



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M™ Screen Print UV Gloss Clear 9760LX

Product Identification Numbers

75-3472-7553-1 75-3472-7554-9

1.2. Recommended use and restrictions on use

Recommended use

Experimental use only, Clear coat for latex inks

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-39143000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-39143000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Acute Toxicity (oral): Category 4.
Acute Toxicity (dermal): Category 4.
Serious Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (repeated exposure): Category 2.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal Word

DANGER!

Symbols

Exclamation mark | Health Hazard | Environment |

Pictograms



HAZARD STATEMENTS:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure: skin
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.

Storage:

P405	Store locked up.
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Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
N,N-Dimethylacrylamide	2680-03-7	15 - 40
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	0 - 30
Aliphatic urethane acrylate	Trade Secret	5 - 30
1,6-hexanediol diacrylate	13048-33-4	1 - 20
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	0 - 20
ACRYLIC COPOLYMER	Trade Secret	0 - 20
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0	0 - 15
Amine modified acrylate oligomer	Trade Secret	0 - 15
Hydroxycyclohexyl phenyl ketone	947-19-3	3 - 10
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	0 - 10
Ethanol, 2-amino-, reaction products with cyclohexane and peroxidized N-butyl-2,2,6,6-tetramethyl-4-piperidinamine-2,4,6-trichloro-1,3,5-triazine reaction products	191743-75-6	0 - 5
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	0 - 5
UV stabilizer	Trade Secret	0 - 5
UV stabilizer	Trade Secret	0 - 5
2-Phenoxyethyl acrylate	48145-04-6	0 - 3
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 - 2
Siloxanes and silicones, di-Me	63148-62-9	0 - 2
NJTSRN 800963-5366	Trade Secret	0 - 2
SILICONPOLYETHER ACRYLATE	Trade Secret	0 - 2
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	0 - 1
CAMPHENE	79-92-5	< 0.5
Toluene	108-88-3	< 0.5
Benzene	71-43-2	< 0.05
Phenothiazine	92-84-2	0 0.01

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. Remove contact lenses if easy to do. Continue rinsing. 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

See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable 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

Formaldehyde
Carbon monoxide.
Carbon dioxide.

Condition

During combustion.
During combustion.
During combustion.

5.3. Special protective actions 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.

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 vapors, 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.

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 in a well-ventilated place. Keep container tightly closed. Keep cool. Protect from sunlight. Store away from heat. Store away from oxidising agents.

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
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
1,6-hexanediol diacrylate	13048-33-4	AIHA	TWA:1 mg/m ³ (0.11 ppm)	Dermal Sensitizer
N,N-Dimethylacrylamide	2680-03-7	Manufacturer determined	TWA:0.1 mg/m ³ (0.025 ppm)	SKIN
Benzene	71-43-2	ACGIH	TWA:0.5 ppm;STEL:2.5 ppm	SKIN, A1: Confirmed human carcin.
Phenothiazine	92-84-2	ACGIH	TWA:5 mg/m ³	SKIN

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

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:

Indirect vented goggles.

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: Polymer laminate

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 vapours and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Appearance/Odour	Clear Liquid with Acrylate odor
Odour threshold	<i>No data available.</i>
pH	<i>No data available.</i>
Melting point/Freezing point: NA	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	≥ 93.3 °C
Flash point	≥ 93.3 °C
Evaporation rate	≤ 1 g/cm ² -hr [<i>Test Method: Estimated</i>] [<i>Ref Std: WATER=1</i>]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Density	1.3 g/ml
Relative density	1.3 [<i>Ref Std: WATER=1</i>]
Water solubility	Moderate
Solubility- non-water	Moderate
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Average particle size	<i>Not applicable.</i>
Bulk density	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
Softening point	<i>Not applicable.</i>
VOC less H₂O & exempt solvents	<i>No data available.</i>

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.

No data available.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation

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 localized 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

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired 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:

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.

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 ATE1,000 - 2,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
N,N-Dimethylacrylamide	Dermal	Rat	LD50 907 mg/kg
N,N-Dimethylacrylamide	Ingestion	Rat	LD50 252 mg/kg
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Ingestion	Rat	LD50 4,350 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
1,6-hexanediol diacrylate	Dermal	Rabbit	LD50 3,636 mg/kg
1,6-hexanediol diacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Dermal	Rabbit	LD50 > 8,000 mg/kg
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Ingestion	Rat	LD50 > 8,000 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
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
Siloxanes and silicones, di-Me	Dermal	Rabbit	LD50 > 19,400 mg/kg
2-Phenoxyethyl acrylate	Dermal	Rat	LD50 > 2,000 mg/kg
2-Phenoxyethyl acrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Siloxanes and silicones, di-Me	Ingestion	Rat	LD50 > 17,000 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
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
N,N-Dimethylacrylamide	Rabbit	No significant irritation
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Rabbit	Minimal irritation
2-(2-Ethoxyethoxy)ethyl acrylate	Rabbit	Irritant
1,6-hexanediol diacrylate	Rabbit	Irritant
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Professional judgement	No significant irritation
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Hydroxycyclohexyl phenyl ketone	Rabbit	No significant irritation
2-Phenoxyethyl acrylate	Rabbit	No significant irritation
Siloxanes and silicones, di-Me	Rabbit	No significant irritation
Toluene	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
N,N-Dimethylacrylamide	Rabbit	Severe irritant
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Rabbit	Mild irritant
2-(2-Ethoxyethoxy)ethyl acrylate	Rabbit	Severe irritant
1,6-hexanediol diacrylate	Rabbit	Moderate irritant
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Professional judgement	No significant irritation
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Hydroxycyclohexyl phenyl ketone	Rabbit	Mild irritant
2-Phenoxyethyl acrylate	Rabbit	Moderate irritant
Siloxanes and silicones, di-Me	Rabbit	No significant irritation
CAMPHENE	Rabbit	Moderate irritant
Toluene	Rabbit	Moderate irritant

Skin Sensitisation

Name	Species	Value
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Mouse	Sensitising
2-(2-Ethoxyethoxy)ethyl acrylate	Guinea pig	Sensitising
1,6-hexanediol diacrylate	Guinea pig	Sensitising
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Mouse	Sensitising
Hydroxycyclohexyl phenyl ketone	Guinea pig	Not sensitizing
2-Phenoxyethyl acrylate	Guinea pig	Sensitising
Toluene	Guinea pig	Not sensitizing

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
N,N-Dimethylacrylamide	In vivo	Not mutagenic
N,N-Dimethylacrylamide	In Vitro	Some positive data exist, but the data are not sufficient for classification
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,6-hexanediol 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
Hydroxycyclohexyl phenyl ketone	In Vitro	Not mutagenic
Hydroxycyclohexyl phenyl ketone	In vivo	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
1,6-hexanediol diacrylate	Dermal	Mouse	Not carcinogenic
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
N,N-Dimethylacrylamide	Dermal	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	13 weeks
1,6-hexanediol diacrylate	Not specified.	Not toxic to development	Rat	NOAEL 750 mg/kg/day	during organogenesis
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	90 days
Hydroxycyclohexyl phenyl ketone	Ingestion	Not toxic to development	Rat	NOAEL 900 mg/kg/day	during gestation
Toluene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
N,N-Dimethylacrylamide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	Irritation Positive	
N,N-Dimethylacrylamide	Inhalation	central nervous system depression	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	official classification	NOAEL Not available	
1,6-hexanediol diacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
N,N-Dimethylacrylamide	Dermal	heart endocrine system hematopoietic system liver nervous system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	13 weeks
1,6-hexanediol diacrylate	Dermal	skin	May cause damage to organs though prolonged or repeated exposure	Mouse	LOAEL 70 mg/kg/day	80 weeks

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Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	skin blood liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	90 days
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	90 days
Hydroxycyclohexyl phenyl ketone	Ingestion	endocrine system liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	90 days
Hydroxycyclohexyl phenyl ketone	Ingestion	heart blood immune system nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	90 days
Toluene	Inhalation	auditory system nervous system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard

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.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be

reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
UV stabilizer	Trade Secret	Green algae	Experimental	72 hours	EC50	>100 mg/l
UV stabilizer	Trade Secret	Water flea	Experimental	96 hours	EC50	>100 mg/l
CAMPHENE	79-92-5	Water flea	Experimental	48 hours	LC50	22 mg/l
CAMPHENE	79-92-5	Zebra Fish	Experimental	96 hours	LC50	0.72 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-Phenoxyethyl acrylate	48145-04-6	Zebra Fish	Experimental	96 hours	LC50	1 mg/l
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5		Data not available or insufficient for classification			
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidyl)-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			
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Green algae	Experimental	72 hours	EC50	1.98 mg/l
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-	5888-33-5	Zebra Fish	Experimental	96 hours	LC50	0.704 mg/l

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yl acrylate						
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Water flea	Experimental	48 hours	EC50	1 mg/l
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Green Algae	Experimental	72 hours	NOEC	0.405 mg/l
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Water flea	Experimental	21 days	NOEC	0.092 mg/l
Siloxanes and silicones, di-Me	63148-62-9		Data not available or insufficient for classification			
Phenothiazine	92-84-2	Green Algae	Experimental	72 hours	NOEC	0.1 mg/l
Phenothiazine	92-84-2	Water flea	Experimental	48 hours	EC50	0.055 mg/l
Phenothiazine	92-84-2	Green Algae	Experimental	72 hours	EC50	0.74 mg/l
N,N-Dimethylacrylamide	2680-03-7	Green Algae	Experimental	72 hours	EC50	>400 mg/l
N,N-Dimethylacrylamide	2680-03-7	Water flea	Experimental	48 hours	EC50	>120 mg/l
N,N-Dimethylacrylamide	2680-03-7	Rainbow trout	Experimental	96 hours	LC50	>120 mg/l
UV stabilizer	Trade Secret	Algae	Experimental	96 hours	EC50	>100 mg/l
UV stabilizer	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
UV stabilizer	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0		Data not available or insufficient for classification			
Ethanol, 2-amino-, reaction products with cyclohexane and peroxidized N-butyl-2,2,6,6-tetramethyl-4-piperidinamine -2,4,6-trichloro-1,3,5-triazine reaction products	191743-75-6		Data not available or insufficient for classification			
Diphenyl(2,4,6-trimethylbenzoyl)phosphine	75980-60-8		Data not available or insufficient for classification			

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oxide						
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Ricefish	Experimental	48 hours	LC50	6.53 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	Algae other	Experimental	72 hours	Effect Concentration 10%	1.56 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	EC50	21 mg/l
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Golden Orfe	Experimental	96 hours	LC50	10 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Green Algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Fish other	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Grass Shrimp	Experimental	48 hours	EC50	15.5 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
Toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
Toluene	108-88-3	Sheepshead Minnow	Experimental	28 days	NOEC	3.2 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Zebra Fish	Experimental	96 hours	LC50	24 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Water flea	Experimental	24 hours	EC50	105 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Algae	Experimental	72 hours	EC50	14.4 mg/l
Hydroxycyclohexyl phenyl ketone	947-19-3	Water flea	Experimental	48 hours	EC50	53.9 mg/l
Benzene	71-43-2	Green algae	Experimental	72 hours	Effect Concentration 10%	34 mg/l
Benzene	71-43-2	Rainbow trout	Experimental	96 hours	LC50	5.3 mg/l
Benzene	71-43-2	Green Algae	Experimental	72 hours	EC50	29 mg/l
Benzene	71-43-2	Water flea	Experimental	48 hours	EC50	9.23 mg/l
Benzene	71-43-2	Water flea	Experimental	7 days	NOEC	3 mg/l
Benzene	71-43-2	Fathead	Experimental	32 days	NOEC	0.8 mg/l

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		minnow				
1,6-hexanediol diacrylate	13048-33-4	Water flea	Experimental	48 hours	EC50	2.7 mg/l
1,6-hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	EC50	1.6 mg/l
1,6-hexanediol diacrylate	13048-33-4	Ricefish	Experimental	96 hours	LC50	0.38 mg/l
1,6-hexanediol diacrylate	13048-33-4	Water flea	Experimental	21 days	NOEC	0.14 mg/l
1,6-hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	NOEC	0.27 mg/l
1,6-hexanediol diacrylate	13048-33-4	Golden Orfe	Experimental	96 hours	LC50	4.6 mg/l
1,6-hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	EC50	1.5 mg/l
1,6-hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	Effect Concentration 10%	0.585 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	Other methods
Toluene	108-88-3	Experimental Biodegradation	14 days	BOD	100 % weight	OECD 301C - MITI test (I)
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
1,6-hexanediol diacrylate	13048-33-4	Estimated Biodegradation	28 days	BOD	84 % weight	OECD 301F - Manometric respirometry
1,6-hexanediol diacrylate	13048-33-4	Weight of Evidence Biodegradation	28 days	BOD	60 % weight	Other methods
1,6-hexanediol diacrylate	13048-33-4	Experimental Biodegradation	28 days	CO2 evolution	60-70 % weight	OECD 310 CO2 Headspace
Ethanol, 2-amino-, reaction products with cyclohexane and peroxidized N-butyl-2,2,6,6-tetramethyl-4-piperidinamine	191743-75-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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-2,4,6-trichloro-1,3,5-triazine reaction products						
N,N'-Bis(2,2,6,6-tetramethyl-4-piperidiny)-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
UV stabilizer	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	4 % weight	OECD 301B - Modified sturm or CO2
UV stabilizer	Trade Secret	Estimated Biodegradation	28 days	BOD	6 % weight	OECD 301C - MITI test (I)
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Estimated Biodegradation	28 days	BOD	2.1 % weight	OECD 301C - MITI test (I)
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N,N-Dimethylacrylamide	2680-03-7	Experimental Biodegradation	28 days	BOD	3 % weight	OECD 301C - MITI test (I)
2-Phenoxyethyl acrylate	48145-04-6	Estimated Biodegradation	28 days	BOD	86.5 % weight	OECD 301F - Manometric respirometry
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Experimental Biodegradation	28 days	BOD	72.9 % weight	OECD 301D - Closed bottle test
Siloxanes and silicones, di-Me	63148-62-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Benzene	71-43-2	Experimental Biodegradation	28 days	BOD	63 % weight	OECD 301F - Manometric respirometry
Benzene	71-43-2	Experimental Photolysis		Photolytic half-life (in air)	26 days (t 1/2)	Other methods
2-(2-Ethoxyethoxy) ethyl acrylate	7328-17-8	Estimated Biodegradation	28 days	BOD	87 % weight	OECD 301F - Manometric respirometry
Diphenyl(2,4,6-trimethylbenzo	75980-60-8	Estimated Biodegradation	28 days	BOD	<20 % weight	OECD 301F - Manometric respirometry

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yl)phosphine oxide						
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Experimental Biodegradation	28 days	BOD	<20 % weight	OECD 301F - Manometric respirometry
CAMPHENE	79-92-5	Experimental Biodegradation	28 days	BOD	1-4 % weight	OECD 301C - MITI test (I)
Phenothiazine	92-84-2	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
Hydroxycyclohexyl phenyl ketone	947-19-3	Experimental Biodegradation	28 days	CO2 evolution	73 % weight	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	Other methods
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
1,6-hexanediol diacrylate	13048-33-4	Estimated Bioconcentration		Bioaccumulation factor	42	Estimated: Bioconcentration factor
1,6-hexanediol diacrylate	13048-33-4	Experimental Bioconcentration		Log Kow	2.81	Other methods
Ethanol, 2-amino-, reaction products with cyclohexane and peroxidized N-butyl-2,2,6,6-tetramethyl-4-piperidinamine-2,4,6-trichloro-1,3,5-triazine reaction products	191743-75-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N,N'-Bis(2,2,6,6-tetramethyl-4-	193098-40-7	Data not available or insufficient for	N/A	N/A	N/A	N/A

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piperidinyl)-1,6-hexanediamine, polymers with morpholine-2,4,6-trichloro-1,3,5-triazine reaction products, methylated		classification				
UV stabilizer	Trade Secret	Experimental BCF-Carp	28 days	Bioaccumulation factor	29	OECD 305E - Bioaccumulation flow-through fish test
UV stabilizer	Trade Secret	Experimental BCF - Other		Bioaccumulation factor	<4	Other methods
Bis(2,6-diisopropylphenyl)carbodiimide	2162-74-5	Estimated Bioconcentration		Bioaccumulation factor	13	Estimated: Bioconcentration factor
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N,N-Dimethylacrylamide	2680-03-7	Experimental Bioconcentration		Log Kow	-0.24	Other methods
2-Phenoxyethyl acrylate	48145-04-6	Estimated Bioconcentration		Bioaccumulation factor	32.9	Estimated: Bioconcentration factor
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	Estimated Bioconcentration		Bioaccumulation factor	660	Estimated: Bioconcentration factor
Siloxanes and silicones, di-Me	63148-62-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Benzene	71-43-2	Experimental Bioconcentration		Log Kow	2.13	Other methods
2-(2-Ethoxyethoxy)ethyl acrylate	7328-17-8	Estimated Bioconcentration		Bioaccumulation factor	4	Estimated: Bioconcentration factor
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Experimental BCF-Carp	56 days	Bioaccumulation factor	<55	Other methods
CAMPHENE	79-92-5	Experimental BCF-Carp	56 days	Bioaccumulation factor	606-1290	OECD 305C-Bioaccum degree fish

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Phenothiazine	92-84-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	660	OECD 305E - Bioaccumulation flow- through fish test
Hydroxycyclohexyl phenyl ketone	947-19-3	Estimated Bioconcentration		Bioaccumulation factor	4.5	Other methods
Hydroxycyclohexyl phenyl ketone	947-19-3	Experimental Bioconcentration	56 days	Bioaccumulation factor	4-12	OECD 305E - Bioaccumulation flow- through fish test

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA) Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Global inventory status**

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

Applicable Environmental, Health and Safety Regulations

Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

Hazardous Waste(Management, Handling & Transboundary) Rules, 2008

Central Motor Vehicle Rules, 1989

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

Benzene
Toluene

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
Product is classified as toxic liquid

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision information:

No revision information

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3M India SDSs are available at <http://solutions.3mindia.co.in>