

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

1.1 Product identifier

Product Name • **Razor Fusion**

Product Description • Blue 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 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

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
Hazardous to the aquatic environment Chronic 3 - H412
EUH208

DSD/DPD • Irritant (Xi)
Sensitizer
R36, R43, R53

2.2 Label Elements

CLP

WARNING



Hazard statements • H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

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.
P273 - Avoid release to the environment.
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.
R53 - May cause long-term adverse effects in the aquatic environment.

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 Mild Irritation 3 - H316
Skin Sensitization 1 - H317
Eye Irritation 2 - H319
Hazardous to the aquatic environment Chronic 3 - H412

2.2 Label elements

UN GHS

WARNING



Hazard statements • H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

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.
 - P273 - Avoid release to the environment.
 - 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.

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 • No data available

2.2 Label elements

WHMIS



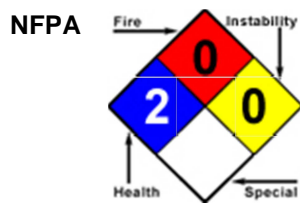
• Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

• No data available

2.4 Other information



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

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Pentaerythritol Tetraacrylate	CAS:4986-89-4 EC Number:225-644-1 EINECS:225-644-1	4% TO 6%		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:	
2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	CAS:3524-68-3 EC Number:222-540-8 EINECS:222-540-8	< 2%	Ingestion/Oral-Rat LD50 • 1830 mg/kg Skin-Rabbit LD50 • 4 mL/kg	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:	
Benzophenone	CAS:119-61-9 EINECS:204-337-6	< 0.6%	Ingestion/Oral-Rat LD50 • >10 g/kg Skin-Rabbit LD50 • 3535 mg/kg	WHMIS: Other Toxic Effects - D2B UN GHS: Aquatic Acute 1; Aquatic Chronic 1; Eye Irrit. 2A; Skin Irrit. 3 EU DSD/DPD: R36/38; R50/53 EU CLP: Aquatic Acute 1; Aquatic Chronic 1; Eye Irrit. 2; Skin Irrit. 2 OSHA HCS 2012:	

1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	CAS: 119313-12-1 EC Number: 404-360-3	< 0.3%	Ingestion/Oral-Rat LD50 • >2000 mg/kg Skin-Rat LD50 • >=2000 mg/kg	WHMIS: UN GHS: Aquatic Acute 1; Aquatic Chronic 1 EU DSD/DPD: Environment(N); R50; R53 EU CLP: Aquatic Acute 1; Aquatic Chronic 1 OSHA HCS 2012:
Ethanol, 2-phenoxy-, acrylate	CAS: 48145-04-6 EINECS: 256-360-6	< 0.3%		WHMIS: UN GHS: Skin Irrit. 2; Eye Irrit. 2A; Aquatic Acute 2; Aquatic Chronic 2 EU DSD/DPD: EU CLP: OSHA HCS 2012:

European Chemicals Agency – Candidate List of Substances of Very High Concern for Authorization

- Alkoxyated nonyl phenol acrylate; (4-Nonylphenol, branched and linear, ethoxylated); listed 2013/06/20; 9-10%.

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 (CO_x).

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

- LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Use appropriate Personal Protective Equipment (PPE)
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

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

- 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** • Handle in accordance with good industrial hygiene and safety practice.
- Considerations**
- Environmental Exposure** • No data available
- Controls**

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Viscous liquid.
Color	Blue	Odor	Slight acrylic odor.
Odor Threshold	No data available	Physical and Chemical Properties	Not relevant
General Properties			
Boiling Point	100 C(212 F)	Melting Point	Not relevant
Decomposition Temperature	Not relevant	pH	No data available
Specific Gravity/Relative Density	Not relevant	Density	8.71 lbs/gal
Water Solubility	Miscible	Solvent Solubility	No data available
Viscosity	No data available	Explosive Properties	Not relevant
Oxidizing Properties:	Not relevant		
Volatility			
Vapor Pressure	Not relevant	Vapor Density	Not relevant
Evaporation Rate	Not relevant	VOC (Wt.)	Not relevant
Volatiles (Wt.)	65 to 70 %		
Flammability			
Flash Point	> 100 C(> 212 F)	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not relevant		
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Bioaccumulation Factor	No data available	Bioconcentration Factor	No data available
Biochemical Oxygen Demand BOD/BOD5	No data available	Chemical Oxygen Demand	No data available
Persistence	No data available	Degradation	No data available

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

Component Name	CAS	Data
2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester (< 0.4%)	3524-68-3	Acute Toxicity: orl-rat LD50:1830 mg/kg; skn-rbt LD50:4 mL/kg; Irritation: eye-rbt 1 mg SEV; skn-rbt 500 mg open MLD
Benzophenone (< 0.6%)	119-61-9	Acute Toxicity: orl-rat LD50:>10 gm/kg; Skin-Rabbit LD50 • 3535 mg/kg
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) (< 0.3%)	119313-12-1	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg; Skin-Rat LD50 • >=2000 mg/kg
GHS Properties	Classification	
Acute toxicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Aspiration Hazard	EU/CLP• OSHA HCS 2012• UN GHS•	
Carcinogenicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Germ Cell Mutagenicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Skin corrosion/Irritation	EU/CLP• OSHA HCS 2012• UN GHS•Skin Mild Irritation 3	
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

Component	CAS	Data	Comments
Benzophenone (< 0.6%)	119-61-9	Crustacea: 24 Hour(s) EC50 Crustacea .28 mg/L ; Fish: 96 Hour(s) LC50 Fish 14.2 mg/L	
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) (< 0.3%)	119313-12-1	Crustacea: 24 Hour(s) EC50 Water Flea .8 mg/L ; Fish: 96 Hour(s) LC50 Fish .46 mg/L	

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

- Avoid release to the environment. Dispose of wastes in an approved waste disposal facility.

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
DOT	NDA	NDA	NDA	NDA	NDA
IMO/IMDG	NDA	NDA	NDA	NDA	NDA
IATA/ICAO	NDA	NDA	NDA	NDA	NDA

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

- Not relevant.

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

Inventory						
Component	CAS	Australia AICS	Canada DSL	China	EU EINECS	EU ELNICS
Pentaerythritol Tetraacrylate	4986-89-4	Yes	Yes	Yes	Yes	No
2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	Yes	Yes	Yes	Yes	No
Benzophenone	119-61-9	Yes	Yes	Yes	Yes	No
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Yes	Yes	Yes	No	Yes
Ethanol, 2-phenoxy-, acrylate	48145-04-6	Yes	Yes	Yes	Yes	No
Inventory (Con't.)						
Component	CAS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS	Switzerland SWISS
Pentaerythritol Tetraacrylate	4986-89-4	Yes	Yes	Yes	Yes	No
2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	Yes	Yes	Yes	Yes	No
Benzophenone	119-61-9	Yes	Yes	Yes	Yes	No
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Yes	Yes	Yes	Yes	Yes
Ethanol, 2-phenoxy-, acrylate	48145-04-6	Yes	Yes	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
Pentaerythritol Tetraacrylate	4986-89-4	Yes
2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	Yes
Benzophenone	119-61-9	Yes
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Yes
Ethanol, 2-phenoxy-, acrylate	48145-04-6	Yes

Australia

Labor

Australia - List of Designated Hazardous Substances - Classification

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Xi R36/38, R43
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Xi R36/38, R43
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	N R50, R53

Denmark

Environment

Denmark - Advisory List for Self-Classification of Dangerous Substances

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Carc.Cat.3; R40 N; R50 Xi; R38
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

Europe

Other

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Xi; R36/38 R43
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Xi; R36/38 R43
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	N; R50-53

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Xi R:36/38-43 S:(2)-39
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Xi R:36/38-43 S:(2)-26-39
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	N R:50/53 S:60-61

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	D
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	D
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	S:(2)-39
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	S:(2)-26-39
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	S:60-61

EU - Endocrine Disruptors (COM (2001)262) - Candidate List of Substances

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Group III Chemical
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

EU - Existing Substance Regulation (793/93/EEC) - Evaluation of Existing HPV Chemicals (REPEALED)

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	ID Number 7288, hazard class 2 - hazard to waters
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	ID Number 2024, hazard class 2 - hazard to waters
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	ID Number 2102, hazard class 2 - hazard to waters

Japan**Environment****Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances**

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	403 >=1 %
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	8-(7)-927

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

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Non-decomposable/Low-concentrate
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Low-decomposable (see also 4-125); Non-decomposable/Low-concentrate (see also 4-125)
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

Japan - Fire Service Law - Hazardous Materials

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Group 4 - Flammable liquids III (listed under 3rd Class petroleum - insoluble)
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Group 4 - Flammable liquids III (listed under 3rd Class petroleum - insoluble)
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	Not Listed

Korea**Labor****Korea - MOE - Harmful Substances**

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	92-23
Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances			
•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	Not Listed
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	94-20

United States

Environment

U.S. - EPA - Designated Generic Categories - Certain Glycol Ethers

•2-Propenoic acid, 2-(hydroxymethyl)-2-(((1-oxo-2-propenyl)oxy)methyl)-1,3-propanediyl ester	3524-68-3	< 2%	Not Listed
•Ethanol, 2-phenoxy-, acrylate	48145-04-6	< 0.3%	
•Pentaerythritol Tetraacrylate	4986-89-4	4% TO 6%	Not Listed
•Benzophenone	119-61-9	< 0.6%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 0.3%	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:

Benzophenone	CAS #119-61-9	<0.6%
Formaldehyde	CAS #50-00-0	<0.09%
1,4-Dioxane	CAS #123-91-1	<0.00008%

Section 16 - Other Information

Relevant Phrases (code & full text)

- H315 - Causes skin irritation
- H316 - Causes mild skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H412 - Harmful to aquatic life with long lasting effects
- 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.
- P273 - Avoid release to the environment.
- 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.
- R36/37/38 - Irritating to eyes, respiratory system and skin.
- R36/38 - Irritating to eyes and skin.
- R43 - May cause sensitization by skin contact.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R53 - May cause long-term adverse effects in the aquatic environment.

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

- 13 February 2013

Preparation Date

- 02 April 2014

Other Information

- Approved by: Troy Bergstedt, Director of Chemical Research, (218) 628-2217 ext.142.

Disclaimer/Statement of Liability

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