Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M™ Screen Print UV Gloss Clear 9740i

Product Identification Numbers
75-3472-5444-5

7000148701

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

Identified uses
Ink

1.3. Details of the supplier of the safety data sheet
Address: 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone: +353 1 280 3555
E Mail: tox.uk@mmm.com
Website: www.3M.com

1.4. Emergency telephone number
Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Acute Toxicity, Category 4 - Acute Tox. 4; H312

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Reproductive Toxicity, Category 1B - Repr. 1B; H360FD
Specific Target Organ Toxicity-Repeated Exposure, Category 1 - STOT RE 1; H372
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols
GHS05 (Corrosion) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	218-787-6	45 - 55
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	67906-98-3		< 10
hexamethylene diacrylate	13048-33-4	235-921-9	< 7
2-ethylhexyl acrylate	103-11-7	203-080-7	< 7
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	278-355-8	< 6
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	230-811-7	< 4
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7		< 4
Tetrahydrofurfuryl acrylate	2399-48-6	219-268-7	< 4
ε-caprolactam	105-60-2	203-313-2	< 2
2-Phenoxyethyl acrylate	48145-04-6	256-360-6	< 2
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	218-487-5	< 1
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	125455-51-8		< 0.5
2-hydroxyethyl acrylate	818-61-1	212-454-9	< 0.05

HAZARD STATEMENTS:

H302 + H312	Harmful if swallowed or in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H360FD	May damage fertility. May damage the unborn child.

H372	Causes damage to organs through prolonged or repeated exposure: liver | respiratory system.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260A	Do not breathe vapours.
P273	Avoid release to the environment.
P280I	Wear protective gloves, eye/face protection, and respiratory protection.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:
Restricted to professional users.

49% of the mixture consists of components of unknown acute oral toxicity.
52% of the mixture consists of components of unknown acute dermal toxicity.
72% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 47% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-Vinylhexahydro-2H-azepin-2-one	(CAS-No.) 2235-00-9 (EC-No.) 218-787-6 (REACH-No.) 01-2119977109-27	45 - 55	Acute Tox. 4, H312 Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 STOT RE 1, H372
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	(CAS-No.) 72162-39-1	30 - 40	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Hydroxycyclohexyl phenyl ketone	(CAS-No.) 947-19-3 (EC-No.) 213-426-9	20 - 25	Substance not classified as hazardous
2-Propenoic acid, 1,6-hexanediyl ester,	(CAS-No.) 67906-98-3	< 10	Skin Irrit. 2, H315

polymer with 2-aminoethanol			Eye Irrit. 2, H319 Skin Sens. 1, H317
hexamethylene diacrylate	(CAS-No.) 13048-33-4 (EC-No.) 235-921-9 (REACH-No.) 01-2119484737-22	< 7	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Nota D Aquatic Acute 1, H400,M=1 Aquatic Chronic 2, H411
2-ethylhexyl acrylate	(CAS-No.) 103-11-7 (EC-No.) 203-080-7 (REACH-No.) 01-2119453158-37	< 7	Skin Irrit. 2, H315 Skin Sens. 1B, H317 STOT SE 3, H335 Nota D Aquatic Chronic 3, H412
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	(CAS-No.) 75980-60-8 (EC-No.) 278-355-8 (REACH-No.) 01-2119972295-29	< 6	Skin Sens. 1B, H317 Repr. 1B, H360F Aquatic Chronic 2, H411
Tetrahydrofurfuryl acrylate	(CAS-No.) 2399-48-6 (EC-No.) 219-268-7 (REACH-No.) 01-2120738396-46	< 4	Aquatic Chronic 2, H411 EUH071 Acute Tox. 4, H302 Skin Corr. 1C, H314 Skin Sens. 1B, H317 Repr. 1B, H360Df
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	(CAS-No.) 193098-40-7	< 4	Acute Tox. 4, H332 Acute Tox. 4, H302 Eye Irrit. 2, H319 STOT RE 2, H373 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1
2-(2-Ethoxyethoxy)ethyl acrylate	(CAS-No.) 7328-17-8 (EC-No.) 230-811-7	< 4	Acute Tox. 4, H312 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
UV ABSORBERS	Trade Secret	< 2	Substance not classified as hazardous
Triazine Derivative	Trade Secret	< 2	Substance not classified as hazardous
2-Phenoxyethyl acrylate	(CAS-No.) 48145-04-6 (EC-No.) 256-360-6	< 2	Skin Sens. 1A, H317 Repr. 2, H361df Aquatic Chronic 2, H411
Poly(dimethylsiloxane)	(CAS-No.) 63148-62-9	< 2	Substance not classified as hazardous
ε-caprolactam	(CAS-No.) 105-60-2 (EC-No.) 203-313-2	< 2	Acute Tox. 4, H332 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Bis(2,6-diisopropylphenyl)carbodiimide	(CAS-No.) 2162-74-5 (EC-No.) 218-487-5	< 1	Acute Tox. 4, H302 Repr. 1B, H360F STOT RE 1, H372
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	(CAS-No.) 125455-51-8	< 0.5	Skin Sens. 1A, H317

2-hydroxyethyl acrylate	(CAS-No.) 818-61-1 (EC-No.) 212-454-9	< 0.05	Acute Tox. 3, H311 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400,M=1 Nota D Acute Tox. 4, H302 Aquatic Chronic 3, H412

Please see section 16 for the full text of any H statements referred to in this section

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
2-hydroxyethyl acrylate	(CAS-No.) 818-61-1 (EC-No.) 212-454-9	(C >= 0.2%) Skin Sens. 1, H317

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
The most important symptoms and effects based on the CLP classification include:
Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Harmful in contact with skin. Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Harmful if swallowed. Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
formaldehyde	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
ε-caprolactam	105-60-2	Ireland OELs	TWA(as vapour and dust)(8 hours):10 mg/m3;TWA(as vapour and dust)(8 hours):10 mg/m3;STEL(as vapour and dust)(15 minutes):40 mg/m3;STEL(as vapour and dust)(15 minutes):40 mg/m3	
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Manufacturer determined	TWA(8 hours):0.1 ppm(0.57 mg/m3)	
Tetrahydrofurfuryl acrylate	2399-48-6	Manufacturer determined	TWA:0.1 ppm(0.64 mg/m3);STEL:0.3 ppm(1.91 mg/m3)	Dermal Sensitizer

Ireland OELs : Ireland. OELs
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full face shield.
Indirect vented goggles.

Applicable Norms/Standards
Use eye/face protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates, including oily mists
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136
Use a respirator conforming to EN 140: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Colourless
Odor	Slight Acrylate
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=93.3 ºC
Flammability	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	>=93.3 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	2,307,692 mm²/sec
Water solubility	Moderate
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	<=1,333.2 Pa [@ 20 ºC]
Density	1.3 g/ml
Relative density	1.3 [*Test Method:*Tested per ASTM protocol] [*Ref Std:*WATER=1]
Relative Vapour Density	>=1 [*Ref Std:*AIR=1]
Particle Characteristics	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds *No data available.*

Evaporation rate	<=1 [*Ref Std:*BUOAC=1]
Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation may occur. upon depletion of inhibitor or exposure to heat.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
May be harmful if inhaled. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Skin contact
Harmful in contact with skin. Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching. May cause additional health effects (see below).

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
Harmful if swallowed.

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Immunological effects: Signs/symptoms may include alterations in the number of circulating immune cells, allergic skin and/or respiratory reaction, and changes in immune function. Gastrointestinal Effects: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure. Dermal effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >1,000 - =2,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >5 - =12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
1-Vinylhexahydro-2H-azepin-2-one	Dermal	Rabbit	LD50 1,700 mg/kg
1-Vinylhexahydro-2H-azepin-2-one	Ingestion	Rat	LD50 1,049 mg/kg
Hydroxycyclohexyl phenyl ketone	Dermal	Rat	LD50 > 5,000 mg/kg
Hydroxycyclohexyl phenyl ketone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1 mg/l
Hydroxycyclohexyl phenyl ketone	Ingestion	Rat	LD50 2,500 mg/kg
2-ethylhexyl acrylate	Dermal	Rabbit	LD50 > 10,000 mg/kg
2-ethylhexyl acrylate	Ingestion	Rat	LD50 4,430 mg/kg
hexamethylene diacrylate	Dermal	Rabbit	LD50 3,636 mg/kg
hexamethylene diacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Tetrahydrofurfuryl acrylate	Ingestion	Rat	LD50 882 mg/kg
2-(2-Ethoxyethoxy)ethyl acrylate	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
2-(2-Ethoxyethoxy)ethyl acrylate	Ingestion	Rat	LD50 1,860 mg/kg
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Dermal	Rat	LD50 > 2,000 mg/kg
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Ingestion	Rat	LD50 >500, <2,000 mg/kg
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 2.8 mg/l
Triazine Derivative	Dermal	Rat	LD50 > 2,000 mg/kg

Triazine Derivative	Ingestion	Rat	LD50 > 2,000 mg/kg
Poly(dimethylsiloxane)	Dermal	Rabbit	LD50 > 19,400 mg/kg
Poly(dimethylsiloxane)	Ingestion	Rat	LD50 > 17,000 mg/kg
ε-caprolactam	Dermal	Rat	LD50 > 2,000 mg/kg
ε-caprolactam	Inhalation-Dust/Mist (4 hours)	Rat	LC50 8.2 mg/l
ε-caprolactam	Ingestion	Rat	LD50 1,475 mg/kg
2-Phenoxyethyl acrylate	Dermal	Rat	LD50 > 2,000 mg/kg
2-Phenoxyethyl acrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Bis(2,6-diisopropylphenyl)carbodiimide	Dermal	Rat	LD50 > 2,000 mg/kg
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	Rat	LD50 >300, <2000 mg/kg
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	Dermal	similar compounds	LD50 > 5,000 mg/kg
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	Ingestion	similar compounds	LD50 > 2,000 mg/kg
2-hydroxyethyl acrylate	Inhalation-Dust/Mist	Professional judgement	LC50 estimated to be 5 - 12.5 mg/l
2-hydroxyethyl acrylate	Dermal	Rat	LD50 550-1000 mg/kg
2-hydroxyethyl acrylate	Ingestion	Rat	LD50 548 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
1-Vinylhexahydro-2H-azepin-2-one	Rabbit	Minimal irritation
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	similar compounds	Irritant
Hydroxycyclohexyl phenyl ketone	Rabbit	No significant irritation
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	Irritant
2-ethylhexyl acrylate	Rabbit	Irritant
hexamethylene diacrylate	Rabbit	Irritant
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Tetrahydrofurfuryl acrylate	Rabbit	Corrosive
2-(2-Ethoxyethoxy)ethyl acrylate	Rabbit	Irritant
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Rabbit	No significant irritation
Triazine Derivative	Rabbit	No significant irritation
Poly(dimethylsiloxane)	Rabbit	No significant irritation
ε-caprolactam	official classification	Irritant
2-Phenoxyethyl acrylate	Rabbit	No significant irritation
Bis(2,6-diisopropylphenyl)carbodiimide	Rat	Minimal irritation
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	similar compounds	No significant irritation
2-hydroxyethyl acrylate	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
1-Vinylhexahydro-2H-azepin-2-one	Rabbit	Severe irritant
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	similar compounds	Severe irritant
Hydroxycyclohexyl phenyl ketone	Rabbit	Mild irritant

2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	Severe irritant
2-ethylhexyl acrylate	Rabbit	No significant irritation
hexamethylene diacrylate	Rabbit	Moderate irritant
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Tetrahydrofurfuryl acrylate	Rabbit	Corrosive
2-(2-Ethoxyethoxy)ethyl acrylate	Rabbit	Severe irritant
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Rabbit	Severe irritant
Triazine Derivative	Rabbit	No significant irritation
Poly(dimethylsiloxane)	Rabbit	No significant irritation
ε-caprolactam	official classification	Severe irritant
2-Phenoxyethyl acrylate	Rabbit	No significant irritation
Bis(2,6-diisopropylphenyl)carbodiimide	Rabbit	Mild irritant
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	similar compounds	No significant irritation
2-hydroxyethyl acrylate	similar health hazards	Corrosive

Skin Sensitisation

Name	Species	Value
1-Vinylhexahydro-2H-azepin-2-one	Mouse	Sensitising
Hydroxycyclohexyl phenyl ketone	Guinea pig	Not classified
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	Sensitising
2-ethylhexyl acrylate	Human and animal	Sensitising
hexamethylene diacrylate	Guinea pig	Sensitising
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Mouse	Sensitising
Tetrahydrofurfuryl acrylate	Professional judgement	Sensitising
2-(2-Ethoxyethoxy)ethyl acrylate	Guinea pig	Sensitising
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Guinea pig	Not classified
Triazine Derivative	Mouse	Not classified
ε-caprolactam	Guinea pig	Not classified
2-Phenoxyethyl acrylate	Guinea pig	Sensitising
Bis(2,6-diisopropylphenyl)carbodiimide	Guinea pig	Not classified
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	similar compounds	Sensitising
2-hydroxyethyl acrylate	Human and animal	Sensitising

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
1-Vinylhexahydro-2H-azepin-2-one	In Vitro	Not mutagenic
Hydroxycyclohexyl phenyl ketone	In Vitro	Not mutagenic
Hydroxycyclohexyl phenyl ketone	In vivo	Not mutagenic
2-ethylhexyl acrylate	In vivo	Not mutagenic
2-ethylhexyl acrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
hexamethylene diacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	In Vitro	Not mutagenic
Tetrahydrofurfuryl acrylate	In Vitro	Not mutagenic
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	In Vitro	Not mutagenic
Triazine Derivative	In Vitro	Not mutagenic
ε-caprolactam	In Vitro	Not mutagenic
ε-caprolactam	In vivo	Not mutagenic
Bis(2,6-diisopropylphenyl)carbodiimide	In Vitro	Not mutagenic
2-hydroxyethyl acrylate	In vivo	Not mutagenic
2-hydroxyethyl acrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
2-ethylhexyl acrylate	Dermal	Mouse	Carcinogenic.
hexamethylene diacrylate	Dermal	Mouse	Not carcinogenic
ε-caprolactam	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Hydroxycyclohexyl phenyl ketone	Ingestion	Not classified for development	Rat	NOAEL 900 mg/kg/day	during gestation
2-ethylhexyl acrylate	Inhalation	Not classified for development	Rat	NOAEL 0.75 mg/l	during gestation
hexamethylene diacrylate	Not specified.	Not classified for development	Rat	NOAEL 750 mg/kg/day	during organogenesis
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Not classified for development	Rat	NOAEL 150 mg/kg/day	during gestation
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Toxic to female reproduction	Rat	NOAEL 200 mg/kg/day	premating into lactation
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Toxic to male reproduction	Rat	NOAEL 60 mg/kg/day	85 days
Tetrahydrofurfuryl acrylate	Ingestion	Toxic to female reproduction	Rat	NOAEL 50 mg/kg/day	premating into lactation
Tetrahydrofurfuryl acrylate	Dermal	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	90 days
Tetrahydrofurfuryl acrylate	Ingestion	Toxic to male reproduction	Rat	NOAEL 35 mg/kg/day	90 days
Tetrahydrofurfuryl acrylate	Inhalation	Toxic to male reproduction	Rat	NOAEL 0.6 mg/l	90 days
Tetrahydrofurfuryl acrylate	Ingestion	Toxic to development	Rat	NOAEL 50 mg/kg/day	premating into lactation
ε-caprolactam	Ingestion	Not classified for female reproduction	Rat	NOAEL 833 mg/kg/day	3 generation
ε-caprolactam	Ingestion	Not classified for male reproduction	Rat	NOAEL 833 mg/kg/day	3 generation
ε-caprolactam	Ingestion	Not classified for development	Rabbit	NOAEL 50 mg/kg/day	during organogenesis
2-Phenoxyethyl acrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 800 mg/kg/day	43 days

2-Phenoxyethyl acrylate	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
2-Phenoxyethyl acrylate	Ingestion	Toxic to development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	Not classified for development	Rat	NOAEL 3 mg/kg/day	premating into lactation
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	Not classified for male reproduction	Rat	NOAEL 3 mg/kg/day	28 days
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	Toxic to female reproduction	Rat	NOAEL 1 mg/kg/day	premating into lactation
2-hydroxyethyl acrylate	Dermal	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	7 weeks
2-hydroxyethyl acrylate	Dermal	Not classified for male reproduction	Rat	NOAEL 10 mg/kg	7 weeks
2-hydroxyethyl acrylate	Dermal	Not classified for development	Rat	NOAEL 10 mg/kg/day	7 weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1-Vinylhexahydro-2H-azepin-2-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2-ethylhexyl acrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL Not available	
hexamethylene diacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Tetrahydrofurfuryl acrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
ε-caprolactam	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 0.056 mg/l	not available
2-hydroxyethyl acrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1-Vinylhexahydro-2H-azepin-2-one	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.001 mg/l	28 days
1-Vinylhexahydro-2H-azepin-2-one	Inhalation	blood | liver | kidney and/or bladder | eyes	Not classified	Rat	NOAEL 0.18 mg/l	90 days
1-Vinylhexahydro-2H-	Ingestion	liver	Not classified	Rat	NOAEL 260	3 months

azepin-2-one					mg/kg/day	
Hydroxycyclohexyl phenyl ketone	Ingestion	endocrine system | liver | kidney and/or bladder | heart | blood | immune system | nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
2-ethylhexyl acrylate	Inhalation	endocrine system | liver	Not classified	Rat	NOAEL 0.75 mg/l	90 days
2-ethylhexyl acrylate	Inhalation	olfactory system	Not classified	Rat	NOAEL 0.08 mg/l	90 days
2-ethylhexyl acrylate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.75 mg/l	90 days
hexamethylene diacrylate	Dermal	skin	May cause damage to organs though prolonged or repeated exposure	Mouse	LOAEL 70 mg/kg/day	80 weeks
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	skin | blood | liver | kidney and/or bladder | nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	Ingestion	gastrointestinal tract | immune system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
ε-caprolactam	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.07 mg/l	13 weeks
ε-caprolactam	Inhalation	nervous system | eyes	Not classified	Rat	NOAEL 0.243 mg/l	13 weeks
ε-caprolactam	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 33 mg/kg/day	90 days
ε-caprolactam	Ingestion	endocrine system | liver | nervous system	Not classified	Rat	NOAEL 1,333 mg/kg/day	90 days
ε-caprolactam	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 667 mg/kg/day	90 days
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	heart | endocrine system | immune system | kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 4 mg/kg/day	28 days
Bis(2,6-diisopropylphenyl)carbodiimide	Ingestion	bone, teeth, nails, and/or hair | hematopoietic system | liver | nervous system	Not classified	Rat	NOAEL 16 mg/kg/day	28 days
2-hydroxyethyl acrylate	Dermal	hematopoietic system | immune system | heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | bone marrow | liver | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 10 mg/kg/day	13 weeks

Aspiration Hazard
For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information

on this material and/or its components.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Bacteria	Experimental	17 hours	EC50	622 mg/l
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Green algae	Experimental	72 hours	ErC50	>100 mg/l
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Zebra Fish	Experimental	96 hours	LC50	307 mg/l
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Green algae	Experimental	72 hours	NOEC	25 mg/l
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	72162-39-1	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Hydroxycyclohexyl phenyl ketone	947-19-3	Activated sludge	Experimental	3 hours	EC10	>100 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Green algae	Experimental	72 hours	ErC50	14.4 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Water flea	Experimental	48 hours	EC50	53.9 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Zebra Fish	Experimental	96 hours	LC50	24 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Green algae	Experimental	72 hours	EC10	2.51 mg/l
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	67906-98-3	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
hexamethylene diacrylate	13048-33-4	Green algae	Experimental	72 hours	EC50	2.33 mg/l
hexamethylene diacrylate	13048-33-4	Medaka	Experimental	96 hours	LC50	0.38 mg/l
hexamethylene diacrylate	13048-33-4	Water flea	Experimental	48 hours	EC50	2.7 mg/l
hexamethylene diacrylate	13048-33-4	Green algae	Experimental	72 hours	NOEC	0.9 mg/l
hexamethylene diacrylate	13048-33-4	Medaka	Experimental	39 days	NOEC	0.072 mg/l
hexamethylene diacrylate	13048-33-4	Water flea	Experimental	21 days	NOEC	0.14 mg/l

hexamethylene diacrylate	13048-33-4	Activated sludge	Experimental	30 minutes	EC50	270 mg/l
2-ethylhexyl acrylate	103-11-7	Green algae	Experimental	72 hours	ErC50	1.71 mg/l
2-ethylhexyl acrylate	103-11-7	Rainbow trout	Experimental	96 hours	LC50	1.81 mg/l
2-ethylhexyl acrylate	103-11-7	Water flea	Experimental	48 hours	EC50	1.3 mg/l
2-ethylhexyl acrylate	103-11-7	Green algae	Experimental	72 hours	ErC10	0.8 mg/l
2-ethylhexyl acrylate	103-11-7	Water flea	Experimental	21 days	EC10	0.85 mg/l
2-ethylhexyl acrylate	103-11-7	Activated sludge	Experimental	30 minutes	EC20	>1,000 mg/l
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Activated sludge	Experimental	3 hours	EC20	>1,000 mg/l
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Common Carp	Experimental	96 hours	LC50	1.4 mg/l
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Green algae	Experimental	72 hours	EC50	>2.01 mg/l
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Water flea	Experimental	48 hours	EC50	3.53 mg/l
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Green algae	Experimental	72 hours	EC10	1.56 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Golden Orfe	Experimental	96 hours	LC50	10 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Green algae	Experimental	72 hours	ErC50	3.2 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Water flea	Experimental	48 hours	EC50	10.56 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Green algae	Experimental	72 hours	NOEC	<1 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Activated sludge	Experimental	3 hours	EC50	770 mg/l
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7	Green algae	Experimental	72 hours	EC50	>0.15 mg/l
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-	193098-40-7	Rainbow trout	Experimental	96 hours	LC50	>1.5 mg/l

trichloro-1,3,5-triazine reaction products, methylated						
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7	Water flea	Experimental	48 hours	EC50	0.64 mg/l
Tetrahydrofurfuryl acrylate	2399-48-6	Activated sludge	Experimental	3 hours	EC50	263.7 mg/l
Tetrahydrofurfuryl acrylate	2399-48-6	Green algae	Experimental	72 hours	EC50	3.92 mg/l
Tetrahydrofurfuryl acrylate	2399-48-6	Water flea	Experimental	48 hours	EC50	37.7 mg/l
Tetrahydrofurfuryl acrylate	2399-48-6	Zebra Fish	Experimental	96 hours	LC50	7.32 mg/l
Tetrahydrofurfuryl acrylate	2399-48-6	Green algae	Experimental	72 hours	EC10	2.48 mg/l
ε-caprolactam	105-60-2	Bacteria	Experimental	17 hours	EC50	4,200 mg/l
ε-caprolactam	105-60-2	Green algae	Experimental	72 hours	ErC50	4,550 mg/l
ε-caprolactam	105-60-2	Rainbow trout	Experimental	96 hours	LC50	>500 mg/l
ε-caprolactam	105-60-2	Water flea	Experimental	48 hours	EC50	2,430 mg/l
ε-caprolactam	105-60-2	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
ε-caprolactam	105-60-2	Water flea	Experimental	21 days	NOEC	>100 mg/l
2-Phenoxyethyl acrylate	48145-04-6	Activated sludge	Experimental	3 hours	EC50	177 mg/l
2-Phenoxyethyl acrylate	48145-04-6	Golden Orfe	Experimental	96 hours	LC50	10 mg/l
2-Phenoxyethyl acrylate	48145-04-6	Green algae	Experimental	72 hours	EC50	4.4 mg/l
2-Phenoxyethyl acrylate	48145-04-6	Water flea	Experimental	48 hours	EC50	1.21 mg/l
2-Phenoxyethyl acrylate	48145-04-6	Green algae	Experimental	72 hours	EC10	0.71 mg/l
Poly(dimethylsiloxane)	63148-62-9	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Triazine Derivative	Trade Secret	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Triazine Derivative	Trade Secret	Green algae	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Triazine Derivative	Trade Secret	Rainbow trout	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Triazine Derivative	Trade Secret	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Triazine Derivative	Trade Secret	Green algae	Experimental	96 hours	No tox obs at lmt of water sol	100 mg/l
UV ABSORBERS	Trade Secret	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
UV ABSORBERS	Trade Secret	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
UV ABSORBERS	Trade Secret	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
UV ABSORBERS	Trade Secret	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
UV ABSORBERS	Trade Secret	Rainbow trout	Experimental	96 days	No tox obs at lmt of water sol	>100 mg/l

UV ABSORBERS	Trade Secret	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
UV ABSORBERS	Trade Secret	Activated sludge	Experimental	3 hours	IC50	>1,000 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Rainbow trout	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy] propyl Me	125455-51-8	Water flea	Experimental	48 hours	EC50	>100 mg/l
2-hydroxyethyl acrylate	818-61-1	Activated sludge	Experimental	72 hours	EC10	>100 mg/l
2-hydroxyethyl acrylate	818-61-1	Fathead minnow	Experimental	96 hours	LC50	4.8 mg/l
2-hydroxyethyl acrylate	818-61-1	Green algae	Experimental	72 hours	ErC50	6 mg/l
2-hydroxyethyl acrylate	818-61-1	Sheepshead Minnow	Experimental	96 hours	LC50	17.5 mg/l
2-hydroxyethyl acrylate	818-61-1	Water flea	Experimental	48 hours	EC50	9.3 mg/l
2-hydroxyethyl acrylate	818-61-1	Green algae	Experimental	72 hours	NOEC	1 mg/l
2-hydroxyethyl acrylate	818-61-1	Water flea	Experimental	21 days	NOEC	0.48 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	30-40 %removal of DOC	OECD 301A - DOC Die Away Test
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Experimental Biodegradation		Dissolv. Organic Carbon Deplet	98 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Experimental Hydrolysis		Hydrolytic half-life acidic pH	6.5 hours (t 1/2)	OECD 111 Hydrolysis func of pH
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	72162-39-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Hydroxycyclohexyl phenyl ketone	947-19-3	Experimental Biodegradation	28 days	CO2 evolution	≥73 %CO2 evolution/THC O2 evolution	similar to EC C.4.C Biodeg
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	67906-98-3	Data not availbl-insufficient	N/A	N/A	N/A	N/A

hexamethylene diacrylate	13048-33-4	Experimental Biodegradation	28 days	CO2 evolution	60-70 %CO2 evolution/THC O2 evolution	ISO 14593 Inorg C Headspace
hexamethylene diacrylate	13048-33-4	Estimated Photolysis		Photolytic half-life (in air)	1 days (t 1/2)	Episuite™
2-ethylhexyl acrylate	103-11-7	Experimental Biodegradation	15 days	BOD	70-80 %BOD/ThOD	EC C.4.D. Manometric Respirom
2-ethylhexyl acrylate	103-11-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	210 hours (t 1/2)	40CFR 796.3500-Hydrolysis
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Experimental Biodegradation	28 days	BOD	≤10 %BOD/ThOD	OECD 301F - Manometric respirometry
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Experimental Biodegradation	28 days	CO2 evolution	98 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	313 days (t 1/2)	OECD 111 Hydrolysis func of pH
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Experimental Hydrolysis		Hydrolytic half-life basic pH	4.65 days (t 1/2)	OECD 111 Hydrolysis func of pH
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7	Experimental Biodegradation	29 days	CO2 evolution	0 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Tetrahydrofurfuryl acrylate	2399-48-6	Experimental Biodegradation	28 days	BOD	77.7 %BOD/ThOD	OECD 301F - Manometric respirometry
Tetrahydrofurfuryl acrylate	2399-48-6	Experimental Bioconcentration		Log Kow	0.81	OECD 107 log Kow shke flsk mtd
ε-caprolactam	105-60-2	Experimental Biodegradation	14 days	BOD	82 %BOD/ThOD	OECD 301C - MITI test (I)
2-Phenoxyethyl acrylate	48145-04-6	Experimental Biodegradation	28 days	BOD	22.3 %BOD/ThOD	OECD 301D - Closed bottle test
2-Phenoxyethyl acrylate	48145-04-6	Estimated Photolysis		Photolytic half-life (in air)	9.7 hours (t 1/2)	
Poly(dimethylsiloxane)	63148-62-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Triazine Derivative	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	4 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
UV ABSORBERS	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	2 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Experimental Biodegradation	28 days	BOD	1 %BOD/ThOD	
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Experimental Hydrolysis		Hydrolytic half-life	14.96 days (t 1/2)	
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	125455-51-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2-hydroxyethyl acrylate	818-61-1	Experimental Biodegradation	28 days	BOD	78 %BOD/ThOD	OECD 301C - MITI test (I)
2-hydroxyethyl acrylate	818-61-1	Experimental Aquatic Inherent Biodegrad.		Dissolv. Organic Carbon Deplet	>95 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
2-hydroxyethyl acrylate	818-61-1	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>270 days (t 1/2)	40CFR 796.3500-Hydrolysis

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Experimental Bioconcentration		Log Kow	1.2	similar to OECD 107
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	72162-39-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydroxycyclohexyl phenyl ketone	947-19-3	Experimental BCF - Fish	56 days	Bioaccumulation factor	4-12	OECD305-Bioconcentration
Hydroxycyclohexyl phenyl ketone	947-19-3	Experimental Bioconcentration		Log Kow	2.81	OECD 107 log Kow shke flsk mtd
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	67906-98-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
hexamethylene diacrylate	13048-33-4	Experimental Bioconcentration		Log Kow	2.81	
2-ethylhexyl acrylate	103-11-7	Experimental BCF - Fish	28 days	Bioaccumulation factor	347	OECD305-Bioconcentration
2-ethylhexyl acrylate	103-11-7	Experimental Bioconcentration		Log Kow	4.64	similar to OECD 107
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Experimental BCF - Fish	56 days	Bioaccumulation factor	≤40	
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Experimental Bioconcentration		Log Kow	1.105	OECD 117 log Kow HPLC method
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated	193098-40-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ε-caprolactam	105-60-2	Experimental Bioconcentration		Log Kow	0.12	
2-Phenoxyethyl acrylate	48145-04-6	Experimental Bioconcentration		Log Kow	2.58	
Poly(dimethylsiloxane)	63148-62-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Triazine Derivative	Trade Secret	Experimental BCF - Fish	28 days	Bioaccumulation factor	29	OECD305-Bioconcentration
Triazine Derivative	Trade Secret	Experimental Bioconcentration		Log Kow	>6	OECD 107 log Kow shke flsk mtd
UV ABSORBERS	Trade Secret	Experimental BCF - Fish	28 days	Bioaccumulation factor	<4	OECD305-Bioconcentration
UV ABSORBERS	Trade Secret	Estimated Bioconcentration		Log Kow	7.6	Episuite™
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Estimated Bioconcentration		Bioaccumulation factor	13	
Siloxanes and Silicones, 3-[3-(acetyloxy)-2-hydroxypropoxy]propyl Me, di-Me, 3-[2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propoxy]propyl Me	125455-51-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-hydroxyethyl acrylate	818-61-1	Experimental Bioconcentration		Log Kow	-0.17	similar to OECD 107

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
1-Vinylhexahydro-2H-azepin-2-one	2235-00-9	Modeled Mobility in Soil	Koc	47 l/kg	Episuite™
Hydroxycyclohexyl phenyl ketone	947-19-3	Modeled Mobility in Soil	Koc	83 l/kg	Episuite™
hexamethylene diacrylate	13048-33-4	Estimated Mobility in Soil	Koc	220 l/kg	Episuite™
2-ethylhexyl acrylate	103-11-7	Modeled Mobility in Soil	Koc	2,670 l/kg	Episuite™
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Experimental Mobility in Soil	Koc	<17.8 l/kg	OECD 121 Estim. of Koc by HPLC
Tetrahydrofurfuryl acrylate	2399-48-6	Modeled Mobility in Soil	Koc	29 l/kg	Episuite™
ε-caprolactam	105-60-2	Experimental Mobility in Soil	Koc	24.5 l/kg	Episuite™
2-Phenoxyethyl acrylate	48145-04-6	Estimated Mobility in Soil	Koc	220 l/kg	Episuite™
Triazine Derivative	Trade Secret	Experimental Mobility in Soil	Koc	>250000 l/kg	OECD 121 Estim. of Koc by HPLC
UV ABSORBERS	Trade Secret	Estimated Mobility in Soil	Koc	>1.3E+04 l/kg	ACD/Labs ChemSketch™
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Experimental Mobility in Soil	Koc	2,510,000 l/kg	OECD 121 Estim. of Koc by HPLC

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)
080312* Waste ink containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TETRAHYDROFURFURYL ACRYLATE , 2-PHENOXYETHYL ACRYLATE)
14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	M6	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
2-ethylhexyl acrylate	103-11-7	Grp. 2B: Possible human	International Agency

ε-caprolactam	105-60-2	carc. Gr. 3: Not classifiable	for Research on Cancer International Agency for Research on Cancer

Authorization status under REACH:
The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

Ingredient	CAS Nbr
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8

Authorization status: listed in the Candidate List of Substances of Very High Concern for Authorization

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
E2 Hazardous to the Aquatic environment	200	500

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

EUH071	Corrosive to the respiratory tract.
H302	Harmful if swallowed.
H302 + H312	Harmful if swallowed or in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

H360Df	May damage the unborn child. Suspected of damaging fertility.
H360F	May damage fertility.
H360FD	May damage fertility. May damage the unborn child.
H361df	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H372	Causes damage to organs through prolonged or repeated exposure: liver | respiratory system.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
CLP: Ingredient table information was modified.
Label: CLP Percent Unknown information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 15: Carcinogenicity information information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M Ireland MSDSs are available at www.3M.com