074290912

N/A

SAFETY DATA SHEET

Section 1. Product And Company Identification

Product Name: NX3 Nexus® Third Generation Light-Cure Cement

Product Use: Dental product: Permanent cement

Manufacturer: Kerr Corporation
1717 W. Collins Ave.
Orange, CA 92867-5422
U.S.A.

Information Phone Number: 1-800-841-1428 (Customer Service)

Chemical Emergency Phone Number (Chemical Spills, Leaks, Fire, Exposure or Accident only):
CHEMTREC 1-800-424-9300 (in the US) 1-703-527-3887 (Outside the US)

SDS Date of Preparation/Revision: February 21, 2019

Section 2. Hazards Identification

GHS Classification:

Skin Irritation Category 2

Eye Irritation Category 2A

Skin Sensitization Category 1

Specific Target Organ Toxicity Single Exposure Category 3

Label Elements:

Warning!



Hazard Phrases

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

Precautionary Phrases:

Avoid breathing dust and vapors.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear eye protection and protective gloves.

IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

Section 3. Composition/Information on Ingredients

| Component | CAS No. | Amount |
|--|------------|--------|
| Glass, oxide, chemicals | 65997-17-3 | 30-60% |
| Ytterbium trifluoride | 13760-80-0 | 10-30% |
| Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propenyl)oxy]- | 41637-38-1 | 5-10% |
| 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate | 72869-86-4 | 5-10% |
| 2,2'-ethylenedioxydiethyl dimethacrylate | 109-16-0 | 5-10% |
| 2-hydroxyethyl methacrylate | 868-77-9 | 1-5% |

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air. Get medical attention if symptoms occur.

Skin Contact: Flush thoroughly with water. Get medical attention if irritation or symptoms of exposure develop. Remove and launder contaminated clothing before re-use.

Eye Contact: Rinse thoroughly with water. Get medical attention if irritation occurs and persists.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Keep the victim calm and warm. Get immediate medical attention.

Most important symptoms and effects, acute and delayed: Causes serious eye irritation and skin irritation. May cause an allergic skin reaction and respiratory irritation.

Indication of immediate medical attention and special treatment, if needed: Immediate medical attention is not required.

Section 5. Fire Fighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use any media appropriate for the surrounding fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: Combustion may produce carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, and metal oxides.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Cool fire-exposed containers with water. Contain water used in firefighting from entering sewers or natural waterways.

Section 6: Accidental Release Measures

Personal precautions, Protective equipment, and Emergency procedures: Evacuate spill area and keep unprotected personnel away. Avoid contact with eyes, skin and clothing. Wear appropriate protective clothing and equipment. Do not breathe dust or vapors.

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

Methods and Materials for Containment and Cleaning up: Prompt cleanup and removal are necessary. Absorb spills with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and Storage

Precautions for Safe Handling: Prevent contact with eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke in the work area. Do not breathe dust or vapors. Use with adequate ventilation. Remove and wash contaminated clothing before reuse.

Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, well-ventilated area away from direct sunlight. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Section 8. Exposure Controls / Personal Protection

Exposure Limits

| Chemical | Exposure Limit |
|--|-------------------------------------|
| Glass, oxide, chemicals | 5 mg/m ³ TWA ACGIH TLV |
| Ytterbium trifluoride | 2.5 mg/m ³ TWA ACGIH TLV |
| Poly(oxy-1,2-ethanediyl), α,α'-[(1-methylethylidene)di-4,1-phenylene]bis[ω-[(2-methyl-1-oxo-2-propenyl)oxy]- | None Established |
| 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate | None Established |
| 2,2'-ethylenedioxydiethyl dimethacrylate | None Established |
| 2-hydroxyethyl methacrylate | None Established |

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: None under normal use conditions with adequate ventilation. For operations where the occupational exposure limits are exceeded, an approved respirator with particulate cartridges is recommended. Equipment selection depends on contaminant type and concentration. Select in

accordance with applicable regulations and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves are suggested to prevent skin contact. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles are recommended if contact is possible.

Skin Protection: Wear protective clothing as needed to avoid skin contact and contamination of personal clothing.

Hygiene measures: Suitable eye and skin washing facilities should be available in the work area.

Section 9. Physical and Chemical Properties

| | | | |
|---|-----------------------|----------------------------------|--|
| Appearance: | Various colored paste | Odor: | Fruity ester-like |
| Odor Threshold: | Not available | pH: | Not available |
| Melting/Freezing Point: | Not available | Boiling Point/Range: | Not available |
| Flash Point: | Not flammable | Evaporation Rate: | Not available |
| Flammability: (Solid, Gas) | Not applicable | Flammability Limits: | LEL: Not applicable UEL: Not applicable |
| Vapor Pressure: | Not available | Vapor Density: | Not available |
| Relative Density: | 2 - 2.5 | Solubilities: | Insoluble in water |
| Partition Coefficient: (N-Octanol/Water) | Not available | Autoignition Temperature: | Not available |
| Decomposition Temperature: | Not available | Viscosity: | Not available |

Section 10. Stability and Reactivity

Reactivity: The product is not expected to be reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to avoid: Avoid heat and direct sunlight. Heat can cause polymerization with rapid release of energy.

Incompatible Materials: Oxidizing materials, reducing materials, amine, and peroxide.

Hazardous decomposition products: None if stored normally.

Section 11. Toxicological Information

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Skin Contact: Causes skin irritation and may cause an allergic skin reaction.

Eye Contact: Causes serious eye irritation.

Ingestion: No data available.

Chronic Hazards: Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

Skin Sensitization: No adverse effects expected. Components are not sensitizers.

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

Germ Cell Mutagenicity: None of the components have shown mutagenic activity in animal studies.

Carcinogen: None of the components are listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Developmental / Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.

Specific Target Organ Toxicity (Single Exposure): May cause respiratory tract irritation by prolonged exposure.

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

Aspiration Toxicity: Not an aspiration hazard.

Acute Toxicity Values:

Product ATE: 245583 mg/kg (Oral)

Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propenyl)oxy]-: LD50 Oral rat: > 2000 mg/kg; LD50 Dermal rat: > 2000 mg/kg

2,2'-ethylenedioxydiethyl dimethacrylate: LD50 Oral rat: 10837 mg/kg

2-hydroxyethyl methacrylate: LD50 Oral rat: 5050 mg/kg; LD50 Dermal rabbit: >3000 mg/kg

Section 12. Ecological Information

Toxicity:

Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]-: 96 hr LD50 fish > 100 mg/L; 48 hr EC50 Daphnia magna > 100 mg/L; 72 hr Algae > 100 mg/L

2-hydroxyethyl methacrylate: 96 hr LC50 Pimephales promelas 227 mg/L;

48 hr EC50 Daphnia magna >280 mg/L; 72 hr IC50 Algae 836 mg/L

Persistence and degradability: 2-hydroxyethyl methacrylate is readily biodegradable.

Bioaccumulative Potential:

Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- has a BCF of 2372, log P_{ow} 3.43 to 5.62, potential for bioaccumulative is high.

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate: log P_{ow} 3, potential for bioaccumulative is low.

2,2'-ethylenedioxydiethyl dimethacrylate: log P_{ow} 1.88, potential of bioaccumulative is low

2-hydroxyethyl methacrylate: log P_{ow} 0.42, potential for bioaccumulative is low.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

Section 13. Disposal Considerations

Disposal: For unused product, dispose of in accordance with Federal and local regulations.

Container Disposal: Dispose of empty container in accordance with Federal and local regulations.

Section 14. Transport Information

| | UN Number | UN Proper Shipping Name | Hazard Class(s) | Packing Group | Environmental Hazards |
|------------|-----------|-------------------------|-----------------|---------------|-----------------------|
| US DOT | None | Not Regulated | None | None | None |
| EU ADR/RID | None | Not Regulated | None | None | None |
| IMDG | None | Not Regulated | None | None | None |
| IATA/ICAO | None | Not Regulated | None | None | None |

Special Precautions for User: None identified

Transport in Bulk According to Annex II MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form.

Section 15. Regulatory Information

U.S. Federal Regulations:

EPA SARA 311/312 Hazard Classification: Refer to Section 2 for OSHA Hazard Classification.

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Protection Of Stratospheric Ozone: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: This product is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

International Inventories

US EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or exempt.

Canada CEPA: All of the components of this material are listed on the DSL or exempt.

Section 16. Other Information

Effective Date: February 21, 2019

Supersedes Date: April 2, 2015

Revision Summary: All Sections – New SDS format



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

SAFETY DATA SHEET

Section 1. Product And Company Identification**Product Name:** NX3 Nexus® Third Generation Try-In Gel**Product Use:** Dental product: Permanent cement**Manufacturer:** Kerr Corporation
1717 W. Collins Ave.
Orange, CA 92867-5422
U.S.A.**Information Phone Number:** 1-800-841-1428 (Customer Service)**Chemical Emergency Phone Number** (Chemical Spills, Leaks, Fire, Exposure or Accident only):
CHEMTREC 1-800-424-9300 (in the US) 1-703-527-3887 (Outside the US)**SDS Date of Preparation/Revision:** February 25, 2019**Section 2. Hazards Identification****GHS Classification:**
Not Hazardous**Label Elements:**
None Required**Section 3. Composition/Information on Ingredients**

| Component | CAS No. | Amount |
|-------------------------|------------|---------|
| Glycerol | 56-81-5 | 60-100% |
| Glass, oxide, chemicals | 65997-17-3 | 5-10% |
| Titanium dioxide | 13463-67-7 | 1-5% |

Section 4. First Aid Measures**Inhalation:** Remove victim to fresh air to keep at rest in a position comfortable for breathing.**Skin Contact:** Gently wash with plenty of soap and water.**Eye Contact:** Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.**Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.**Most important symptoms and effects, acute and delayed:** Causes eye irritation. Seek medical attention when symptoms persist.**Indication of immediate medical attention and special treatment, if needed:** Immediate medical attention is not required.

Section 5. Fire Fighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use any media appropriate for the surrounding fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: Combustion may produce carbon dioxide and carbon monoxide.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Cool fire-exposed containers with water. Contain water used in firefighting from entering sewers or natural waterways.

Section 6: Accidental Release Measures

Personal precautions, Protective equipment, and Emergency procedures: Evacuate spill area and keep unprotected personnel away. Avoid contact with eyes, skin and clothing. Wear appropriate protective clothing and equipment.

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

Methods and Materials for Containment and Cleaning up: Prompt cleanup and removal are necessary. Absorb spills with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and Storage

Precautions for Safe Handling: Prevent contact with eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke in the work area. Use with adequate ventilation. Remove and wash contaminated clothing before reuse.

Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, well-ventilated area away from direct sunlight. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Section 8. Exposure Controls / Personal Protection

Exposure Limits

| Chemical | Exposure Limit |
|-------------------------|--|
| Glycerol | 5 mg/m ³ TWA OSHA PEL (respirable fraction) 15 mg/m ³ TWA OSHA PEL (total dust) |
| Glass, oxide, chemicals | 5 mg/m ³ TWA ACGIH TLV |
| Titanium dioxide | 10 mg/m ³ TWA ACGIH TLV |

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: None under normal use conditions with adequate ventilation. For operations where the occupational exposure limits are exceeded, an approved respirator with particulate cartridges is recommended. Equipment selection depends on contaminant type and concentration. Select in accordance with applicable regulations and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves are suggested to prevent skin contact. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles are recommended if contact is possible.

Skin Protection: Wear protective clothing as needed to avoid skin contact and contamination of personal clothing.

Hygiene measures: Suitable eye and skin washing facilities should be available in the work area.

Section 9. Physical and Chemical Properties

| | | | |
|---|-----------------------|----------------------------------|--|
| Appearance: | Various colored paste | Odor: | Odorless |
| Odor Threshold: | Not available | pH: | Not available |
| Melting/Freezing Point: | Not available | Boiling Point/Range: | Not available |
| Flash Point: | Not flammable | Evaporation Rate: | Not available |
| Flammability: (Solid, Gas) | Not applicable | Flammability Limits: | LEL: Not applicable UEL: Not applicable |
| Vapor Pressure: | Not available | Vapor Density: | Not available |
| Relative Density: | 1.7 | Solubilities: | Partially soluble in water |
| Partition Coefficient: (N-Octanol/Water) | Not available | Autoignition Temperature: | Not available |
| Decomposition Temperature: | Not available | Viscosity: | Not available |

Section 10. Stability and Reactivity

Reactivity: The product is not expected to be reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to avoid: Avoid heat, flames, all sources of ignition, direct sunlight, extremely high or low temperatures.

Incompatible Materials: No data available.

Hazardous decomposition products: None if stored normally.

Section 11. Toxicological Information

Potential Health Effects:

Inhalation: No data available.

Skin Contact: No data available.

Eye Contact: May cause eye irritation.

Ingestion: No data available.

Chronic Hazards: No data available.

Skin Sensitization: No adverse effects expected. Components are not sensitizers.

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

Germ Cell Mutagenicity: None of the components have shown mutagenic activity in animal studies.

Carcinogen: None of the components are listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Developmental / Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.

Specific Target Organ Toxicity (Single Exposure): May cause respiratory tract irritation by prolonged exposure.

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

Aspiration Toxicity: Not an aspiration hazard.

Acute Toxicity Values:

Product ATE: 40918.3 mg/kg (Oral)

Glycerol: LD50 Oral rat: 12600 mg/kg; LD50 Dermal rabbit: >10000 mg/kg;

LC50 Inhalation rat: 0.57 mg/L/4hr

Titanium dioxide: LD50 Oral rat: >2000 mg/kg, LC50 Inhalation rat: 3.43-5.09 mg/L/4 hr (no mortality)

| |
|---|
| Section 12. Ecological Information |
|---|

Toxicity:

Glycerol: 96 hr LC50 Rainbow trout 67500 mg/L

Persistence and degradability: Glycerol is readily biodegradable.

Bioaccumulative Potential:

Glycerol: log P_{ow} -1.76, potential for bioaccumulative is low.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

| |
|--|
| Section 13. Disposal Considerations |
|--|

Disposal: For unused product, dispose of in accordance with Federal and local regulations.

Container Disposal: Dispose of empty container in accordance with Federal and local regulations.

Section 14. Transport Information

| | UN Number | UN Proper Shipping Name | Hazard Class(s) | Packing Group | Environmental Hazards |
|------------|-----------|-------------------------|-----------------|---------------|-----------------------|
| US DOT | None | Not Regulated | None | None | None |
| EU ADR/RID | None | Not Regulated | None | None | None |
| IMDG | None | Not Regulated | None | None | None |
| IATA/ICAO | None | Not Regulated | None | None | None |

Special Precautions for User: None identified

Transport in Bulk According to Annex II MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form.

Section 15. Regulatory Information

U.S. Federal Regulations:

EPA SARA 311/312 Hazard Classification: Refer to Section 2 for OSHA Hazard Classification.

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Protection Of Stratospheric Ozone: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: This product is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

International Inventories

US EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or exempt.

Canada CEPA: All of the components of this material are listed on the DSL or exempt.

Section 16. Other Information

Effective Date: February 25, 2019

Supersedes Date: April 1, 2015

Revision Summary: All Sections – New SDS format

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

SAFETY DATA SHEET

Section 1. Product And Company Identification

Product Name: NX3 Nexus® Third Generation Dual Cure Base and Catalyst

Product Use: Dental product: Permanent cement

Manufacturer: Kerr Corporation
1717 W. Collins Ave.
Orange, CA 92867-5422
U.S.A.

Information Phone Number: 1-800-841-1428 (Customer Service)

Chemical Emergency Phone Number (Chemical Spills, Leaks, Fire, Exposure or Accident only):
CHEMTREC 1-800-424-9300 (in the US) 1-703-527-3887 (Outside the US)

SDS Date of Preparation/Revision: April 15, 2019

Section 2. Hazards Identification

GHS Classification:

Eye Irritant Category 2A

Skin Irritant Category 2

Skin Sensitizer Category 1

Label Elements:

Warning!



Hazard Phrases:

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

Precautionary Phrases:

Avoid breathing dust.

Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves and eye protection.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Take off contaminated clothing and wash before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

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

Section 3. Composition/Information on Ingredients

The following ingredients are in the Base:

| Component | CAS No. | Amount |
|--|------------|---------|
| Barium aluminoborosilicate glass | 65997-17-3 | 30-60% |
| Ytterbium fluoride | 13760-80-0 | 10-<30% |
| Ethoxylated bisphenol-A dimethacrylate | 41637-38-1 | <15% |
| Urethane dimethacrylate | 72869-86-4 | <10% |
| Triethylene glycol dimethacrylate | 109-16-0 | <10% |
| Hydroxyethylmethacrylate | 868-77-9 | <10% |
| Fumed silica | 68909-20-6 | <5% |
| Bisphenol-A diglycidyl methacrylate | 1565-94-2 | <5% |
| Ethylidimethylaminobenzoate | 10287-53-3 | <0.5% |

The following ingredients are in the Catalyst:

| Component | CAS No. | Amount |
|--|------------|---------|
| Barium aluminoborosilicate glass | 65997-17-3 | 30-60% |
| Ytterbium fluoride | 13760-80-0 | 10-<30% |
| Triethylene glycol dimethacrylate | 109-16-0 | <10% |
| Ethoxylated bisphenol-A dimethacrylate | 41637-38-1 | <10% |
| Urethane dimethacrylate | 72869-86-4 | <10% |
| Fumed silica | 68909-20-6 | <5% |
| Bisphenol-A diglycidyl methacrylate | 1565-94-2 | <5% |
| Hydroxyethylmethacrylate | 868-77-9 | <5% |
| Peppermint oil | 8006-90-4 | <0.5% |

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air. If breathing is difficult or irritation persists, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Flush skin thoroughly with water for several minutes. Get medical attention if irritation or rash occurs. Launder clothing before re-use.

Eye Contact: Immediately flush eyes with large quantities of water for several minutes, while holding the eyelids apart. Remove contact lenses if easy to do so. Continue rinsing. Get medical attention if irritation persists.

Ingestion: Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if you feel unwell.

Most important symptoms and effects, acute and delayed: May cause moderate eye and skin irritation. May cause skin sensitization. Inhalation of dust from dried product or vapors may cause irritation of the mucous membranes and upper respiratory tract.

Indication of immediate medical attention and special treatment, if needed: Immediate medical attention is not required.

Section 5. Fire Fighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use any media appropriate for the surrounding fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: Combustion may produce carbon oxides, nitrogen oxides, phosphorus oxides, metal oxides, and halogenated compounds.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Contain water used in firefighting from entering sewers or natural waterways.

Section 6: Accidental Release Measures

Personal precautions, Protective equipment, and Emergency procedures: Avoid contact with eyes, skin and clothing. Wear appropriate protective clothing and equipment. Avoid breathing dust from dried product or vapors.

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

Methods and Materials for Containment and Cleaning up: Collect material with an inert absorbent material and place in appropriate, labeled container for disposal.

Section 7. Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke in the work area. Avoid breathing dust or vapors. Use with adequate ventilation. Remove and wash contaminated clothing before reuse. Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, well-ventilated area away from direct sunlight. Keep container tightly closed and sealed until ready to use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Section 8. Exposure Controls / Personal Protection

Exposure Limits

| Chemical | Exposure Limit |
|---|--|
| Barium aluminoborosilicate glass (as dust, general threshold limit value) | 10 mg/m ³ TWA ACGIH TLV (total) 5 mg/m ³ TWA ACGIH TLV (inhalable fraction) |
| Ytterbium fluoride (as fluorides) | 2.5 mg/m ³ TWA ACGIH TLV |
| Ethoxylated bisphenol-A dimethacrylate | None Established |
| Urethane dimethacrylate | None Established |

| | |
|-------------------------------------|--|
| Triethylene glycol dimethacrylate | None Established |
| Hydroxyethylmethacrylate | None Established |
| Fumed silica (as amorphous silica) | 10 mg/m ³ TWA ACGIH TLV (inhalable) 3 mg/m ³ TWA ACGIH TLV (respirable) |
| Bisphenol-A diglycidyl methacrylate | None Established |
| Ethyl dimethylaminobenzoate | None Established |
| Peppermint oil | None Established |

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: In operations where exposure levels are exceeded, an approved dust/mist respirator or supplied air respirator should be used. Equipment selection depends on contaminant type and concentration. Select in accordance with applicable regulations and good industrial hygiene practice.

Hand protection: Impervious gloves are suggested to prevent skin contact. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles are recommended if contact is possible.

Skin Protection: Wear protective clothing as needed to avoid skin contact and contamination of personal clothing.

Hygiene measures: Suitable eye and skin washing facilities should be available in the work area.

Section 9. Physical and Chemical Properties

| | | | |
|---|---------------------------------|----------------------------------|--|
| Appearance: | Colored paste of various colors | Odor: | Fruity ester-like odor |
| Odor Threshold: | Not available | pH: | Not available |
| Melting/Freezing Point: | Not available | Boiling Point/Range: | Not available |
| Flash Point: | Not available | Evaporation Rate: | Not available |
| Flammability: (Solid, Gas) | Not applicable | Flammability Limits: | LEL: Not applicable UEL: Not applicable |
| Vapor Pressure: | Not available | Vapor Density: | Not available |
| Relative Density: | 2.0-2.5 | Solubilities: | Insoluble in water |
| Partition Coefficient: (N-Octanol/Water) | Not available | Autoignition Temperature: | Not available |
| Decomposition Temperature: | Not available | Viscosity: | Not available |

Section 10. Stability and Reactivity

Reactivity: The product is not expected to be reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Heat can cause polymerization with rapid release of energy.

Conditions to avoid: Keep away from flames, heat, and direct sunlight.

Incompatible Materials: Oxidizing materials, reducing materials, amines, and peroxide.

Hazardous decomposition products: Thermal decomposition will produce carbon oxides, nitrogen oxides, phosphorus oxides, metal oxides, and halogenated compounds.

Section 11. Toxicological Information

Potential Health Effects:

Inhalation: Inhalation of dust from dried product or vapors may cause nose, throat and upper respiratory tract.

Skin Contact: Direct contact may cause moderate skin irritation. May cause an allergic skin reaction.

Eye Contact: Direct contact may cause moderate eye irritation.

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

Chronic Hazards: None known.

Skin corrosion/irritation: This product is expected to cause skin irritation.

Eye damage/ irritation: This product is expected to cause eye irritation.

Skin Sensitization: Product is categorized in Grade I (weak sensitizer) in Kligman test.

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

Germ Cell Mutagenicity: This product is not expected to cause mutagenicity.

Carcinogen: None of the components are listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Developmental / Reproductive Toxicity: This product is not classified as a reproductive hazard.

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

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

Aspiration Toxicity: Not an aspiration hazard.

Acute Toxicity Values:

Extruded Product ATE: >5000 mg/kg (oral), >5 mg/L (inhalation, as mist), >2000 mg/L (dermal)

Barium aluminoborosilicate glass: Not toxic

Ytterbium fluoride: Oral rat LD50: >2000 mg/kg

Ethoxylated bisphenol-A dimethacrylate: Oral rat LD50: >2000 mg/kg, Skin rat LD50: >2000 mg/kg

Urethane dimethacrylate: Oral rat LD50: >5000 mg/kg, Skin rat LD50: >2000 mg/kg

Triethylene glycol dimethacrylate: Oral rat LD50: 8700 mg/kg

Hydroxyethylmethacrylate: Oral rat LD50: 5564 mg/kg, Skin rabbit LD50: >5000 mg/kg

Fumed silica: Oral rat LD50: >5000 mg/kg, Inhalation rat LC0: >0.139 mg/L/4hr (no mortality), Skin rat LD50: >5000 mg/kg

Bisphenol-A diglycidyl methacrylate: No toxicity data available

Ethyl dimethylaminobenzoate: Oral rat LD50: >2000 mg/kg, Skin rat LD50: >2000 mg/kg

Peppermint oil: Oral rat LD50: 2650 mg/kg, Skin rabbit LD50: >5000 mg/kg

Section 12. Ecological Information

Toxicity:

Ytterbium fluoride: 48 hr EC50 Daphnia magna: >0.52 mg/L

Ethoxylated bisphenol-A dimethacrylate: 96hr LL50 Rainbow trout: >100 mg/L, 48hr EL50 Daphnia magna: 6 mg/L

Urethane dimethacrylate: 96hr LC50 Zebra fish: 10.1 mg/L, 48hr EC50 Daphnia magna: >1.2 mg/L, 72hr EC50 Desmodemus subspicatus: >0.68 mg/L

Triethylene glycol dimethacrylate: 96hr LC50 Zebra fish: 16.4 mg/L, 21 day NOEC Daphnia magna: 32 mg/L

Hydroxyethylmethacrylate: 96hr LC50 Japanese Rice Fish: >100 mg/L, 48hr EC50 Daphnia magna: 380 mg/L, 21 day NOEC Daphnia magna: 24.1 mg/L

Ethylidimethylaminobenzoate: 96hr LC50 Rainbow trout: 1.9 mg/L, 48 hr EC50 Daphnia magna: 4.5 mg/L

Peppermint oil: 96hr LC50 Fish: 3.40 mg/L (QSAR), 48hr EC50 Daphnia magna: 2.7 mg/L

This product is expected to be harmful to the aquatic environment. Releases to the environment should be avoided.

Persistence and degradability: Ethylidimethylaminobenzoate: Not readily biodegradable-40% in 28 days.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

Section 13. Disposal Considerations

Disposal: For unused product, dispose of in accordance with Federal and local regulations.

Container Disposal: Dispose of empty container in accordance with Federal and local regulations.

Section 14. Transport Information

| | UN Number | UN Proper Shipping Name | Hazard Class(s) | Packing Group | Environmental Hazards |
|------------|-----------|-------------------------|-----------------|---------------|-----------------------|
| US DOT | None | Not Regulated | None | None | None |
| EU ADR/RID | None | Not Regulated | None | None | None |
| IMDG | None | Not Regulated | None | None | None |
| IATA/ICAO | None | Not Regulated | None | None | None |

Special Precautions for User: None identified

Transport in Bulk According to Annex II MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form.

Section 15. Regulatory Information

U.S. Federal Regulations:



EPA SARA 311/312 Hazard Classification: Refer to Section 2 for OSHA Hazard Classification.

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Protection Of Stratospheric Ozone: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: This product is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

International Inventories

US EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or exempt.

Canada CEPA: All of the components of this material are listed on the DSL or exempt.

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| Section 16. Other Information |
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Effective Date: April 15, 2019

Supersedes Date: May 15, 2015

Revision Summary: All Sections – New SDS format

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