

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

1.1 Product identifier

Product Name • **MAX-R**

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

- 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 1 - H317
- Eye Irritation 2 - H319
- Hazardous to the aquatic environment Chronic 3 - H412

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.

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

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 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.
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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 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 1 - H317
Eye Irritation 2 - H319

OSHA HCS 1994 • Irritant

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.
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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.

OSHA HCS 1994 • Irritant

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



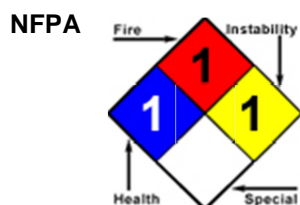
• Other Toxic Effects - D2B

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 |
| Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | CAS:28961-43-5 | 5% TO 6% | Skin-Rabbit LD50 • >13 g/kg | OSHA HCS 1994: WHMIS: UN GHS: EU DSD/DPD: EU CLP: OSHA HCS 2012: | |
| Acrylate oligomers | | 18% TO 19% | NDA | OSHA HCS 1994: WHMIS: UN GHS: EU DSD/DPD: EU CLP: | |

| | | | | | |
|--|---|------|---|---|--|
| | | | | OSHA HCS 2012: | |
| Isopropyl alcohol | 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 | OSHA HCS 1994: Flam. Liq.; Irrit. WHMIS: Flam. Liq. - B2; Other Toxic Effects - D2B UN GHS: Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3: Narc. EU DSD/DPD: Highly Flammable(F); Irritant(Xi); R11; R36; R67 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 EINECS: 213-426-9 | < 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 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 | OSHA HCS 1994: Irrit. 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 | < 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 OSHA HCS 2012: | |

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

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 • Products of combustion include: carbon oxides (CO_x), nitrogen oxides (NO_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).

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.

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 | | | | | | |
|-------------------------------------|--------|---|--|---|--|--|
| | Result | ACGIH | Argentina | Australia | Belgium | Brazil |
| Isopropyl alcohol (67-63-0) | STELs | 400 ppm STEL | 500 ppm STEL [CMP-CPT] | 500 ppm STEL; 1230 mg/m ³ STEL | 400 ppm STEL; 1000 mg/m ³ STEL | Not established |
| | TWAs | 200 ppm TWA | 400 ppm TWA [CMP] | 400 ppm TWA; 983 mg/m ³ TWA | 200 ppm TWA; 500 mg/m ³ TWA | 310 ppm TWA LT; 765 mg/m ³ TWA LT |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Canada Alberta | Canada British Columbia | Canada Manitoba | Canada New Brunswick | Canada Northwest Territories |
| Isopropyl alcohol (67-63-0) | STELs | 400 ppm STEL; 984 mg/m ³ STEL | 400 ppm STEL | 400 ppm STEL | 500 ppm STEL; 1230 mg/m ³ STEL | 500 ppm STEL; 1228 mg/m ³ STEL |
| | TWAs | 200 ppm TWA; 492 mg/m ³ TWA | 200 ppm TWA | 200 ppm TWA | 400 ppm TWA; 983 mg/m ³ TWA | 400 ppm TWA; 983 mg/m ³ TWA |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Canada Nova Scotia | Canada Nunavut | Canada Ontario | Canada Quebec | Canada Saskatchewan |
| Isopropyl alcohol (67-63-0) | STELs | 400 ppm STEL | 500 ppm STEL; 1228 mg/m ³ STEL | 400 ppm STEL | 500 ppm STEV; 1230 mg/m ³ STEV | 400 ppm STEL |
| | TWAs | 200 ppm TWA | 400 ppm TWA; 983 mg/m ³ TWA | 200 ppm TWA | 400 ppm TWAEV; 985 mg/m ³ TWAEV | 200 ppm TWA |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Canada Yukon | Chile | China | Denmark | Egypt |
| Isopropyl alcohol (67-63-0) | STELs | 500 ppm STEL; 1225 mg/m ³ STEL | 500 ppm STEL LPT; 1230 mg/m ³ STEL LPT | 700 mg/m ³ STEL | Not established | 500 ppm STEL; 1230 mg/m ³ STEL |
| | TWAs | 400 ppm TWA; 980 mg/m ³ TWA | 320 ppm TWA LPP; 786 mg/m ³ TWA LPP | 350 mg/m ³ TWA | 200 ppm TWA; 490 mg/m ³ TWA | Not established |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Finland | France | Germany DFG | Germany TRGS | Hong Kong |
| Isopropyl alcohol (67-63-0) | STELs | 250 ppm STEL; 620 mg/m ³ STEL | 400 ppm STEL [VLCT]; 980 mg/m ³ STEL [VLCT] | Not established | Not established | 500 ppm STEL; 1230 mg/m ³ STEL |
| | TWAs | 200 ppm TWA; 500 mg/m ³ 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 | Not established |

| | | | | | 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) | |
|-------------------------------------|----------|--|-------------------------------|---|---|--|
| | 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 |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Indonesia | Ireland | Japan | Korea | Mexico |
| Isopropyl alcohol (67-63-0) | Ceilings | Not established | Not established | 400 ppm Ceiling; 980 mg/m3 Ceiling | Not established | Not established |
| | STELs | Not established | 400 ppm STEL | Not established | 400 ppm STEL; 980 mg/m3 STEL | 500 ppm STEL [LMPE-CT]; 1225 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 |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | New Zealand | NIOSH | Norway | OSHA | Philippines |
| Isopropyl alcohol (67-63-0) | TWAs | 400 ppm TWA; 983 mg/m3 TWA | 400 ppm TWA; 980 mg/m3 TWA | 100 ppm TWA; 245 mg/m3 TWA | 400 ppm TWA; 980 mg/m3 TWA | 400 ppm TWA; 980 mg/m3 TWA |
| | STELs | 500 ppm STEL; 1230 mg/m3 STEL | 500 ppm STEL; 1225 mg/m3 STEL | Not established | Not established | Not established |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Poland | Portugal | Russia | Singapore | South Africa |
| Isopropyl alcohol (67-63-0) | STELs | 1200 mg/m3 STEL [NDSCh] | 400 ppm STEL [VLE-CD] | 50 mg/m3 STEL (vapor) | 500 ppm STEL; 1230 mg/m3 STEL | 500 ppm STEL; 1225 mg/m3 STEL |
| | TWAs | 900 mg/m3 TWA [NDS] | 200 ppm TWA [VLE-MP] | 10 mg/m3 TWA (vapor) | 400 ppm PEL; 983 mg/m3 PEL | 400 ppm TWA; 960 mg/m3 TWA; 980 mg/m3 TWA (regulated under Propane-2-ol) |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Spain | Sweden | Switzerland | Taiwan | Venezuela |
| Isopropyl alcohol (67-63-0) | 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] |
| | TWAs | 200 ppm TWA [VLA-ED] (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound); 500 mg/m3 TWA [VLA-ED] (it is | 150 ppm LLV; 350 mg/m3 LLV | Not established | 400 ppm TWA; 983 mg/m3 TWA | 400 ppm TWA [CAP] |

| | | | | | | |
|--|-------------------------------|---|-----------------|-----------------|-----------------|-----------------|
| | | prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound) | | | | |
| | Biological Limit Values (BLV) | 40 mg/L urine end of 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

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Measures/Controls

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 | Not relevant |
| Taste | Not relevant | Particulate Type | Not relevant |
| Particulate Size | Not relevant | Aerosol Type | Not relevant |
| Odor Threshold | No data available | Physical and Chemical Properties | Not relevant |
| General Properties | | | |
| Boiling Point | 100 C(212 F) | Melting Point | No data available |
| Decomposition Temperature | Not relevant | Heat of Decomposition | Not relevant |
| pH | No data available | Specific Gravity/Relative Density | No data available |
| Density | 8.78 lbs/gal | Bulk Density | Not relevant |
| 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.) | No data available |
| VOC (Vol.) | 50 g/L | Volatiles (Wt.) | 55 to 60 % |
| Volatiles (Vol.) | Not relevant | | |
| Flammability | | | |
| Flash Point | No data available | UEL | Not relevant |
| LEL | Not relevant | Autoignition | Not relevant |
| Self-Accelerating Decomposition Temperature (SADT) | Not relevant | Heat of Combustion (ΔH_c) | Not relevant |
| Burning Time | Not relevant | Flame Duration | Not relevant |
| Flame Height | Not relevant | Flame Extension | Not relevant |
| Ignition Distance | Not relevant | Flammability (solid, gas) | Not relevant |
| 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%) | 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•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 |
| 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 dangerous goods.
 IMO/IMDG • Not dangerous goods.
 IATA/ICAO • Not dangerous goods.

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 |

| Inventory | | | | | | |
|---|------------|----------------|------------|-------|-----------|-----------|
| Component | CAS | Australia AICS | Canada DSL | China | EU EINECS | EU ELNICS |
| Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri- | 28961-43-5 | Yes | Yes | Yes | No | No |

| | | | | | | |
|--|-------------|-----|-----|-----|-----|-----|
| , triacrylate | | | | | | |
| 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 |

Inventory (Con't.)

| Component | CAS | Japan ENCS | Korea 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 |

Inventory (Con't.)

| Component | CAS | TSCA |
|--|-------------|------|
| 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

Labor

Australia - High Volume Industrial Chemicals List

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Australia - List of Designated Hazardous Substances - Classification

| | | | |
|---|-------------|----------|---------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | F, Xi R11, R36, R67 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | N R50, R53 |

Environment

Australia - Priority Existing Chemical Program

| | | | |
|---|-------------|----------|--------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Candidate chemical |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Canada

Labor

Canada - WHMIS - Classifications of Substances

| | | | |
|---|-------------|----------|-------------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | B2, D2B (including 70%) |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Canada - WHMIS - Ingredient Disclosure List

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | 1 % |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Canada Alberta

Environment

Canada - Alberta - Ambient Air Quality Objectives

| | | | |
|---|-------------|----------|---|
| •Isopropyl alcohol | 67-63-0 | < 5% | 3190 ppbv 1 hour average; 7850 µg/m3 1 hour average |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

China

Other

China - Dangerous Goods List

| | | | |
|---|-------------|----------|----------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | UN1219 PG = II |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •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

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | R52/53 |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Europe

Other

Council of Europe - Flavouring Substances - Category of Flavouring Substances

| | | | |
|---|-------------|----------|---------------------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Category B Flavouring Substance |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Council of Europe - Flavouring Substances - Proposed Practical Upper Levels for Beverages

| | | | |
|---|-------------|----------|-----------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | 0.5 mg/kg Upper Level |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Council of Europe - Flavouring Substances - Proposed Practical Upper Levels for Foods

| | | | |
|---|-------------|----------|---------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | 2 mg/kg Upper Level |
| •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 - Classification

| | | | |
|---|-------------|----------|--------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | F; R11 Xi; R36 R67 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | N; R50-53 |

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

| | | | |
|---|-------------|----------|-------------------------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | F Xi R:11-36-67 S:(2)-7-16-24/25-26 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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

| | | | |
|---|-------------|----------|---------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | S:(2)-7-16-24/25-26 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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

| | | | |
|---|-------------|----------|--------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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)

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

EU - Flavouring Substances (Decision 1999/217/EC) - Register of Flavouring Substances

| | | | |
|---|-------------|----------|-------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Chemical Group 05 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Chemical Group 21 |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Other Ingredients

| | | | |
|---|-------------|----------|---|
| •Isopropyl alcohol | 67-63-0 | < 5% | Antifoaming; Solvent; Viscosity controlling |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | UV absorber |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Perfume and Aromatic Materials

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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)

| | | | |
|---|-------------|----------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | NLP No. 500-066-5 (>1<6.5 mol ethoxylated units) |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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

| | | | |
|--------------------|---------|------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | ID Number 135, hazard class 1 - low hazard |
|--------------------|---------|------|--|

to waters

| | | | |
|---|-------------|----------|------------|
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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

| | | | |
|---|-------------|----------|---|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | ID Number 2124, not considered hazardous to water |
| •Benzophenone | 119-61-9 | < 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 |

Hong Kong

Labor

Hong Kong - Dangerous Substances Regulations - Classification

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Flammable |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Hong Kong - Dangerous Substances Regulations - Particular Risks

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | R-11 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Hong Kong - Dangerous Substances Regulations - Safety Precautions

| | | | |
|---|-------------|----------|-------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | S-6/8, S-13 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Other

Hong Kong - Dangerous Goods - Category 5 - Substances Giving Off Flammable Vapour

| | | | |
|---|-------------|----------|---------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Class 1, Division 2 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

India

Environment

India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan

Labor

Japan - ISHL Dangerous Substances

| | | | |
|---|-------------|----------|---------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Flammable substance |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams

| | | | |
|--------------------|---------|------|-----------------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | (when produced and handled) |
|--------------------|---------|------|-----------------------------|

indoors)

| | | | |
|---|-------------|----------|------------|
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label

| | | | |
|---|-------------|----------|-------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | >1 % weight |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan - ISHL Notifiable Substances

| | | | |
|---|-------------|----------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | >0.1 % weight [Table 9, 494] (listed under Propyl alcohol) |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan - ISHL Prevention of Organic Solvent Poisoning

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Class 2 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Environment

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

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | 403 >=1 % |
| •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)

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | 2-(8)-319 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | 10-2718 |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | 7-(4)-697 |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | 8-(7)-927 |

Other

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

| | | | |
|---|-------------|----------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | Decomposable |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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 |

Japan - Fire Service Law - Hazardous Materials

| | | | |
|---|-------------|----------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | Group 4 - Flammable liquids II (listed under Alcohols) |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Japan - ISHL Working Environment Evaluation Standards - Administrative Control Levels

| | | | |
|---|-------------|----------|-------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | 200 ppm ACL |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Korea

Labor

Korea - MOE - Harmful Substances

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 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

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Not Listed |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | 94-20 |

Mexico

Other

Mexico - Hazard Classifications

| | | | |
|---|-------------|----------|---------------------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Hazard Class = 3 PG = II UN1219 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Mexico - Regulated Substances

| | | | |
|---|-------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | UN1219 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Singapore

Environment

Singapore - Petroleum and Flammable Materials - Hazard Classes

| | | | |
|---|-------------|----------|------------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | Hazard Class = 3 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

Singapore - Petroleum and Flammable Materials - Regulated Products

| | | | |
|---|-------------|----------|--------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | SCDIPA1219L2 |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

United States

Environment

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

| | | | |
|---|-------------|----------|--|
| •Isopropyl alcohol | 67-63-0 | < 5% | 1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification) |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |
| •Benzophenone | 119-61-9 | < 2% | Not Listed |
| •1-Butanone, 2-(dimethylamino)-1-(4-(4-morpholinyl)phenyl)-2-(phenylmethyl) | 119313-12-1 | < 1% | Not Listed |

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

| | | | |
|---|------------|----------|------------|
| •Isopropyl alcohol | 67-63-0 | < 5% | |
| •Ethanol, 2,2',2''-(propylidynetris(methyleneoxy))tri-, triacrylate | 28961-43-5 | 5% TO 6% | Not Listed |
| •1-hydroxycyclohexyl phenyl ketone | 947-19-3 | < 2% | Not Listed |

| | | | |
|---|-------------|------|------------|
| •Benzophenone | 119-61-9 | < 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:

| | | |
|--------------|------------------|----------|
| Benzophenone | CAS No. 119-61-9 | 1-2% |
| Formaldehyde | CAS No. 50-00-0 | <0.0009% |
| 1,4-Dioxane | CAS No. 123-91-1 | <0.0001% |
| Acetaldehyde | CAS No. 75-07-0 | <0.002% |

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.
- R11 - Highly flammable.
- R36 - Irritating to eyes.
- R36/37/38 - Irritating to eyes, respiratory system 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.
- R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R67 - Vapors may cause drowsiness and dizziness.
- 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).

Classification method for mixtures

- Calculation method.

Last Revision Date

- 21 March 2007

Preparation Date

- 28 January 2013

Other Information

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

Disclaimer/Statement of

- The information contained herein is based on data available to us and is believed to be

Liability

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