

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

1.1 Product identifier

Product Name • ALPHA e-50 Emulsion
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 Irritation 2 - H315
Skin Sensitization 1A - H317
Eye Irritation 2 - H319
Hazardous to the aquatic environment Chronic 2 - H411

DSD/DPD • Dangerous to the Environment (N)
Irritant (Xi)
Sensitizer
R43, R51/53

2.2 Label Elements

CLP

WARNING



Hazard statements • H315 - Causes skin irritation

H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H411 - Toxic 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.
 - P362 - Take off contaminated clothing and wash before reuse.
 - P391 - Collect spillage.

Storage/Disposal

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

DSD/DPD



Risk phrases

- R43 - May cause sensitization by skin contact.
- R51/53 - Toxic to aquatic organisms, 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 Irritation 2 - H315
- Skin Sensitization 1A - H317
- Eye Irritation 2 - H319
- Hazardous to the aquatic environment Acute 2 - H401
- Hazardous to the aquatic environment Chronic 2 - H411

2.2 Label elements

UN GHS

WARNING



Hazard statements

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

- Prevention**
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
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 - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
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- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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 - 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.
 - P362 - Take off contaminated clothing and wash before reuse.
 - P391 - Collect spillage.

- 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 Irritation 2 - H315
 - Skin Sensitization 1A - H317
 - Eye Irritation 2 - H319

- OSHA HCS 1994**
- No data available

2.2 Label elements

OSHA HCS 2012

WARNING



- Hazard statements**
- H315 - Causes skin irritation
 - 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.
 - P362 - Take off contaminated clothing and wash before reuse.
 - P391 - Collect spillage.

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

OSHA HCS 1994 • No data available

2.3 Other hazards

OSHA HCS 2012 • No data available

OSHA HCS 1994 • 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



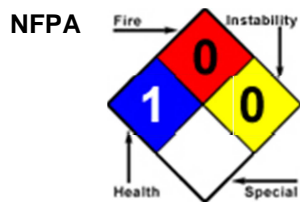
• Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

• No data available

2.4 Other information



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
Acrylic acid, propylenebis(oxypropylene) ester	CAS:42978-66-5 EC Number:256-032-2 EINECS:256-032-2	2% TO 3%	Ingestion/Oral-Rat LD50 • 6200 mg/kg Skin-Rabbit LD50 • >2 g/kg	OSHA HCS 1994: WHMIS: UN GHS: Aquatic Chronic 2; Eye Irrit. 2A; Skin Irrit. 2; Skin Sens. 1; STOT SE 3: Resp. Irrit. EU DSD/DPD: Environment(N); Irritant(Xi); R36/37/38; R43; R51; R53 EU CLP:	
Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	CAS:52408-84-1	2% TO 3%		OSHA HCS 1994: Irrit. WHMIS: UN GHS: Eye Irrit. 2A; Skin Irrit. 2 EU DSD/DPD: Irritant(Xi); R36/37 EU CLP: Eye Irrit. 2; Skin Irrit. 2	
1-hydroxycyclohexyl phenyl ketone	CAS:947-19-3 EC Number:213-426-9 EINECS:213-426-9	1% TO 2%		OSHA HCS 1994: Irrit. WHMIS: UN GHS: Acute Tox. 5; Eye Irrit. 2A; Skin Irrit. 2 EU DSD/DPD: R36/37/38 EU CLP: Eye Irrit. 2; Skin Irrit. 2	

Benzophenone	CAS: 119-61-9 EINECS: 204-337-6	1% TO 2%	Ingestion/Oral-Rat LD50 • >10 g/kg Skin-Rabbit LD50 • 3535 mg/kg	OSHA HCS 1994: Irrit. D2B 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
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	CAS: 119313-12-1 EC Number: 404-360-3	< 1%	Ingestion/Oral-Rat LD50 • >2000 mg/kg Skin-Rat LD50 • >=2000 mg/kg	OSHA HCS 1994: WHMIS: UN GHS: Aquatic Acute 1; Aquatic Chronic 1 EU DSD/DPD: Environment(N); R50; R53 EU CLP: Aquatic Acute 1; Aquatic Chronic 1

Key to abbreviations

= See Section 16 for full text of R and S 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. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
- 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

Notes to Physician

- No data available.

Antidotes

- No data available.

4.4 Other information

- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

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

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 • No data available.

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. Do not touch or walk through spilled material. Contact may irritate or burn skin and eyes.

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. Do not expose to sunlight or white room light. Handle under yellow room lights to prevent polymerization due to UV exposure.

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.

Special Packaging Materials • Package in opaque containers and/or use additional light-blocking materials.

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 Limits/Guidelines • No data available.

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. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Environmental Exposure Controls

- No data available

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	No data available.
Odor Threshold	No data available		
General Properties			
Boiling Point	100 C(212 F)	Melting Point	No data available
Decomposition Temperature	Not relevant	pH	No data available
Density	8.9 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	No data available	VOC (Wt.)	Not relevant
Volatiles (Wt.)	58%		
Flammability			
Flash Point	> 100 C(> 212 F)	UEL	No data available
LEL	No data available	Autoignition	Not relevant
Flammability (solid, gas)	Non-flammable in liquid form. When dry, product will burn as an ordinary combustible material.		
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	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

- Excess heat. Direct sunlight. Avoid freezing.

10.5 Incompatible materials

- No data available.

10.6 Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions - carbon oxides, nitrogen oxides. No decomposition is expected under normal storage and use conditions.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Acrylic acid, propylenebis(oxypropylene) ester (2% TO 3%)	42978-66-5	Acute Toxicity: skn-rbt LD50:>2 gm/kg; Irritation: eye-rbt 100 uL/24H SEV; skn-rbt 500 mg MOD
Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy) (2% TO 3%)	52408-84-1	Acute Toxicity: skn-rat TDLo:4 mL/kg/2W-I
Benzophenone (1% TO 2%)	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) (< 1%)	119313-12-1	Acute Toxicity: Ingestion/Oral-Rat LD50 • 2000 mg/kg; orl-rat TDLo:42 gm/kg/14D-C; 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•Skin Irritation 2 OSHA HCS 2012• UN GHS•Skin Mild Irritation 3	
Skin sensitization	EU/CLP• OSHA HCS 2012• UN GHS•Skin Sensitizer 1A	
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• UN GHS•Eye Irritation 2

Medical Conditions Aggravated by Exposure • No data available.

Potential Health Effects

Inhalation

Acute (Immediate) • May cause mild irritation.

Chronic (Delayed) • No data available

Skin

Acute (Immediate) • Causes skin irritation. May cause an allergic skin reaction.

Chronic (Delayed) • No data available

Eye

Acute (Immediate) • Causes serious eye irritation.

Chronic (Delayed) • No data available

Ingestion

Acute (Immediate) • May cause mild irritation.

Chronic (Delayed) • No data available

Mutagenic Effects • No data available.

Carcinogenic Effects • No data available.

Reproductive Effects • No data available.

Section 12 - Ecological Information

12.1 Toxicity

Component	CAS	Data	Comments
Benzophenone (1% TO 2%)	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) (< 1%)	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

Ecological Fate

- No data available.

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. Avoid release to the environment.

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
TDG	NDA	NDA	NDA	NDA	NDA
IMO/IMDG	NDA	NDA	NDA	NDA	NDA
ADN	NDA	NDA	NDA	NDA	NDA
ADR/RID	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

Component	Inventory					
	CAS	Australia AICS	Canada DSL	China	EU EINECS	EU ELNICS
Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	Yes	Yes	Yes	Yes	No
Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	Yes	Yes	Yes	No	No
1-hydroxycyclohexyl phenyl ketone	947-19-3	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
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Inventory (Con't.)

Component	CAS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS	Switzerland SWISS
Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	Yes	Yes	Yes	Yes	No
Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	Yes	Yes	Yes	Yes	No
1-hydroxycyclohexyl phenyl ketone	947-19-3	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

Inventory (Con't.)

Component	CAS	TSCA
Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	Yes
Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	Yes
1-hydroxycyclohexyl phenyl ketone	947-19-3	Yes
Benzophenone	119-61-9	Yes
1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Yes

Australia

Labor

Australia - List of Designated Hazardous Substances - Classification

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Xi, N R36/37/38, R43, R51, R53
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	N R50, R53

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Uncontrolled product according to WHMIS classification criteria
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

Denmark

Environment

Denmark - Advisory List for Self-Classification of Dangerous Substances

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	R52/53
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha"-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed

•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

Europe

Other

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Xi; R36/37/38 R43 N; R51 R53
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	N; R50 R53

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	10%<=C: Xi; R36/37/38
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Xi N R:36/37/38-43-51/53 S:(2)-24-37-61
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	N R:50/53 S:60-61

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	S:(2)-24-37-61
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	S:60-61

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Group III Chemical
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	NLP No. 500-114-5 (>1<6.5 mol propoxylated units)
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

Germany

Environment

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Number 1868, hazard class 2 - hazard to waters
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	ID Number 2124, not considered hazardous to water
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	ID Number 2024, hazard class 2 - hazard to waters
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	ID Number 2102, hazard class 2 - hazard to waters

Japan

Environment

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	403
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	Not Listed

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	9-768
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	7-(4)-697
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	8-(7)-927

Other

Japan - Examined Existing Chemical Substances

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	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	< 1%	Not Listed

Korea

Labor

Korea - MOE - Harmful Substances

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	92-23

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

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed

•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	94-20

Norway

Environment

Norway - Observation List

•Acrylic acid, propylenebis(oxypropylene) ester	42978-66-5	2% TO 3%	
•1-hydroxycyclohexyl phenyl ketone	947-19-3	1% TO 2%	Not Listed
•Poly(oxy(methyl-1,2-ethanediyl)), alpha,alpha',alpha''-1,2,3-propanetriyltris(omega-((1-oxo-2-propenyl)oxy)	52408-84-1	2% TO 3%	Not Listed
•Benzophenone	119-61-9	1% TO 2%	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	< 1%	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 No. 50-00-0	<0.001%
Benzophenone	CAS No. 119-61-9	1-2%
1,4-Dioxane	CAS No. 123-91-1	<0.0001%
Acetaldehyde	CAS No. 75-07-0	<0.003%

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
- H411 - Toxic 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.
- P362 - Take off contaminated clothing and wash before reuse.
- P391 - Collect spillage.
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- R36/37 - Irritating to eyes and respiratory system.
- 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 - Very toxic to aquatic organisms.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

R51 - Toxic to aquatic organisms.

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

- N/A

Preparation Date

- 03 February 2014

Other Information

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

Disclaimer/Statement of Liability

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