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

1.1 Product identifier

Product Name • ImageMate DC 521, DC 521 Z-1
Product Description • Blue or purple liquid.

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

Relevant identified use(s) • Water-based emulsion

1.3 Details of the supplier of the safety data sheet

Manufacturer • IKONICS Corporation
4832 Grand Ave.
Duluth, MN 55807
United States
www.ikonics.com
sds@ikonics.com

Telephone (General) • (218) 628-2217
Telephone (General) • (800) 328-4261 - Toll free

1.4 Emergency telephone number

Chemtrec • 1-800-424-9300 - Within USA and Canada
• +1 703-527-3887 - Outside USA and Canada (collect calls accepted)

Section 2: Hazards Identification

EU/EEC
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Skin Sensitization 1 - H317
Eye Irritation 2 - H319
EUH208

DSD/DPD • Irritant (Xi)
Sensitizer
R36, R43

2.2 Label Elements

CLP

WARNING

Hazard statements • H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
Precautionary statements

Prevention • P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response • P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P321 - Specific treatment, see supplemental first aid information.
P363 - Wash contaminated clothing before reuse.

Storage/Disposal • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases • R36 - Irritating to eyes.
R43 - May cause sensitization by skin contact.

Safety phrases • S24 - Avoid contact with skin.
S37 - Wear suitable gloves.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other Hazards

CLP • No data available
DSD/DPD • No data available

UN GHS
According to Third Revised Edition

2.1 Classification of the substance or mixture

UN GHS • Skin Sensitization 1 - H317
Eye Irritation 2 - H319

2.2 Label elements

UN GHS

WARNING

Hazard statements • H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation

Precautionary statements

Prevention • P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response • P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
2.3 Other hazards

**UN GHS**
- No data available

**United States (US)**
According to OSHA 29 CFR 1910.1200 HCS

### 2.1 Classification of the substance or mixture

**OSHA HCS 2012**
- Skin Sensitization 1 - H317
  - Eye Irritation 2 - H319

### 2.2 Label elements

**OSHA HCS 2012**

**WARNING**

- **Hazard statements**
  - May cause an allergic skin reaction - H317
  - Causes serious eye irritation - H319

- **Precautionary statements**
  - **Prevention**
    - Avoid breathing dust, fume, gas, mist, vapors and/or spray. - P261
    - Wash thoroughly after handling. - P264
    - Contaminated work clothing should not be allowed out of the workplace. - P272
    - Wear protective gloves/protective clothing/eye protection/face protection. - P280
  - **Response**
    - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
    - If eye irritation persists: Get medical advice/attention. - P337+P313
    - IF ON SKIN: Wash with plenty of soap and water. - P302+P352
    - If skin irritation or rash occurs: Get medical advice/attention. - P333+P313
    - Specific treatment, see supplemental first aid information. - P321
    - Wash contaminated clothing before reuse. - P363

- **Storage/Disposal**
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

### 2.3 Other hazards

**OSHA HCS 2012**
- No data available

**Canada**
According to WHMIS

### 2.1 Classification of the substance or mixture

**WHMIS**
- Other Toxic Effects - D2B

### 2.2 Label elements

**WHMIS**

- Other Toxic Effects - D2B
2.3 Other hazards
WHMIS
• No data available

2.4 Other information
NFPA

Key to abbreviations
– See Section 16 for full text of R and S phrases.

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>% (weight)</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Ethoxylated pentaerythritol tetraacrylate</td>
<td>CAS:51728-26-8</td>
<td>4% TO 5%</td>
<td></td>
<td>WHMIS: UN GHS: Eye Irrit. 2 EU DSD/DPD: EU CLP: OSHA HCS 2012:</td>
<td></td>
</tr>
<tr>
<td>Ethoxylated tetramethyldecynediol</td>
<td>CAS:9014-85-1</td>
<td>&lt; 0.8%</td>
<td></td>
<td>WHMIS: UN GHS: Eye Dam. 1; Skin Irrit. 2 EU DSD/DPD: EU CLP: OSHA HCS 2012:</td>
<td></td>
</tr>
<tr>
<td>2-Propenoic acid, 2-((hydroxymethyl)-2-((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester</td>
<td>CAS:3524-68-3 EC Number:222-540-8 EINECS:222-540-8</td>
<td>&lt; 0.4%</td>
<td>Ingestion/Oral-Rat LD50 • 1830 mg/kg Skin-Rabbit LD50 • 4 mL/kg</td>
<td>WHMIS: UN GHS: Skin Irrit. 2; Skin Sens. 1 EU DSD/DPD: Irritant(Xi); R36/38; R43 EU CLP: Annex VI: Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1; H319; H315; H317 OSHA HCS 2012:</td>
<td></td>
</tr>
<tr>
<td>Pentaerythritol Tetraacrylate</td>
<td>CAS:4986-89-4 EC Number:225-644-1 EINECS:225-644-1</td>
<td>&lt; 0.4%</td>
<td></td>
<td>WHMIS: UN GHS: Eye Irrit. 2A; Skin Irrit. 2; Skin Sens. 1 EU DSD/DPD: Irritant(Xi); R36/38; R43 EU CLP: Annex VI: Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1; H319; H315; H317 OSHA HCS 2012:</td>
<td></td>
</tr>
</tbody>
</table>

Key to abbreviations
– See Section 16 for full text of R phrases

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures
4.1 Description of first aid measures

Inhalation
• IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration and call 911 or emergency medical service.

Skin
• IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye
• 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 advice/attention.

Ingestion
• If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth. Never give anything by mouth to an unconscious person. If large quantities are swallowed, call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

• Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
• SMALL FIRES: Dry chemical, CO2, water spray or regular foam.
  LARGE FIRE: Water spray, fog or regular foam.

Unsuitable Extinguishing Media
• No data available

Firefighting Procedures
• LARGE FIRES: Use extinguishing agent suitable for type of surrounding fire.
  Fire fighters should wear complete protective clothing including self-contained breathing apparatus.
  Keep unauthorized personnel away.
  Ventilate closed spaces before entering.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
• Some of these materials may burn, but none ignite readily.

Hazardous Combustion Products
• Products of combustion include: carbon oxides (COx).

5.3 Advice for firefighters

• Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
  Wear chemical protective clothing that is specifically recommended by the manufacturer.
  It may provide little or no thermal protection.
  Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
• Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas.

Emergency Procedures
• No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended. Use normal clean up procedures.

6.2 Environmental precautions

• No data available

6.3 Methods and material for containment and cleaning up

Containment/Clean-up
• Use appropriate Personal Protective Equipment (PPE)
Measures
Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container.

6.4 Reference to other sections
- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling
Handling
- Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities
Storage
- Keep container closed when not in use. Store away from extreme heat. Do not freeze.

7.3 Specific end use(s)
- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Control Notations
Germany DFG
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester (3524-68-3): Sensitizers: (skin sensitizer)

8.2 Exposure controls

Engineering Measures/Controls
- Local exhaust is recommended but not required. Provide adequate ventilation as necessary.

Personal Protective Equipment

Pictograms

Respiratory
- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
- Wear protective eyewear (goggles, face shield, or safety glasses).

Hands
- Wear protective gloves - rubber or neoprene.

Skin/Body
- Wear protective clothing - apron or other impervious body coverings.

General Industrial Hygiene Considerations
- Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls
- No data available

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Appearance/Description</th>
<th>Viscous liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Blue or purple</td>
<td>Odor</td>
<td>Slight acrylic odor</td>
</tr>
<tr>
<td>Physical and Chemical Properties (Not relevant)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Properties</th>
<th>Boiling Point</th>
<th>Melting Point</th>
<th>pH</th>
<th>8.82 lbs/gal</th>
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<tbody>
<tr>
<td>Boiling Point</td>
<td>100 C(212 F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature (Not relevant)</td>
<td>pH</td>
<td></td>
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<tr>
<td>Specific Gravity/Relative Density</td>
<td>1.06 Water=1</td>
<td>Density</td>
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<td></td>
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<tr>
<td>Water Solubility</td>
<td>Miscible</td>
<td>Solvent Solubility</td>
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<tr>
<td>Viscosity</td>
<td>No data available</td>
<td>Explosive Properties</td>
<td>Not relevant</td>
<td></td>
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</table>

ImageMate DC 521, DC 521 Z-1 Safety Data Sheet Page 6 of 12
<table>
<thead>
<tr>
<th>Oxidizing Properties:</th>
<th>Not relevant</th>
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**Volatile**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Pressure</td>
<td>Not relevant</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt; 1 n-Butyl Acetate = 1</td>
</tr>
<tr>
<td>Volatiles (WL)</td>
<td>60 to 65 %</td>
</tr>
</tbody>
</table>

**Flammability**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>&gt; 200 F(&gt; 93.3333 C)</td>
</tr>
<tr>
<td>UEL</td>
<td>Not relevant</td>
</tr>
<tr>
<td>LEL</td>
<td>Not relevant</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Not relevant</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not relevant</td>
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</table>

**Environmental**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Octanol/Water Partition coefficient</td>
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<tr>
<td>Bioconcentration Factor</td>
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<tr>
<td>Chemical Oxygen Demand</td>
<td>No data available</td>
</tr>
<tr>
<td>Degradation</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2 Other Information

- Polymerizes to solid/semisolid form upon exposure to UV radiation.

### Section 10: Stability and Reactivity

#### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability

- UV reactive.

#### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

#### 10.4 Conditions to avoid

- Avoid freezing. Excess heat.

#### 10.5 Incompatible materials

- No data available

#### 10.6 Hazardous decomposition products

- No decomposition is expected under normal storage and use conditions. Hazardous decomposition products formed under fire conditions - carbon oxides (COx).

### Section 11 - Toxicological Information

#### 11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, 2-((hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester (&lt; 0.4%)</td>
<td>3524-68-3</td>
<td><strong>Acute Toxicity</strong>: oral-rat LD50: 1830 mg/kg; skin-rat LD50: 4 mL/kg; <strong>Irritation</strong>: eye-rat 1 mg SEV; skin-rat 500 mg open MLD</td>
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</tbody>
</table>

GHS Properties

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>EU/CLP* OSRS HCS 2012* UN GHS*</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>EU/CLP* OSRS HCS 2012* UN GHS*</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>EU/CLP* OSRS HCS 2012* UN GHS*</td>
</tr>
</tbody>
</table>
Germ Cell Mutagenicity

- EU/CLP
- OSHA HCS 2012
- UN GHS

Skin corrosion/Irritation

- EU/CLP
- OSHA HCS 2012
- UN GHS

Skin sensitization

- EU/CLP
- Skin Sensitizer 1
- OSHA HCS 2012
- Skin Sensitizer 1
- UN GHS
- Skin Sensitizer 1

STOT-RE

- EU/CLP
- OSHA HCS 2012
- UN GHS

STOT-SE

- EU/CLP
- OSHA HCS 2012
- UN GHS

Toxicity for Reproduction

- EU/CLP
- OSHA HCS 2012
- UN GHS

Respiratory sensitization

- EU/CLP
- OSHA HCS 2012
- UN GHS

Serious eye damage/Irritation

- EU/CLP
- Eye Irritation 2
- OSHA HCS 2012
- Eye Irritation 2
- UN GHS
- Eye Irritation 2A

Route(s) of entry/exposure

- Skin, Eye

Potential Health Effects

Inhalation

- Acute (Immediate): May cause irritation.
- Chronic (Delayed): Repeated and prolonged exposure may cause irritation.

Skin

- Acute (Immediate): May cause mild irritation. May cause an allergic skin reaction.
- Chronic (Delayed): Repeated and prolonged exposure may cause sensitization.

Eye

- Acute (Immediate): Causes eye irritation.
- Chronic (Delayed): Repeated and prolonged exposure may be harmful.

Ingestion

- Acute (Immediate): May cause irritation.
- Chronic (Delayed): No specific information available.

Section 12 - Ecological Information

12.1 Toxicity

- No data available

12.2 Persistence and degradability

- No data available

12.3 Bioaccumulative potential

- No data available

12.4 Mobility in Soil

- No data available
12.5 Results of PBT and vPvB assessment
• No data available

12.6 Other adverse effects
Potential Environmental Effects
• May cause long lasting harmful effects to aquatic life.

Section 13 - Disposal Considerations

13.1 Waste treatment methods
Product waste
• Dispose of content in accordance with local, regional, national, and/or international regulations.
Packaging waste
• Dispose of container in accordance with local, regional, national, and/or international regulations.

13.2 Other Information
• Dispose of wastes in an approved waste disposal facility.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th></th>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
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<tr>
<td>IMO/IMDG</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
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<tr>
<td>IATA/ICAO</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
• None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

14.8 Other information

DOT • Not regulated.
IMO/IMDG • Not regulated.
IATA/ICAO • Not regulated.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
SARA Hazard Classifications • Acute

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Australia AICS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>China</th>
<th>EU EINECS</th>
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<tbody>
<tr>
<td>Ethoxylated pentaerythritol tetraacrylate</td>
<td>51728-26-8</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Ethoxylated tetramethyldecyndiol</td>
<td>9014-85-1</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>2-Propenoic acid, 2-[(hydroxymethyl)(2-((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester</td>
<td>3524-68-3</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pentaerythritol Tetraacrylate</td>
<td>4986-89-4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Component</td>
<td>CAS</td>
<td>Japan ENCS</td>
<td>Korea KECL</td>
<td>New Zealand</td>
<td>Philippines PICCS</td>
<td>TSCA</td>
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<tr>
<td>Ethoxylated pentaerythritol tetraacrylate</td>
<td>51728-26-8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Ethoxylated tetramethyldicycadiol</td>
<td>9014-85-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester</td>
<td>3524-68-3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pentaerythritol Tetraacrylate</td>
<td>4986-89-4</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Australia**

**Labor**

**Australia - List of Designated Hazardous Substances - Classification**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% Not Listed
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% Xi R36/38 R43
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% Xi R36/38 R43
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed

**Europe**

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% Not Listed
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% Xi; R36/38 R43
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% Xi; R36/38 R43
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% Not Listed
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% Xi: R36/38-43 S:(2)-39
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% Xi: R36/38-43 S:(2)-26-39
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% Not Listed
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% D
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% D
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% Not Listed
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% S:(2)-39
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% S:(2)-26-39
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed

**EU - No-Longer Polymers List (67/548/EEC)**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% NLP No. 500-022-5 (>1<-4.5 mol ethoxylated units)
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% NLP No. 500-111-9 (>1<-8.5 mol ethoxylated units)

**Germany**

**Environment**

**Germany - Water Classification (VwVwS) - Annex 3**

- Ethoxylated tetramethyldicycadiol, 9014-85-1 < 0.8% ID Number 2805, hazard class 2 - hazard to waters
- 2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)(oxy)methyl)-1,3-propanediyl ester, 3524-68-3 < 0.4% Not Listed
- Pentaerythritol Tetraacrylate, 4986-89-4 < 0.4% Not Listed
- Ethoxylated pentaerythritol tetraacrylate, 51728-26-8 4% TO 5% Not Listed
Japan

Other

Japan - Chemical Substance Control Law (CSCL) - Examined Existing Chemical Substances

- Ethoxylated tetramethyldicynediol 9014-85-1 < 0.8% Not Listed
- 2-Propanoic acid, 2-((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester 3524-68-3 < 0.4% Non-decomposable/Low-concentrate
- Pentaerythritol Tetraacrylate 4986-89-4 < 0.4% Not Listed
- Ethoxylated pentaerythritol tetraacrylate 51728-26-8 4% TO 5% Not Listed

Japan - Fire Service Law - Hazardous Materials

- Ethoxylated tetramethyldicynediol 9014-85-1 < 0.8% Not Listed
- 2-Propanoic acid, 2-((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester 3524-68-3 < 0.4% Group 4 - Flammable liquids III (listed under 3rd Class petroleumns - insoluble)
- Pentaerythritol Tetraacrylate 4986-89-4 < 0.4% Not Listed
- Ethoxylated pentaerythritol tetraacrylate 51728-26-8 4% TO 5% Not Listed

Korea

Labor

Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances

- Ethoxylated tetramethyldicynediol 9014-85-1 < 0.8% Not Listed
- 2-Propanoic acid, 2-((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester 3524-68-3 < 0.4% Not Listed
- Pentaerythritol Tetraacrylate 4986-89-4 < 0.4% Not Listed
- Ethoxylated pentaerythritol tetraacrylate 51728-26-8 4% TO 5% Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

15.3 Other Information

- California Proposition 65: This product contains or may contain a substance(s) known to the State of California to cause cancer and/or reproductive toxicity:
  Formaldehyde CAS #50-00-0 <0.001%

Section 16 - Other Information

Relevant Phrases (code & full text)

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
- P264 - Wash thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - IF ON SKIN: Wash with plenty of 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.
- P321 - Specific treatment, see supplemental first aid information.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P363 - Wash contaminated clothing before reuse.
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- R36 - Irritating to eyes.
- R36/38 - Irritating to eyes and skin.
- S24 - Avoid contact with skin.
- S37 - Wear suitable gloves.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Classification method for mixtures

- Calculation method.
Last Revision Date • 29 January 2013
Preparation Date • 23 May 2014
Other Information • Approved by: Troy Bergstedt, Director of Chemical Research, (218) 628-2217 ext.142.
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