Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier
3M Process Colour 990-04, Yellow

Product Identification Numbers
75-0300-8073-5

7000004842

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 United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone:	+44 (0)1344 858 000
E Mail:	ner-productstewardship@mmm.com
Website:	www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

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:

Flammable Liquid, Category 3 - Flam. Liq. 3; H226
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
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD
DANGER.

Symbols
GHS02 (Flame) |GHS05 (Corrosion) |GHS07 (Exclamation mark) |

Pictograms



Ingredient	CAS Nbr	EC No.	% by Wt
cyclohexanone	108-94-1	203-631-1	10 - 30
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-		400-830-7	< 0.7
2,3-Epoxypropyl neodecanoate	26761-45-5	247-979-2	< 0.3
triphenyl phosphite	101-02-0	202-908-4	< 0.03

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261A	Avoid breathing vapours.
P280B	Wear protective gloves and eye/face protection.

Response:

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

23% of the mixture consists of components of unknown acute inhalation toxicity.

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], as amended for GB
Vinyl polymer	Trade Secret	10 - 30	Substance not classified as hazardous
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	(CAS-No.) 88917-22-0	10 - 30	Substance not classified as hazardous
cyclohexanone	(CAS-No.) 108-94-1 (EC-No.) 203-631-1	10 - 30	Flam. Liq. 3, H226 Acute Tox. 4, H332 Acute Tox. 4, H312 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
2-methoxy-1-methylethyl acetate	(CAS-No.) 108-65-6 (EC-No.) 203-603-9	< 20	Flam. Liq. 3, H226 STOT SE 3, H336
Alkyd Resin 3261	Trade Secret	5 - 10	Substance not classified as hazardous
Proprietary Reaction Products	Trade Secret	3 - 7	Substance not classified as hazardous
Reaction mass of ethylbenzene and xylene	(EC-No.) 905-588-0	3 - 7	Acute Tox. 4, H332 Acute Tox. 4, H312 Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373
2,4-Dihydroxybenzophenone	(CAS-No.) 131-56-6 (EC-No.) 205-029-4	1 - 5	Eye Irrit. 2, H319 Aquatic Chronic 2, H411
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	(EC-No.) 400-830-7	< 0.7	Skin Sens. 1A, H317 Aquatic Chronic 2, H411
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	(CAS-No.) 52829-07-9 (EC-No.) 258-207-9	< 0.6	Acute Tox. 3, H331 Eye Dam. 1, H318 Repr. 2, H361f Aquatic Acute 1, H400,M=1

			Aquatic Chronic 2, H411
2,3-Epoxypropyl neodecanoate	(CAS-No.) 26761-45-5 (EC-No.) 247-979-2	< 0.3	Skin Sens. 1A, H317 Muta. 2, H341 Repr. 2, H361d Aquatic Chronic 2, H411
ZINC 2-ETHYLHEXANOATE	(CAS-No.) 136-53-8 (EC-No.) 205-251-1	< 0.2	Repr. 1B, H360D Eye Irrit. 2, H319 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1
Calcium bis(2-ethylhexanoate)	(CAS-No.) 136-51-6 (EC-No.) 205-249-0	< 0.2	Repr. 1B, H360D Acute Tox. 4, H302 Eye Dam. 1, H318
PHOSPHONIC ACID, DIPHENYL ESTER	(CAS-No.) 4712-55-4 (EC-No.) 225-202-8	< 0.2	Acute Tox. 4, H302 Aquatic Acute 1, H400,M=1
triphenyl phosphite	(CAS-No.) 101-02-0 (EC-No.) 202-908-4	< 0.03	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 Acute Tox. 4, H302 Skin Sens. 1A, H317 STOT RE 2, H373

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
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
triphenyl phosphite	(CAS-No.) 101-02-0 (EC-No.) 202-908-4	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319

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 GB CLP classification include:
Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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 flammable liquids such as dry chemical or carbon dioxide 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
Hydrocarbons.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

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. Cover spill area with a fire-extinguishing foam. 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 using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised

person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators…) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from acids. 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
2-methoxy-1-methylethyl acetate	108-65-6	UK HSE	TWA:274 mg/m3(50 ppm);STEL:548 mg/m3(100 ppm)	SKIN
cyclohexanone	108-94-1	UK HSE	TWA:41 mg/m3(10 ppm);STEL:82 mg/m3(20 ppm)	SKIN

UK HSE : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values

Ingredient	CAS Nbr	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
cyclohexanone	108-94-1	UK EH40 BMGVs	Cyclohexanol	Creatinine in urine	EOS	2 mmol/mol	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)
EOS: End of shift.

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. Use explosion-proof ventilation 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 vapours

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: filter type A

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Colour	Yellow

Odor	Moderate Solvent
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=138.3 ºC
Flammability	Flammable liquid: Category 3.
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	12.75 %
Flash point	42.8 ºC [*Test Method:*Tagliabue closed cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	1,340 mm²/sec
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	<=895.9 Pa [@ 20 ºC]
Density	0.97 g/ml [@ 20 ºC]
Relative density	0.97 [*Ref Std:*WATER=1]
Relative Vapour Density	>=3.4 [*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.*
Percent volatile	65 - 80 % weight

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 will not occur.

10.4 Conditions to avoid
Sparks and/or flames.

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 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 3M assessments.

11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

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
May be 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.

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
May be 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:

Single exposure may cause target organ effects:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

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 >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
cyclohexanone	Dermal	Rabbit	LD50 >794, <3160 mg/kg
cyclohexanone	Inhalation-Vapour (4 hours)	Rat	LC50 > 6.2 mg/l
cyclohexanone	Ingestion	Rat	LD50 1,296 mg/kg
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
2-methoxy-1-methylethyl acetate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-methoxy-1-methylethyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 > 28.8 mg/l
2-methoxy-1-methylethyl acetate	Ingestion	Rat	LD50 8,532 mg/kg
Vinyl polymer	Dermal	Rabbit	LD50 > 8,000 mg/kg
Vinyl polymer	Ingestion	Rat	LD50 > 8,000 mg/kg
Reaction mass of ethylbenzene and xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Reaction mass of ethylbenzene and xylene	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
Reaction mass of ethylbenzene and xylene	Ingestion	Rat	LD50 3,523 mg/kg
Proprietary Reaction Products	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.04 mg/l
Proprietary Reaction Products	Ingestion	Rat	LD50 > 5,000 mg/kg
Proprietary Reaction Products	Dermal	similar compounds	LD50 > 2,500 mg/kg
Alkyd Resin 3261	Dermal		LD50 estimated to be > 5,000 mg/kg
Alkyd Resin 3261	Ingestion		LD50 estimated to be > 5,000 mg/kg
2,4-Dihydroxybenzophenone	Dermal		LD50 estimated to be > 5,000 mg/kg
2,4-Dihydroxybenzophenone	Ingestion	Rat	LD50 8,600 mg/kg
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Dermal	Rat	LD50 > 2,000 mg/kg
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Rat	LD50 > 5,000 mg/kg
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Dermal	Rat	LD50 > 3,170 mg/kg
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.5 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Ingestion	Rat	LD50 3,700 mg/kg
2,3-Epoxypropyl neodecanoate	Dermal	Rat	LD50 > 2,000 mg/kg
2,3-Epoxypropyl neodecanoate	Ingestion	Rat	LD50 > 2,000 mg/kg
PHOSPHONIC ACID, DIPHENYL ESTER	Dermal	Rabbit	LD50 > 2,000 mg/kg
PHOSPHONIC ACID, DIPHENYL ESTER	Ingestion	Rat	LD50 600 mg/kg
ZINC 2-ETHYLHEXANOATE	Dermal		LD50 estimated to be > 5,000 mg/kg
ZINC 2-ETHYLHEXANOATE	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium bis(2-ethylhexanoate)	Dermal	Rabbit	LD50 > 5,000 mg/kg

Calcium bis(2-ethylhexanoate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.2 mg/l
Calcium bis(2-ethylhexanoate)	Ingestion	Rat	LD50 >300, <2000 mg/kg
triphenyl phosphite	Dermal	Rabbit	LD50 > 2,000 mg/kg
triphenyl phosphite	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
triphenyl phosphite	Ingestion	Rat	LD50 1,590 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
cyclohexanone	Rabbit	Irritant
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Rabbit	No significant irritation
2-methoxy-1-methylethyl acetate	Rabbit	No significant irritation
Vinyl polymer	Professional judgement	No significant irritation
Reaction mass of ethylbenzene and xylene	Rabbit	Mild irritant
Proprietary Reaction Products	In vitro data	No significant irritation
2,4-Dihydroxybenzophenone	Rabbit	No significant irritation
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Rabbit	No significant irritation
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Rabbit	No significant irritation
2,3-Epoxypropyl neodecanoate	Rabbit	No significant irritation
ZINC 2-ETHYLHEXANOATE	Rabbit	Mild irritant
Calcium bis(2-ethylhexanoate)	Rabbit	No significant irritation
triphenyl phosphite	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
cyclohexanone	In vitro data	Corrosive
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Rabbit	No significant irritation
2-methoxy-1-methylethyl acetate	Rabbit	Mild irritant
Vinyl polymer	Professional judgement	No significant irritation
Reaction mass of ethylbenzene and xylene	Rabbit	Mild irritant
Proprietary Reaction Products	In vitro data	No significant irritation
2,4-Dihydroxybenzophenone	Rabbit	Severe irritant
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Rabbit	No significant irritation
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Rabbit	Corrosive
2,3-Epoxypropyl neodecanoate	Rabbit	No significant irritation
ZINC 2-ETHYLHEXANOATE	Rabbit	Severe irritant
Calcium bis(2-ethylhexanoate)	Rabbit	Corrosive
triphenyl phosphite	Rabbit	Moderate irritant

Skin Sensitisation

Name	Species	Value
cyclohexanone	Guinea pig	Not classified

Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Guinea pig	Not classified
2-methoxy-1-methylethyl acetate	Guinea pig	Not classified
Proprietary Reaction Products	Human	Not classified
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Guinea pig	Sensitising
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Guinea pig	Not classified
2,3-Epoxypropyl neodecanoate	Guinea pig	Sensitising
triphenyl phosphite	Mouse	Sensitising

Photosensitisation

Name	Species	Value
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Guinea pig	Not 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
cyclohexanone	In Vitro	Not mutagenic
cyclohexanone	In vivo	Not mutagenic
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	In Vitro	Not mutagenic
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	In vivo	Not mutagenic
2-methoxy-1-methylethyl acetate	In Vitro	Not mutagenic
Reaction mass of ethylbenzene and xylene	In Vitro	Not mutagenic
Reaction mass of ethylbenzene and xylene	In vivo	Not mutagenic
Proprietary Reaction Products	In Vitro	Not mutagenic
Proprietary Reaction Products	In vivo	Not mutagenic
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	In Vitro	Not mutagenic
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	In vivo	Not mutagenic
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	In Vitro	Not mutagenic
2,3-Epoxypropyl neodecanoate	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,3-Epoxypropyl neodecanoate	In vivo	Mutagenic
Calcium bis(2-ethylhexanoate)	In Vitro	Not mutagenic
triphenyl phosphite	In Vitro	Not mutagenic
triphenyl phosphite	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
cyclohexanone	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Reaction mass of ethylbenzene and xylene	Dermal	Rat	Not carcinogenic
Reaction mass of ethylbenzene and xylene	Ingestion	Multiple animal species	Not carcinogenic
Reaction mass of ethylbenzene and xylene	Inhalation	Human	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
cyclohexanone	Inhalation	Not classified for female reproduction	Rat	NOAEL 4 mg/l	2 generation
cyclohexanone	Ingestion	Not classified for development	Rabbit	NOAEL 500 mg/kg/day	during gestation
cyclohexanone	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2.6 mg/l	during gestation
2-methoxy-1-methylethyl acetate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-methoxy-1-methylethyl acetate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-methoxy-1-methylethyl acetate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-methoxy-1-methylethyl acetate	Inhalation	Not classified for development	Rat	NOAEL 21.6 mg/l	during organogenesis
Reaction mass of ethylbenzene and xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Reaction mass of ethylbenzene and xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Reaction mass of ethylbenzene and xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
Proprietary Reaction Products	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Proprietary Reaction Products	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
Proprietary Reaction Products	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	premating into lactation
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	115 days
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for development	Rat	NOAEL 2 mg/kg/day	premating into lactation
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 430 mg/kg/day	2 generation
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Ingestion	Not classified for development	Rat	NOAEL 130 mg/kg/day	2 generation
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 130 mg/kg/day	2 generation
2,3-Epoxypropyl neodecanoate	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	2 generation
2,3-Epoxypropyl neodecanoate	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	2 generation
2,3-Epoxypropyl neodecanoate	Ingestion	Toxic to development	Rat	NOAEL 50 mg/kg/day	2 generation
ZINC 2-ETHYLHEXANOATE	Ingestion	Not classified for female reproduction	similar compoun	NOAEL 800 mg/kg/day	2 generation

			ds		
ZINC 2-ETHYLHEXANOATE	Ingestion	Not classified for male reproduction	similar compoun ds	NOAEL 800 mg/kg/day	2 generation
ZINC 2-ETHYLHEXANOATE	Ingestion	Toxic to development	similar compoun ds	NOAEL 100 mg/kg/day	during gestation
Calcium bis(2-ethylhexanoate)	Ingestion	Not classified for female reproduction	similar compoun ds	NOAEL 800 mg/kg/day	2 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Not classified for male reproduction	similar compoun ds	NOAEL 800 mg/kg/day	2 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Toxic to development	similar compoun ds	NOAEL 100 mg/kg/day	during gestation
triphenyl phosphite	Ingestion	Not classified for female reproduction	Rat	NOAEL 40 mg/kg/day	premating into lactation
triphenyl phosphite	Ingestion	Not classified for male reproduction	Rat	NOAEL 40 mg/kg/day	28 days
triphenyl phosphite	Ingestion	Not classified for development	Rat	NOAEL 40 mg/kg/day	during gestation

Lactation

Name	Route	Species	Value
Reaction mass of ethylbenzene and xylene	Ingestion	Mouse	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
cyclohexanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Guinea pig	LOAEL 16.1 mg/l	6 hours
cyclohexanone	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
cyclohexanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
2-methoxy-1-methylethyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
2-methoxy-1-methylethyl acetate	Ingestion	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL not available	
Reaction mass of ethylbenzene and xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Reaction mass of ethylbenzene and xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
Reaction mass of ethylbenzene and xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Dermal	photoirritation	Not classified	Mouse	NOAEL not available	

bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
ZINC 2-ETHYLHEXANOATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Calcium bis(2-ethylhexanoate)	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
cyclohexanone	Inhalation	liver | kidney and/or bladder | heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | eyes | respiratory system | vascular system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
cyclohexanone	Ingestion	hematopoietic system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 407 mg/kg/day	3 months
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	Ingestion	liver | heart | endocrine system | hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
2-methoxy-1-methylethyl acetate	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 16.2 mg/l	9 days
2-methoxy-1-methylethyl acetate	Inhalation	olfactory system	Not classified	Mouse	LOAEL 1.62 mg/l	9 days
2-methoxy-1-methylethyl acetate	Inhalation	blood	Not classified	Multiple animal species	NOAEL 16.2 mg/l	9 days
2-methoxy-1-methylethyl acetate	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	44 days
Reaction mass of ethylbenzene and xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
Reaction mass of ethylbenzene and xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Reaction mass of ethylbenzene and xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	heart | endocrine system | gastrointestinal tract | hematopoietic system | muscles | kidney and/or bladder | respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Reaction mass of ethylbenzene and xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Reaction mass of ethylbenzene and xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Reaction mass of ethylbenzene and xylene	Ingestion	liver	Not classified	Multiple animal	NOAEL Not available	

				species		
Reaction mass of ethylbenzene and xylene	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Proprietary Reaction Products	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.01 mg/l	5 days
Proprietary Reaction Products	Inhalation	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | immune system | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 0.03 mg/l	5 days
Proprietary Reaction Products	Ingestion	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	liver | endocrine system | hematopoietic system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 261 mg/kg/day	90 days
2,3-Epoxypropyl neodecanoate	Ingestion	endocrine system | hematopoietic system | liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
2,3-Epoxypropyl neodecanoate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	90 days
2,3-Epoxypropyl neodecanoate	Ingestion	heart | skin | gastrointestinal tract | bone, teeth, nails, and/or hair | immune system | nervous system | eyes | respiratory system | vascular	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days

		system				
triphenyl phosphite	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
triphenyl phosphite	Ingestion	hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 40 mg/kg/day	28 days

Aspiration Hazard

Name	Value
Reaction mass of ethylbenzene and xylene	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.

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 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
cyclohexanone	108-94-1	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
cyclohexanone	108-94-1	Algae or other aquatic plants	Experimental	72 hours	ErC50	32.9 mg/l
cyclohexanone	108-94-1	Fathead minnow	Experimental	96 hours	LC50	527 mg/l
cyclohexanone	108-94-1	Water flea	Experimental	24 hours	EC50	800 mg/l
cyclohexanone	108-94-1	Algae or other aquatic plants	Experimental	72 hours	ErC10	3.56 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Green algae	Experimental	72 hours	ErC50	>1,000 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Rainbow trout	Experimental	96 hours	LC50	111 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Water flea	Experimental	48 hours	LC50	1,090 mg/l
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
Vinyl polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

2-methoxy-1-methylethyl acetate	108-65-6	Activated sludge	Experimental	30 minutes	EC10	>1,000 mg/l
2-methoxy-1-methylethyl acetate	108-65-6	Green algae	Experimental	72 hours	ErC50	>1,000 mg/l
2-methoxy-1-methylethyl acetate	108-65-6	Rainbow trout	Experimental	96 hours	LC50	134 mg/l
2-methoxy-1-methylethyl acetate	108-65-6	Water flea	Experimental	48 hours	EC50	370 mg/l
2-methoxy-1-methylethyl acetate	108-65-6	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
2-methoxy-1-methylethyl acetate	108-65-6	Water flea	Experimental	21 days	NOEC	100 mg/l
Proprietary Reaction Products	Trade Secret	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Proprietary Reaction Products	Trade Secret	Water flea	Analogous Compound	48 hours	No tox obs at lmt of water sol	>100 mg/l
Proprietary Reaction Products	Trade Secret	Zebra Fish	Analogous Compound	96 hours	No tox obs at lmt of water sol	>100 mg/l
Proprietary Reaction Products	Trade Secret	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Proprietary Reaction Products	Trade Secret	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
Proprietary Reaction Products	Trade Secret	Redworm	Experimental	14 days	LC50	>1,000 mg/kg (Dry Weight)
Reaction mass of ethylbenzene and xylene	905-588-0	Green algae	Estimated	73 hours	EC50	1.3 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Water flea	Estimated	24 hours	IC50	1 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Green algae	Estimated	73 hours	NOEC	0.44 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Water flea	Estimated	7 days	NOEC	0.96 mg/l
2,4-Dihydroxybenzophenone	131-56-6	Copepod	Experimental	48 hours	LC50	2.6 mg/l
2,4-Dihydroxybenzophenone	131-56-6	Medaka	Experimental	96 hours	LC50	3.7 mg/l
2,4-Dihydroxybenzophenone	131-56-6	Water flea	Experimental	48 hours	LC50	7.86 mg/l
2,4-Dihydroxybenzophenone	131-56-6	Goldfish	Experimental	28 days	NOEC	0.48 mg/l
2,4-Dihydroxybenzophenone	131-56-6	Ciliated protozoa	Experimental	48 hours	IC50	9.14 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.	400-830-7	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l

-hydroxy-						
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Rainbow trout	Experimental	96 hours	LC50	2.8 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Water flea	Experimental	48 hours	EC50	4 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Green algae	Experimental	72 hours	ErC10	10 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Water flea	Experimental	21 days	NOEC	0.78 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Bluegill	Experimental	96 hours	LC50	4.4 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Green algae	Experimental	72 hours	EC50	0.705 mg/l

bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Water flea	Experimental	48 hours	EC50	8.58 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Green algae	Experimental	72 hours	EC10	0.188 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Water flea	Experimental	21 days	NOEC	0.23 mg/l
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Activated sludge	Experimental	3 hours	IC50	>100
2,3-Epoxypropyl neodecanoate	26761-45-5	Activated sludge	Experimental	3 hours	NOEC	500 mg/l
2,3-Epoxypropyl neodecanoate	26761-45-5	Green algae	Experimental	72 hours	ErC50	2.9 mg/l
2,3-Epoxypropyl neodecanoate	26761-45-5	Rainbow trout	Experimental	96 hours	LC50	5 mg/l
2,3-Epoxypropyl neodecanoate	26761-45-5	Water flea	Experimental	48 hours	EC50	4.8 mg/l
2,3-Epoxypropyl neodecanoate	26761-45-5	Green algae	Experimental	96 hours	NOEC	1 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Activated sludge	Transformation Product	30 minutes	EC20	740 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Green algae	Transformation Product	72 hours	ErC50	56 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Medaka	Transformation Product	96 hours	LC50	>113 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Water flea	Transformation Product	48 hours	EC50	97 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Green algae	Transformation Product	96 hours	ErC10	28 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Water flea	Transformation Product	21 days	NOEC	28 mg/l
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Green algae	Analogous Compound	72 hours	EC50	>16 mg/l
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Medaka	Analogous Compound	96 hours	LC50	>4.3 mg/l
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Water flea	Analogous Compound	48 hours	EC50	0.45 mg/l
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Green algae	Analogous Compound	72 hours	NOEC	16 mg/l
ZINC 2-ETHYLHEXANOATE	136-53-8	Rainbow trout	Experimental	96 hours	LC50	0.44 mg/l
ZINC 2-ETHYLHEXANOATE	136-53-8	Water flea	Experimental	48 hours	EC50	1.6 mg/l
triphenyl phosphite	101-02-0	Green algae	Experimental	72 hours	ErC50	86 mg/l
triphenyl phosphite	101-02-0	Medaka	Experimental	96 hours	LC50	>4.3 mg/l
triphenyl phosphite	101-02-0	Water flea	Experimental	48 hours	EC50	0.45 mg/l
triphenyl phosphite	101-02-0	Green algae	Experimental	72 hours	NOEC	7.8 mg/l
triphenyl phosphite	101-02-0	Activated sludge	Experimental	3 hours	EC50	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol

cyclohexanone	108-94-1	Experimental Biodegradation	14 days	BOD	87 %BOD/ThOD	OECD 301C - MITI test (I)
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Analogous Compound Biodegradation	28 days	Dissolv. Organic Carbon Deplet	90 %removal of DOC	OECD 301F - Manometric respirometry
Vinyl polymer	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2-methoxy-1-methylethyl acetate	108-65-6	Experimental Biodegradation	28 days	BOD	87.2 %BOD/ThOD	OECD 301C - MITI test (I)
2-methoxy-1-methylethyl acetate	108-65-6	Experimental Aquatic Inherent Biodegrad.		Dissolv. Organic Carbon Deplet	>100 %removal of DOC	similar to OECD 302B
Proprietary Reaction Products	Trade Secret	Modeled Biodegradation	28 days	BOD	3 %BOD/ThOD	Catalogic™
Reaction mass of ethylbenzene and xylene	905-588-0	Experimental Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301F - Manometric respirometry
2,4-Dihydroxybenzophenone	131-56-6	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Experimental Biodegradation	28 days	CO2 evolution	12-24 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Experimental Biodegradation	28 days	Percent degraded	24 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	56.6 days (t 1/2)	OECD 111 Hydrolysis func of pH
2,3-Epoxypropyl neodecanoate	26761-45-5	Experimental Biodegradation	28 days	BOD	11.6 %BOD/ThOD	OECD 301F - Manometric respirometry
2,3-Epoxypropyl neodecanoate	26761-45-5	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	9.9 days (t 1/2)	OECD 111 Hydrolysis func of pH
Calcium bis(2-ethylhexanoate)	136-51-6	Transformation product Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 %removal of DOC	OECD 301E - Modif. OECD Screen
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Analogous Compound Biodegradation	28 days	BOD	84 %BOD/ThOD	OECD 301D - Closed bottle test
ZINC 2-ETHYLHEXANOATE	136-53-8	Transformation product Biodegradation	20 days	BOD	83 %BOD/ThOD	OECD 301D - Closed bottle test
triphenyl phosphite	101-02-0	Experimental Biodegradation	28 days	BOD	84 %BOD/ThOD	OECD 301D - Closed bottle test
triphenyl phosphite	101-02-0	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	6.5 hours (t 1/2)	OECD 111 Hydrolysis func of pH

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
cyclohexanone	108-94-1	Experimental Bioconcentration		Log Kow	0.86	OECD 107 log Kow shke flsk mtd
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Experimental Bioconcentration		Log Kow	0.61	EC A.8 Partition Coefficient
Vinyl polymer	Trade Secret	Data not available	N/A	N/A	N/A	N/A

		or insufficient for classification				
2-methoxy-1-methylethyl acetate	108-65-6	Experimental Bioconcentration		Log Kow	0.36	OECD 107 log Kow shke flsk mtd
Proprietary Reaction Products	Trade Secret	Modeled Bioconcentration		Bioaccumulation factor	35	Catalogic™
Reaction mass of ethylbenzene and xylene	905-588-0	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
2,4-Dihydroxybenzophenone	131-56-6	Modeled Bioconcentration		Bioaccumulation factor	5.0	Catalogic™
2,4-Dihydroxybenzophenone	131-56-6	Modeled Bioconcentration		Log Kow	2.96	Episuite™
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	400-830-7	Experimental BCF - Fish	21 days	Bioaccumulation factor	34	OECD305-Bioconcentration
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Experimental Bioconcentration		Log Kow	0.35	OECD 107 log Kow shke flsk mtd
2,3-Epoxypropyl neodecanoate	26761-45-5	Modeled Bioconcentration		Bioaccumulation factor	28	Catalogic™
Calcium bis(2-ethylhexanoate)	136-51-6	Transformation product Bioconcentration		Log Kow	2.7	similar to OECD 107
PHOSPHONIC ACID, DIPHENYL ESTER	4712-55-4	Modeled Bioconcentration		Log Kow	2.4	Episuite™
ZINC 2-ETHYLHEXANOATE	136-53-8	Estimated Bioconcentration		Log Kow	2.7	
triphenyl phosphite	101-02-0	Hydrolysis product Bioconcentration		Log Kow	1.47	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
cyclohexanone	108-94-1	Modeled Mobility in Soil	Koc	39 l/kg	Episuite™
Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate	88917-22-0	Experimental Mobility in Soil	Koc	187 l/kg	OECD 121 Estim. of Koc by HPLC
2-methoxy-1-methylethyl acetate	108-65-6	Experimental Mobility in Soil	Koc	4 l/kg	Episuite™
Proprietary Reaction Products	Trade Secret	Analogous Compound Mobility in Soil	Koc	1,614 l/kg	OECD 121 Estim. of Koc by HPLC
2,4-Dihydroxybenzophenone	131-56-6	Modeled Mobility in Soil	Koc	1,914 l/kg	Episuite™
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Experimental Mobility in Soil	Koc	780-16000 l/kg	OECD 106 Adsp-Desb Batch Equil
2,3-Epoxypropyl neodecanoate	26761-45-5	Experimental Mobility in Soil	Koc	143 l/kg	OECD 121 Estim. of Koc by HPLC
PHOSPHONIC	4712-55-4	Modeled Mobility	Koc	180 l/kg	Episuite™

ACID, DIPHENYL ESTER		in Soil			
triphenyl phosphite	101-02-0	Hydrolysis product Mobility in Soil	Koc	14 l/kg	

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. Other adverse effects

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

SECTION 13: Disposal considerations

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

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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	UN1210	UN1210	UN1210
14.2 UN proper shipping name	PRINTING INK	PRINTING INK	PRINTING INK
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Not Environmentally Hazardous	Not applicable	Not a 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 Transport in bulk according to Annex II	No data available.	No data available.	No data available.

of Marpol 73/78 and IBC Code			
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	F1	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
cyclohexanone	108-94-1	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

COMAH Regulation, SI 2015/483
Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
P5c FLAMMABLE LIQUIDS*	5000	50000

*If maintained at a temperature above its boiling point or if particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, P5a or P5b FLAMMABLE LIQUIDS may apply
Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
2-methoxy-1-methylethyl acetate	108-65-6	10	50
cyclohexanone	108-94-1	10	50
triphenyl phosphite	101-02-0	100	200

Regulation (EU) No 649/2012, as amended for GB

No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H360D	May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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:
Section 1: E-mail address information was modified.
Section 02: CLP Physical and Health Hazard Statements information was modified.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table 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 SDSs for Great Britain are available at www.3M.com/uk
For Northern Ireland documents, please contact your 3M representative to obtain a copy.