Safety Data Sheet



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

1.1 Product identifier

• Direct to Screen / DTS Z-1, Z-2, Z-3

Product Description • Purple or 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: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

2.1 Classification of the substance or mixture

CLP • Skin Irritation 2 - H315

Skin Sensitization 1 - H317 Eye Irritation 2 - H319

Hazardous to the aquatic environment Chronic 3 - H412

EUH208

DSD/DPD • Irritant (Xi)

R36/37/38, R43, R52/53

2.2 Label Elements

CLP

WARNING



Hazard statements • H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H412 - Harmful to aquatic life with long lasting effects.

EUH208 – Contains sensitizing substance (acrylate oligomers; Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate)

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 • 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.

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.

P362 - Take off contaminated clothing and wash 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 • R36/37/38 - Irritating to eyes, respiratory system and skin.

R43 - May cause sensitization by skin contact.

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases • S24 - Avoid contact with skin.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

CLPNo data availableNo data available

UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture

UN GHS

Skin Irritation 2 - H315
 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 • H315 - Causes 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 • 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.

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.

P362 - Take off contaminated clothing and wash 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 GHSNo 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 1 - H317
 Eye Irritation 2 - H319

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.

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 • 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.

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.

P362 - Take off contaminated clothing and wash 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

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

WHMISNo data available

2.4 Other information

NFPA



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			
Ethanol, 2,2',2"- (propylidynetris(methyleneoxy))tri-, triacrylate	CAS: 28961-43-5		Skin-Rabbit LD50 • >13 g/kg	WHMIS: UN GHS: Skin Sens. 1 EU CLP: OSHA HCS 2012:				
Acrylate oligomers		17.5%	NDA	WHMIS: UN GHS: Skin Sens. 1 EU CLP: OSHA HCS 2012:				
CAS:67-63-0 EC Number:200- 661-7 UN:UN1219 EINECS:200-661-7		< 5%	Inhalation-Rat LC50 • 16000 ppm 8 Hour(s) Skin-Rabbit LD50 • 12800 mg/kg Ingestion/Oral-Rat LD50 • 5000 mg/kg	WHMIS: Flam. Liq B2; Other Toxic Effects - D2B UN GHS: Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3: Narc. EU CLP: Flam. Liq. 2; Eye Irrit. 2; STOT SE 3: Narc. OSHA HCS 2012:				
1-hydroxycyclohexyl phenyl ketone	CAS:947-19-3 EC Number:213- 426-9	< 2%		WHMIS: UN GHS: Acute Tox. 5; Eye Irrit. 2A; Skin Irrit. 2				

	EINECS :213-426-9			EU CLP: Eye Irrit. 2; Skin Irrit. 2 OSHA HCS 2012:
Benzophenone	CAS:119-61-9 EINECS:204-337-6	< 2%	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 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	< 1%	Ingestion/Oral-Rat LD50 • >2000 mg/kg Skin-Rat LD50 • >=2000 mg/kg	WHMIS: UN GHS: Aquatic Acute 1; Aquatic Chronic 1 EU CLP: Aquatic Acute 1; Aquatic Chronic 1 OSHA HCS 2012:

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

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 • SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Media

LARGE FIRE: Water spray, fog or regular foam.

Unsuitable

• No data available

Extinguishing Media

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.

Products

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

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).

5.4 Other information

• Runoff may pollute waterways.

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. Ventilate enclosed areas.

Materials

Special Packaging • 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	s/Guidelines			
	Result	ACGIH	Argentina	Australia	Belgium	Brazil	
Isopropyl alcohol	STELs	400 ppm STEL	500 ppm STEL [CMP-CPT]	500 ppm STEL; 1230 mg/m3 STEL	400 ppm STEL; 1000 mg/m3 STEL	Not established	
(67-63-0)	TWAs	200 ppm TWA	400 ppm TWA [CMP]	400 ppm TWA; 983 mg/m3 TWA	200 ppm TWA; 500 mg/m3 TWA	310 ppm TWA LT; 765 mg/m3 TWA LT	
		Ex	posure Limits/Gu	idelines (Con't.)			
	Result	Canada Alberta	Canada British Columbia	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories	
Isopropyl alcohol		400 ppm STEL; 984 mg/m3 STEL	400 ppm STEL	400 ppm STEL	500 ppm STEL; 1230 mg/m3 STEL	500 ppm STEL; 1228 mg/m3 STEL	
(67-63-0)		200 ppm TWA; 492 mg/m3 TWA	200 ppm TWA	200 ppm TWA	400 ppm TWA; 983 mg/m3 TWA	400 ppm TWA; 983 mg/m3 TWA	
		Ex	posure Limits/Gu	idelines (Con't.)			
	Result	Canada Nova Scotia	Canada Nunavut	Canada Ontario	Canada Quebec	Canada Saskatchewan	
Isopropyl alcohol	STELs	400 ppm STEL	500 ppm STEL; 1228 mg/m3 STEL	400 ppm STEL	500 ppm STEV; 1230 mg/m3 STEV	400 ppm STEL	
(67-63-0)	TWAs	200 ppm TWA	400 ppm TWA; 983 mg/m3 TWA	200 ppm TWA	400 ppm TWAEV; 985 mg/m3 TWAEV	200 ppm TWA	
		Ex	posure Limits/Gu	idelines (Con't.)			
	Result	Canada Yukon	Chile	China	Denmark	Egypt	
Isopropyl alcohol	STELs	500 ppm STEL; 1225 mg/m3 STEL	500 ppm STEL LPT; 1230 mg/m3 STEL LPT	700 mg/m3 STEL	Not established	500 ppm STEL; 1230 mg/m3 STEL	
(67-63-0)	TWAs 400 ppm TWA; 980 mg/m3 TWA		320 ppm TWA LPP; 786 mg/m3 TWA LPP	350 mg/m3 TWA	200 ppm TWA; 490 mg/m3 TWA	Not established	
		Ex	posure Limits/Gu	idelines (Con't.)			
	Result	Finland	France	Germany DFG	Germany TRGS	Hong Kong	
	STELs	250 ppm STEL; 620 mg/m3 STEL	400 ppm STEL [VLCT]; 980 mg/m3 STEL [VLCT]	Not established	Not established	500 ppm STEL; 1230 mg/m3 STEL	
Isopropyl alcohol (67-63-0)	TWAs	200 ppm TWA; 500 mg/m3 TWA	Not established	Not established	200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 500 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	Not established	
	Ceilings	Not established	Not established	400 ppm Peak; 1000 mg/m3 Peak	Not established	Not established	
	MAKs	Not established	Not established	200 ppm TWA MAK; 500 mg/m3 TWA MAK	Not established	Not established	
		Ex	posure Limits/Gu				
	Result	Indonesia	Ireland	Japan	Korea	Mexico	
	Coilings	Not established	Not established	400 ppm Ceiling;	Not established	Not established	
Isopropyl alcohol	Cellings	riot cotabilorioa		980 mg/m3 Ceiling			

						mg/m3 STEL [LMPE-CT]
	TWAs	400 ppm TWA; 983 mg/m3 TWA	200 ppm TWA	Not established	200 ppm TWA; 480 mg/m3 TWA	400 ppm TWA LMPE-PPT; 980 mg/m3 TWA LMPE- PPT
		Ex	oosure Limits/Gu	idelines (Con't.)		
	Result	New Zealand	NIOSH	Norway	OSHA	Philippines
Isopropyl alcohol			400 ppm TWA; 980 mg/m3 TWA		400 ppm TWA; 980 mg/m3 TWA	400 ppm TWA; 980 mg/m3 TWA
(67-63-0)			500 ppm STEL; 1225 mg/m3 STEL	Not established	Not established	Not established
		Ex	oosure Limits/Gu	idelines (Con't.)		
	Result	Poland	Portugal	Russia	Singapore	South Africa
			400 ppm STEL [VLE-CD		500 ppm STEL; 1230 mg/m3 STEL	500 ppm STEL; 1225 mg/m3 STEL
Isopropyl alcohol (67-63-0)		[NDS]	200 ppm TWA [VLE- MP]	(vapor)	400 ppm PEL; 983 mg/m3 PEL	400 ppm TWA; 960 mg/m3 TWA; 980 mg/m3 TWA (regulated under Propane-2-ol)
		Ex	oosure Limits/Gu	idelines (Con't.)		
	Result	Spain	Sweden	Switzerland	Taiwan	Venezuela
	MAKs	Not established	Not established	200 ppm TWA [MAK]; 500 mg/m3 TWA [MAK]	Not established	Not established
	STELs	400 ppm STEL [VLA-EC]; 1000 mg/m3 STEL [VLA- EC]	250 ppm STV; 600 mg/m3 STV	400 ppm STEL [KZW]; 1000 mg/m3 STEL [KZW]	Not established	500 ppm STEL [LEB
Isopropyl alcohol (67-63-0)	TWAs	200 ppm TWA [VLA-ED] (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary o biocide compound); 500 mg/m3 TWA [VLA-ED] (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary o biocide compound)	150 ppm LLV; 350 mg/m3 LLV	Not established	400 ppm TWA; 983 mg/m3 TWA	400 ppm TWA [CAP
	Biologica Limit Values (BLV)	40 mg/L urine end or workweek Acetone (1,F,I)	Not established	Not established	Not established	Not established

Exposure Control Notations

Switzerland

•Isopropyl alcohol (67-63-0): **Developmental Risk Groups**: (Developmental Risk Group C)

Portugal

•Isopropyl alcohol (67-63-0): Carcinogens: (A4 - Not Classifiable as a Human Carcinogen)

Singapore

•Isopropyl alcohol (67-63-0): Odor Threshold - High: (490 mg/m3) | Odor Threshold - Low: (8 mg/m3) | Irritation: (490 mg/m3) South Africa

•Isopropyl alcohol (67-63-0): Skin: (Skin Notation)

Brazil

•Isopropyl alcohol (67-63-0): Skin: (skin designation)

Ireland

•Isopropyl alcohol (67-63-0): Skin: (Potential for cutaneous absorption)

ACGIH

•Isopropyl alcohol (67-63-0): Carcinogens: (A4 - Not Classifiable as a Human Carcinogen)

Germany DFG

•Isopropyl alcohol (67-63-0): Pregnancy: (no risk to embryo/fetus if exposure limits adhered to)

Exposure Limits Supplemental

Switzerland

•Isopropyl alcohol (67-63-0): Biological Limit Values: (25 mg/L Medium: urine Time: end of shift Parameter: Acetone; 25 mg/L Medium: whole blood Time: end of shift Parameter: Acetone)

Argentina

•Isopropyl alcohol (67-63-0): **BEIs:** (2 mg/g Creatinine urine Acetone)

ACGIH

•Isopropyl alcohol (67-63-0): BEIs: (40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)) | TLV Basis - Critical Effects: (CNS impairment; eye and upper respiratory tract irritation)

Germany TRGS

•Isopropyl alcohol (67-63-0): BELs: (50 mg/L Medium: whole blood Time: end of shift Parameter: Acetone; 50 mg/L Medium: urine Time: end of shift Parameter: Acetone)

8.2 Exposure controls

Engineering Measures/Controls · Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Pictograms

Hands





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

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

• 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	Purple or blue	Odor	Isopropanol
Taste	No data available	Odor Threshold	No data available
Physical and Chemical Properties	UV reactive		
General Properties			-
Boiling Point	82 C (180 F)	Melting Point	No data available
рН	4.5-5	Specific Gravity/Relative Density	>1 Water = 1
Density	8.9 lbs/gal	Water Solubility	Miscible
Viscosity	5200-9600 Centipoise (cPs, cP) or mPas	Explosive Properties	None

Oxidizing Properties:	None		
Volatility			
Vapor Pressure	No data available	Vapor Density	>1 Air = 1
Evaporation Rate	< 1 Water = 1	VOC (Wt.)	50 g/L
Volatiles (Wt.)	55 to 60 %		
Flammability			
Flash Point	> 82 C (>180 F)	UEL	No data available
LEL	No data available	Autoignition	No data available
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

No data available

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. Direct sunlight. Excess heat.

10.5 Incompatible materials

• Oxidizers.

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
Ethanol, 2,2',2"- (propylidynetris(methyleneoxy))tri-, triacrylate (5% TO 6%)	28961-43-5	Acute Toxicity: skn-rbt LD50:>13 gm/kg; Irritation: eye-rbt 100 mg MOD; skn-rbt 500 mg MOD
Isopropyl alcohol (< 5%)	67-63-0	Acute Toxicity: orl-rat LD50:5000 mg/kg; ihl-rat LC50:16000 ppm/8H; skn-rbt LD50:12800 mg/kg; Irritation: eye-rbt 100 mg/24H MOD
Benzophenone (< 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%)	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg; Skin-F >=2000 mg/kg	Rat LD50 •
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•Skin Irritation 2 UN GHS•Skin Irritation 2	
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	

Potential Health Effects

Inhalation

Acute (Immediate)

• May cause irritation.

Chronic (Delayed)

• Repeated and prolonged exposure may cause irritation.

Skin

Acute (Immediate)

• May cause irritation. May cause an allergic skin reaction.

Chronic (Delayed)

• Repeated and prolonged exposure may cause irritation. Repeated and prolonged

exposure may cause sensitization.

Eye

Acute (Immediate)

• May cause irritation.

Chronic (Delayed)

• Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate)

• No data available

Chronic (Delayed)

No data available

Section 12 - Ecological Information

12.1 Toxicity

Component	CAS	Data	Comments
Benzophenone (< 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

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.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

State Right To Know							
Component	CAS	MA	NJ	PA			
Ethanol, 2,2',2"- (propylidynetris(methyleneoxy))tri- , triacrylate	28961-43- 5	No	No	No			
Acrylate oligomers	NDA	No	No	No			
Isopropyl alcohol	67-63-0	Yes	Yes	Yes			
1-hydroxycyclohexyl phenyl ketone	947-19-3	No	No	No			
Benzophenone	119-61-9	No	No	No			
1-Butanone, 2-(dimethylamino)-1- (4-(4-morpholinyl)phenyl)-2- (phenylmethyl)	119313- 12-1	No	No	No			

		l.	nven	tory				
Component	CAS	Australia AICS	Ca	anada DSL	Chin	a	EU EINECS	EU ELNICS
Ethanol, 2,2',2"- (propylidynetris(methyleneoxy))tri- , triacrylate	28961-43- 5	Yes	Yes		Yes		No	No
Acrylate oligomers	NDA	No	No		No		No	No
Isopropyl alcohol	67-63-0	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		No	Yes
		Inve	ntory	(Con't.)				
Component	CAS	Japan ENCS	Kor	ea KECL	New Zealand		Philippines PICCS	Switzerland SWISS
Ethanol, 2,2',2"- (propylidynetris(methyleneoxy))tri- , triacrylate	28961-43- 5	No	Yes		Yes		Yes	No
Acrylate oligomers	NDA	No	No		No		No	No
Isopropyl alcohol	67-63-0	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
		Inve	ntory	(Con't.)				
Comp	onent				AS		TSC	Α
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate				28961-43-5		Yes		
Acrylate oligomers				NDA		No		
Isopropyl alcohol				67-63-0		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

_	ᆫ	_	
-	m	m	г

Australia - High Volume Industrial Chemicals List		
•Isopropyl alcohol	67-63-0	
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Australia - List of Designated Hazardous Substances - Classification		
•Isopropyl alcohol	67-63-0	F, Xi R11, R36, R67
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	N R50, R53
invironment		

En

Australia - Pr	iority Existing	g Chemical	l Program
----------------	-----------------	------------	-----------

3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -		
•Isopropyl alcohol	67-63-0	Candidate chemical
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances		
•Isopropyl alcohol	67-63-0	B2, D2B (including 70%)
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Canada - WHMIS - Ingredient Disclosure List		
•Isopropyl alcohol	67-63-0	1 %
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed

Canada Alberta

Environment

Canada - Alberta - Ambient Air Quality Objectives

•Isopropyl alcohol	67-63-0	3190 ppbv 1 hour average; 7850 µg/m3 1 hour average
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed

China

Other

China - Dangerous Goods List		
•Isopropyl alcohol	67-63-0	
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5 No	ot Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3 No	ot Listed
•Benzophenone	119-61-9 No	ot Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1 No	ot Listed

Denmark

Denmark - Advisory List for Self-Classification of Dangerous Substances

 Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone Benzophenone 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Europe Other EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone Benzophenone 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 	67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1 67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1	F; R11 Xi; R36 R67 Not Listed Not Listed Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling	07.00.0	F Xi R:11-36-67 S:(2)-7-16-
•Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) EU - Endocrine Disrupters (COM (2001)262) - Candidate List of Substances •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) EU - No-Longer Polymers List (67/548/EEC) •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Germany	67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1 67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1 67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1 67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1	24/25-26 Not Listed Not Listed Not Listed N R:50/53 S:60-61 S:(2)-7-16-24/25-26 Not Listed
Environment		
Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	67-63-0 28961-43-5 947-19-3 119-61-9 119313-12-1	ID Number 135, hazard class 1 - low hazard to waters Not Listed Not Listed Not Listed Not Listed
Germany - Water Classification (VwVwS) - Annex 3 •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	67-63-0 28961-43-5	Not Listed ID Number 8454, hazard class 1 - low hazard to waters (1 - 6.5 moles
•1-hydroxycyclohexyl phenyl ketone	947-19-3	ethoxylated) Not Listed
•Benzophenone	119-61-9	ID Number 2024, hazard class 2 - hazard to waters
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	ID Number 2102, hazard class 2 - hazard to waters

Lab	or
-----	----

-	Labor Hong Kong - Dangerous Substances Regulations - Classification		
-	•Isopropyl alcohol	67-63-0	
Hotariane			
Hong Kong - Dangerous Substances Regulations - Particular Risks	·		
Hisporpoy alcohol		110010 12 1	Not Elstod
#Ethanol, 2.2.2*(propylidynetris(methyleneoxy))tri-, triacrylate		67-63-0	R-11 (listed under Propanol,
1-hydroxycyclohexyl phenyl katone 947-19-3			,
### Patracone			
Hour kong Nangerous Substances Regulations - Safety Precautions			
	·		
**Isopropyl alcohol 67-63-0 5-6/8, S-13 (listed under Propanol, all somers)		119313-12-1	Not Listed
Eshanol, 2,22-("propylidynetris(methyleneoxy))tri-, triacrylate			S-6/8. S-13 (listed under
### ### ##############################	•Isopropyl alcohol	67-63-0	
Peberzophenone		28961-43-5	Not Listed
**I-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) **Interpolation of the stopp of			
Other Hong Kong - Dangerous Goods - Category 5 - Substances Giving Off Flammable Vapour **	·		
Hong Kong - Dangerous Goods - Category 5 - Substances Giving Off Flammable Vapur	1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Fichanol, 2,2,2"-(propylidynetris(methyleneoxy))tri-, triacrylate	Other		
Ethanol, 2.2 2° (propylidynetris(methyleneoxy))tri-, triacrylate			
-1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed 119-61-9 Not			·
#Benzophenone *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) India Environment India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals *Isopropyl alcohol *Ethanol, 2,2:(2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Isopropyl alcohol *Isopropylalcohol *Isopropylalcohol *Isopropylalc			
*1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 19313-12-1 Not Listed			
India Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals 1-1			
India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals slopropyl alcohol 67-63-0 Ethanol, 2,2,2"-(propylidynetris(methyleneoxy))tri-, triacrylate 28961-43-5 Not Listed 1-hydroxycyclohexyl phenyl ketone 347-19-3 Not Listed 1-gapan - ISHL Dangerous Substances Flammable substance (listed under Substances whose flash points are >=0"C and <30"C) Ethanol, 2,2,2"-(propylidynetris(methyleneoxy))tri-, triacrylate 28961-43-5 Not Listed slopropyl alcohol 67-63-0 Flammable substance (listed under Substances whose flash points are >=0"C and <30"C) Ethanol, 2,2,2"-(propylidynetris(methyleneoxy))tri-, triacrylate 28961-43-5 Not Listed slopropyl alcohol 19961-9 Not Listed slopropyl alcohol 19961-9 Not Listed slopropyl alcohol 67-63-0 (when produced and handled indoors) slopropyl alcohol 67-63-0 (when produced and handled indoors) slopropyl alcohol 67-63-0 Not Listed slopropyl alcohol 67-63-0 Not Listed slopropyl alcohol 67-63-0 Not Listed slopropyl alcohol 19961-43-5 Not Listed slopropyl alcohol 67-63-0 Not Listed slopropyl alcohol 19961-43-5 Not Listed slopropyl alcohol 19961-43-5 Not Listed slopropyl alcohol 19961-9 Not Listed slopropyl alcohol 19961		119313-12-1	Not Listed
India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals Isopropyl alcohol 67-63-0 Ethanol, 2,2',2'''(propylidynetris(methyleneoxy))tri-, triacrylate 28961-43-5 Not Listed India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals 28961-43-5 Not Listed Itola - Listed 194-19-3 Not Listed Itola - Listed	India		
*Elthanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *1-hydroxycyclohexyl phenyl ketone *Benzophenone *1-Butlanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) **Japan** **Labor** Japan - ISHL Dangerous Substances **Isopropyl alcohol** **Elthanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate **Isopropyl alcohol** **Benzophenone *1-Butlanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Dangerous Substances **Isopropyl alcohol** **Elthanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate **Isopropyl alcohol** **Isopropyl alcohol** **Isopropyl alcohol** *Isopropyl alcohol** *I			
*I-hydroxycyclohexyl phenyl ketone *Benzophenone *I-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan Labor Japan - ISHL Dangerous Substances *Isopropyl alcohol *Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *I-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams *Isopropyl alcohol *G7-63-0 *Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *I-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams *Isopropyl alcohol *Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *Benzophenone *I19-61-9 *Not Listed *Indianal Allendinonors *Indianal Allend			
*Benzophenone *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan Labor Japan - ISHL Dangerous Substances *Isopropyl alcohol *Ethanol, 2,2'.2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Benzophenone *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams *Isopropyl alcohol *C-63-0 *Ethanol, 2,2'.2"-(propylidynetris(methyleneoxy))tri-, triacrylate *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams *Isopropyl alcohol *Ethanol, 2,2'.2"-(propylidynetris(methyleneoxy))tri-, triacrylate *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label *Isopropyl alcohol *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label *Isopropyl alcohol *Ethanol, 2,2'.2"-(propylidynetris(methyleneoxy))tri-, triacrylate *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) *1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label *Isopropyl alcohol *Ethanol, 2,2'.2"-(propylidynetris(methyleneoxy))tri-, triacrylate *1-hydroxycyclohexyl phenyl ketone *1-1-9-61-9 *Not Listed *1-9-61-9 *Not Listed			
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Labor Japan - ISHL Dangerous Substances •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone			
Labor Japan - ISHL Dangerous Substances *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Benzophenone *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Benzophenone 119-61-9 *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Isopropyl alcohol *Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *Isopropyl alcohol *			
Supara - ISHL Dangerous Substances Flammable substance (listed under Substance swhose flash points are >=0 °C and <30 °C)		119313-12-1	Not Listed
Sapan - ISHL Dangerous Substances Flammable substance (listed under Substances whose flash points are >=0 °C and (30 °C)	Japan		
Flammable substance (listed under Substances whose flash points are >=0 °C and <30 °C) Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 28961-43-5 Not Listed 1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed 19enzophenone 119-61-9 Not Listed 19ana - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams 1-hydroxycyclohexyl phenyl ketone 67-63-0 (when produced and handled indoors) 1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed 1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed 1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 119313-12-1 Not Listed 1-Butanone, 2-(dimethy	Labor		
•Isopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 1-Butanone, 2-(propylidynetris(methyleneoxy))tri-, triacrylate 1-sopropyl alcohol Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(pheny	Japan - ISHL Dangerous Substances		
*Isopropyl alcohol *Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *I-butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams *Isopropyl alcohol *Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *Benzophenone *I-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) *Isopropyl alcohol *Ithanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *Benzophenone *In-61-9 *In-91-3 *			
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) •1-hydroxycyclohexyl phenyl ketone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-bydroxycyclohexyl phenyl ketone •1-hydroxycyclohexyl phenyl ketone •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •In-61-9 Not Listed Not Listed Not Listed Not Listed Not Listed	•Isopropyl alcohol	67-63-0	flash points are >=0 °C and
•1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone Not Listed *Not Listed **Propyl alcohol) **Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone **Propyl alcohol	Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •1-hydroxycyclohexyl phenyl ketone •1-hydroxycyclohexyl phenyl ketone •1-hydroxycyclohexyl phenyl ketone •Benzophenone		947-19-3	Not Listed
Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams Isopropyl alcohol	•	119-61-9	Not Listed
*Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate *I-hydroxycyclohexyl phenyl ketone *Benzophenone *Ingland		119313-12-1	
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone 128961-43-5 Not Listed >=1 % weight (listed under Propyl alcohol) >=1 % Not Listed >=1 % Not Listed Not Listed Not Listed Not Listed	•Isopropyl alcohol	67-63-0	(when produced and handled indoors)
•1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone Not Listed 119-61-9 Not Listed 119-61-9 Not Listed Not Listed 119-61-9 Not Listed 119-61-9 Not Listed	Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	· ·
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •19313-12-1 Not Listed >=1 % weight (listed under Propyl alcohol) 28961-43-5 Not Listed Not Listed 119-61-9 Not Listed	•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone 57-63-0 28961-43-5 Not Listed Not Listed 119-61-9 Not Listed		119-61-9	Not Listed
•Isopropyl alcohol •Isopropyl alcohol •Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone 67-63-0 28961-43-5 Not Listed Not Listed Not Listed		119313-12-1	Not Listed
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate •1-hydroxycyclohexyl phenyl ketone •Benzophenone •1-63-0 Propyl alcohol) Not Listed Not Listed Not Listed	Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label		
 Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone Benzophenone 28961-43-5 Not Listed Not Listed Not Listed 	•Isopropyl alcohol	67-63-0	
•1-hydroxycyclohexyl phenyl ketone 947-19-3 Not Listed •Benzophenone 119-61-9 Not Listed	• Ethanol 2 2' 2"-(propylidynetris(methylenegyy))tri- triacrylate	28961-43-5	
•Benzophenone 119-61-9 Not Listed			

Japan - ISHL Notifiable Substances		
•Isopropyl alcohol	67-63-0	>=0.1 % weight [Ordinance Table 2] (listed under Propyl alcohol)
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	
Japan - ISHL Prevention of Organic Solvent Poisoning		
•Isopropyl alcohol	67-63-0	Class 2 Organic Solvent
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Environment		
Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances •Isopropyl alcohol	67-63-0	Not Listed
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	403 >=1 %
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	
Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)		
•Isopropyl alcohol	67-63-0	2-(8)-319
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	10-2718
•1-hydroxycyclohexyl phenyl ketone	947-19-3	7-(4)-697
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	8-(7)-927
Other		
Japan - Chemical Substance Control Law (CSCL) - Examined Existing Chemical Substar •Isopropyl alcohol	67-63-0	Readily biodegradable
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
		Non-biodegradable/Low
•Benzophenone	119-61-9	bioconcentration
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) Japan - Fire Service Law - Hazardous Materials	119313-12-1	Not Listed
•Isopropyl alcohol	67-63-0	Group 4 - Flammable liquids II (listed under Alcohols)
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Japan - ISHL Working Environment Evaluation Standards - Administrative Control Level		000 401
•Isopropyl alcohol	67-63-0 28961-43-5	200 ppm ACL Not Listed
 Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate 1-hydroxycyclohexyl phenyl ketone 	947-19-3	Not Listed Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	
Korea		
Labor		
Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances •Isopropyl alcohol	67-63-0	Not Listed
•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	
Singapore		
Environment		
Singapore - Petroleum and Flammable Materials - Hazard Classes		
•Isopropyl alcohol	67-63-0	3

•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate

28961-43-5 Not Listed

•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed
Singapore - Petroleum and Flammable Materials - Regulated Products		
•Isopropyl alcohol	67-63-0	SCDIPA1219L2
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	Not Listed

United States - California

Environment

U.S California - Proposition 65 - Carcinogens List		
•Isopropyl alcohol	67-63-0	Not Listed

•Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	carcinogen, 6/22/2012

•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) 119313-12-1 Not Listed

United States - Pennsylvania

Labor

•Isopropyl alcohol	67-63-0	
Ethanol, 2,2',2"-(propylidynetris(methyleneoxy))tri-, triacrylate	28961-43-5	Not Listed
•1-hydroxycyclohexyl phenyl ketone	947-19-3	Not Listed
•Benzophenone	119-61-9	Not Listed
•1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl)	119313-12-1	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:

 Benzophenone
 CAS No. 119-61-9
 1-2%

 Formaldehyde
 CAS No. 50-00-0
 <0.0009%</td>

 1,4-Dioxane
 CAS No. 123-91-1
 <0.0001%</td>

 Acetaldehyde
 CAS No. 75-07-0
 <0.002%</td>

Section 16 - Other Information

Relevant Phrases (code & full text)

• H315 - Causes skin irritation.

H316 - Causes mild skin irritation.

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.

P362 - Take off contaminated clothing and wash before reuse.

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

and/or international regulations.

EUH208 - Contains sensitizing substance.

Classification method for mixtures

• Calculation method.

Last Revision Date

• 14 November 2013

Preparation Date

• 10 march 2016

Other Information

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

Liability

Disclaimer/Statement of • The information contained herein is based on data available to us and is believed to be correct. Since this information may have been obtained in part from independent laboratories or other sources not under direct supervision, no representation is made that the information is accurate, reliable, complete, or representative and Buyer may rely thereon only at the Buyer's risk. We make no guarantee that the health and safety precautions we have suggested will be adequate for all individuals and / or situations involving its handling and uses. No warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet.