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 Screen Printing Ink 1918, Yellow Shade Red

Product Identification Numbers
75-3469-4424-4

7000005195

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:	tox.uk@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 1A - Skin Sens. 1A; H317
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	20 - 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	< 1.5
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate		915-687-0	< 0.5
methyl methacrylate	80-62-6	201-297-1	< 0.2
triphenyl phosphite	101-02-0	202-908-4	< 0.015

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
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.
P280E	Wear protective gloves.

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.

15% of the mixture consists of components of unknown acute oral toxicity.
15% of the mixture consists of components of unknown acute dermal toxicity.
15% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 15% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB
cyclohexanone	(CAS-No.) 108-94-1 (EC-No.) 203-631-1	20 - 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
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	(CAS-No.) 25086-48-0	10 - 20	Substance not classified as hazardous
C.I. Pigment Red 254	(CAS-No.) 84632-65-5 (EC-No.) ELINCS 401-540-3	10 - 20	Substance not classified as hazardous
Ethyl 3-ethoxypropionate	(CAS-No.) 763-69-9 (EC-No.) 212-112-9	10 - 20	Flam. Liq. 3, H226
Acrylic polymer	Trade Secret	5 - 10	Substance not classified as hazardous
Polymeric Plasticiser	Trade Secret	5 - 10	Substance not classified as hazardous
2-butoxyethyl acetate	(CAS-No.) 112-07-2 (EC-No.) 203-933-3	5 - 10	Acute Tox. 4, H332 Acute Tox. 4, H312 Acute Tox. 4, H302
Soybean oil, epoxidised	(CAS-No.) 8013-07-8 (EC-No.) 232-391-0	1 - 5	Substance not classified as hazardous
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	< 1.5	Skin Sens. 1, H317 Aquatic Chronic 2, H411
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	(EC-No.) 915-687-0	< 0.5	Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 Skin Sens. 1A, H317 Repr. 2, H361f

Zinc bis(2-ethylhexanoate)	(CAS-No.) 136-53-8 (EC-No.) 205-251-1	< 0.5	Aquatic Chronic 3, H412 Eye Irrit. 2, H319 Repr. 2, H361d
Hydrocarbons, C10, aromatics, >1% naphthalene	(EC-No.) 919-284-0	< 0.5	Aquatic Chronic 2, H411 Asp. Tox. 1, H304 Carc. 2, H351 STOT SE 3, H336 EUH066
Calcium bis(2-ethylhexanoate)	(CAS-No.) 136-51-6 (EC-No.) 205-249-0	< 0.2	Eye Dam. 1, H318 Repr. 2, H361d
methyl methacrylate	(CAS-No.) 80-62-6 (EC-No.) 201-297-1	< 0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 Nota D
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9	< 0.2	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412
triphenyl phosphite	(CAS-No.) 101-02-0 (EC-No.) 202-908-4	< 0.015	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
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. 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. Cover spill area with a fire extinguishing foam that is resistant to polar solvents. 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 detergent and water. Seal the container. Dispose of collected material as soon as possible.

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling
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 container tightly closed. Keep cool. Protect from sunlight. Store away from heat. 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
toluene	108-88-3	UK HSC	TWA: 191 mg/m³ (50 ppm); STEL: 384 mg/m³ (100 ppm)	SKIN
cyclohexanone	108-94-1	UK HSC	TWA:41 mg/m3(10 ppm);STEL:82 mg/m3(20 ppm)	SKIN
2-butoxyethyl acetate	112-07-2	UK HSC	TWA:133 mg/m3(20 ppm);STEL:332 mg/m3(50 ppm)	SKIN
methyl methacrylate	80-62-6	UK HSC	TWA:208 mg/m3(50 ppm);STEL:416 mg/m3(100 ppm)	

UK HSC : 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 and particulates

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 types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Colour	Red
Odor	Solvent
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=155.6 ºC
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	0.5 %
Flammable Limits(UEL)	8.7 %
Flash point	48.9 ºC [*Test Method:*Closed Cup]
Autoignition temperature	> 337.8 ºC
Decomposition temperature	*No data available.*
pH	*substance/mixture reacts with water*
Kinematic Viscosity	5,607 mm²/sec
Water solubility	Moderate
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	<=453.3 Pa [@ 20 ºC]
Density	1.07 g/ml
Relative density	1.07 [*Ref Std:*WATER=1]
Relative Vapour Density	> 1 [*Ref Std:*AIR=1]

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Percent volatile	45 - 55 %

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
Heat.
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:
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:
Blood effects: Signs/symptoms may include generalised weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and hemoglobinemia.

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
Ethyl 3-ethoxypropionate	Dermal	Rabbit	LD50 4,080 mg/kg
Ethyl 3-ethoxypropionate	Inhalation-Vapour (4 hours)	Rat	LC50 > 14.4 mg/l
Ethyl 3-ethoxypropionate	Ingestion	Rat	LD50 3,200 mg/kg
C.I. Pigment Red 254	Dermal	Rat	LD50 > 2,000 mg/kg
C.I. Pigment Red 254	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.25 mg/l
C.I. Pigment Red 254	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
2-butoxyethyl acetate	Dermal	Rabbit	LD50 > 4,766 mg/kg
2-butoxyethyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 > 2.66 mg/l
2-butoxyethyl acetate	Ingestion	Rat	LD50 1,880 mg/kg
Soybean oil, epoxidised	Dermal	Rabbit	LD50 > 20,000 mg/kg
Soybean oil, epoxidised	Ingestion	Rat	LD50 > 5,000 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-	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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Rat	LD50 3,125 mg/kg
Hydrocarbons, C10, aromatics, >1% naphthalene	Inhalation-Vapour		LC50 estimated to be 20 - 50 mg/l
Hydrocarbons, C10, aromatics, >1% naphthalene	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hydrocarbons, C10, aromatics, >1% naphthalene	Ingestion	Rat	LD50 > 5,000 mg/kg
toluene	Dermal	Rat	LD50 12,000 mg/kg
toluene	Inhalation-Vapour (4 hours)	Rat	LC50 30 mg/l
toluene	Ingestion	Rat	LD50 5,550 mg/kg
Zinc bis(2-ethylhexanoate)	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc bis(2-ethylhexanoate)	Ingestion	Rat	LD50 > 5,000 mg/kg
methyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
methyl methacrylate	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
methyl methacrylate	Ingestion	Rat	LD50 7,900 mg/kg
Calcium bis(2-ethylhexanoate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Calcium bis(2-ethylhexanoate)	Inhalation-Dust/Mist	Rat	LC50 > 1.2 mg/l

	(4 hours)		
Calcium bis(2-ethylhexanoate)	Ingestion	Rat	LD50 > 5,000 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
Ethyl 3-ethoxypropionate	Rabbit	No significant irritation
C.I. Pigment Red 254	Rabbit	No significant irritation
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Professional judgement	No significant irritation
2-butoxyethyl acetate	Rabbit	Minimal irritation
Soybean oil, epoxidised	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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	Minimal irritation
Hydrocarbons, C10, aromatics, >1% naphthalene	Rabbit	Minimal irritation
toluene	Rabbit	Irritant
Zinc bis(2-ethylhexanoate)	Rabbit	Mild irritant
methyl methacrylate	Human and animal	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
Ethyl 3-ethoxypropionate	Rabbit	Mild irritant
C.I. Pigment Red 254	Rabbit	No significant irritation
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	Professional judgement	No significant irritation
2-butoxyethyl acetate	Rabbit	Mild irritant
Soybean oil, epoxidised	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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	Mild irritant
Hydrocarbons, C10, aromatics, >1% naphthalene	Rabbit	Mild irritant
toluene	Rabbit	Moderate irritant
Zinc bis(2-ethylhexanoate)	Rabbit	Severe irritant
methyl methacrylate	Rabbit	Moderate irritant
Calcium bis(2-ethylhexanoate)	Rabbit	Corrosive
triphenyl phosphite	Rabbit	Moderate irritant

Skin Sensitisation

Name	Species	Value

cyclohexanone	Guinea pig	Not classified
Ethyl 3-ethoxypropionate	Guinea pig	Not classified
2-butoxyethyl acetate	Guinea pig	Not classified
Soybean oil, epoxidised	Guinea pig	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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Guinea pig	Sensitising
Hydrocarbons, C10, aromatics, >1% naphthalene	Guinea pig	Not classified
toluene	Guinea pig	Not classified
methyl methacrylate	Human and animal	Sensitising
triphenyl phosphite	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
methyl methacrylate	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
cyclohexanone	In vivo	Not mutagenic
cyclohexanone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethyl 3-ethoxypropionate	In Vitro	Not mutagenic
Soybean oil, epoxidised	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 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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	In vivo	Not mutagenic
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hydrocarbons, C10, aromatics, >1% naphthalene	In Vitro	Not mutagenic
Hydrocarbons, C10, aromatics, >1% naphthalene	In vivo	Not mutagenic
toluene	In Vitro	Not mutagenic
toluene	In vivo	Not mutagenic
methyl methacrylate	In vivo	Not mutagenic
methyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Calcium bis(2-ethylhexanoate)	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
cyclohexanone	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Soybean oil, epoxidised	Ingestion	Rat	Not carcinogenic
Hydrocarbons, C10, aromatics, >1% naphthalene	Not specified.	Not applicable	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
methyl methacrylate	Ingestion	Rat	Not carcinogenic
methyl methacrylate	Inhalation	Human and animal	Not carcinogenic

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	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
cyclohexanone	Ingestion	Not classified for development	Mouse	LOAEL 1,100 mg/kg/day	during organogenesis
cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2 mg/l	2 generation
Soybean oil, epoxidised	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Soybean oil, epoxidised	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Soybean oil, epoxidised	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	1 generation
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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,493 mg/kg/day	29 days
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Not classified for development	Rat	NOAEL 209 mg/kg/day	premating into lactation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 804 mg/kg/day	premating into lactation
Hydrocarbons, C10, aromatics, >1% naphthalene	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C10, aromatics, >1% naphthalene	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C10, aromatics, >1% naphthalene	Not specified.	Not classified for development	Rat	NOAEL Not available	2 generation
toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not	occupational

				available	exposure
toluene	Inhalation	Not classified for male reproduction	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
Zinc bis(2-ethylhexanoate)	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zinc bis(2-ethylhexanoate)	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zinc bis(2-ethylhexanoate)	Ingestion	Toxic to development	similar compounds	NOAEL 100 mg/kg/day	during gestation
methyl methacrylate	Inhalation	Not classified for male reproduction	Mouse	NOAEL 36.9 mg/l	
methyl methacrylate	Inhalation	Not classified for development	Rat	NOAEL 8.3 mg/l	during organogenesis
Calcium bis(2-ethylhexanoate)	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Toxic to development	similar compounds	NOAEL 100 mg/kg/day	during gestation

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	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
cyclohexanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
2-butoxyethyl acetate	Dermal	blood	Not classified	similar compounds	NOAEL Not available	
2-butoxyethyl acetate	Inhalation	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	similar compounds	NOAEL Not available	
2-butoxyethyl acetate	Inhalation	blood	Not classified	similar compounds	NOAEL Not available	
2-butoxyethyl acetate	Ingestion	blood	Not classified	similar compounds	NOAEL Not available	
Hydrocarbons, C10, aromatics, >1% naphthalene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	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	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
toluene	Ingestion	central nervous	May cause drowsiness or	Human	NOAEL Not	poisoning

		system depression	dizziness		available	and/or abuse
Zinc bis(2-ethylhexanoate)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
methyl methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
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	Not classified	Rabbit	NOAEL 0.76 mg/l	50 days
cyclohexanone	Ingestion	liver	Not classified	Mouse	NOAEL 4,800 mg/kg/day	90 days
Ethyl 3-ethoxypropionate	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	90 days
Ethyl 3-ethoxypropionate	Inhalation	nervous system | heart | liver | immune system | kidney and/or bladder	Not classified	Rat	NOAEL 6 mg/l	17 days
Ethyl 3-ethoxypropionate	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	17 days
Ethyl 3-ethoxypropionate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Ethyl 3-ethoxypropionate	Ingestion	kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	17 days
2-butoxyethyl acetate	Dermal	blood	Not classified	similar compounds	NOAEL Not available	not available
2-butoxyethyl acetate	Inhalation	blood	Not classified	similar compounds	NOAEL Not available	6 months
2-butoxyethyl acetate	Ingestion	blood	Not classified	similar compounds	NOAEL Not available	13 weeks
Soybean oil, epoxidised	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 1,250 mg/kg/day	2 years
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	kidney and/or bladder	Not classified	Rat	NOAEL not available	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	hematopoietic system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-	Ingestion	liver	Not classified	Rat	NOAEL 10 mg/kg/day	28 days

(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-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-	Ingestion	eyes	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	gastrointestinal tract | liver | immune system | heart | endocrine system | hematopoietic system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
toluene	Inhalation	auditory system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	nervous system	May cause damage to organs though 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	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
toluene	Inhalation	hematopoietic system | vascular system	Not classified	Human	NOAEL Not available	occupational exposure
toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
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	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
toluene	Ingestion	liver | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
methyl methacrylate	Dermal	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure

methyl methacrylate	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
methyl methacrylate	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	14 weeks
methyl methacrylate	Inhalation	liver	Not classified	Mouse	NOAEL 12.3 mg/l	14 weeks
methyl methacrylate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
triphenyl phosphite	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days

Aspiration Hazard

Name	Value
Hydrocarbons, C10, aromatics, >1% naphthalene	Aspiration hazard
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.

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
C.I. Pigment Red 254	84632-65-5	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
C.I. Pigment Red 254	84632-65-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
C.I. Pigment Red 254	84632-65-5	Water flea	Experimental	24 hours	No tox obs at lmt of water sol	>100 mg/l
C.I. Pigment Red 254	84632-65-5	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
C.I. Pigment Red 254	84632-65-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
C.I. Pigment Red 254	84632-65-5	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
Ethyl 3-ethoxypropionate	763-69-9	Activated sludge	Experimental	5 hours	EC50	>5,000 mg/l
Ethyl 3-ethoxypropionate	763-69-9	Fathead minnow	Experimental	96 hours	LC50	45.3 mg/l

Ethyl 3-ethoxypropionate	763-69-9	Green algae	Experimental	72 hours	EC50	>86 mg/l
Ethyl 3-ethoxypropionate	763-69-9	Water flea	Experimental	48 hours	EC50	>92 mg/l
Ethyl 3-ethoxypropionate	763-69-9	Green algae	Experimental	72 hours	NOEC	86 mg/l
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
2-butoxyethyl acetate	112-07-2	Green algae	Experimental	72 hours	EC50	1,570 mg/l
2-butoxyethyl acetate	112-07-2	Rainbow trout	Experimental	96 hours	LC50	28 mg/l
2-butoxyethyl acetate	112-07-2	Water flea	Experimental	48 hours	EC50	37 mg/l
2-butoxyethyl acetate	112-07-2	Green algae	Experimental	72 hours	NOEC	300 mg/l
2-butoxyethyl acetate	112-07-2	Water flea	Experimental	7 days	EC10	30.4 mg/l
2-butoxyethyl acetate	112-07-2	Activated sludge	Experimental	30 minutes	EC20	900 mg/l
2-butoxyethyl acetate	112-07-2	Bacteria	Experimental	17 hours	EC50	960 mg/l
Soybean oil, epoxidised	8013-07-8	Green algae	Endpoint not reached	72 hours	EbC50	>100 mg/l
Soybean oil, epoxidised	8013-07-8	Water flea	Experimental	24 hours	No tox obs at lmt of water sol	>100 mg/l
Soybean oil, epoxidised	8013-07-8	Green algae	Endpoint not reached	72 hours	NOEC	>100 mg/l
Soybean oil, epoxidised	8013-07-8	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Soybean oil, epoxidised	8013-07-8	Rape	Experimental	21 days	EC50	909 mg/kg (Dry Weight)
Soybean oil, epoxidised	8013-07-8	Redworm	Experimental	56 days	NOEC	1,000 mg/kg (Dry Weight)
Soybean oil, epoxidised	8013-07-8	Soil microbes	Experimental	28 days	EC50	402 mg/kg (Dry Weight)
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	Activated sludge	Experimental	3 hours	EC50	>1,000 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	EC50	>100 mg/l
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-	400-830-7	Rainbow trout	Experimental	96 hours	LC50	2.8 mg/l

benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-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	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
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Green algae	Experimental	72 hours	EL50	3 mg/l
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Rainbow trout	Experimental	96 hours	LC50	2 mg/l
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Water flea	Experimental	48 hours	EL50	3 mg/l
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Green algae	Experimental	72 hours	NOEL	1 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Activated sludge	Experimental	3 hours	IC50	>=100 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-	915-687-0	Green algae	Experimental	72 hours	ErC50	1.68 mg/l

piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate						
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Zebra Fish	Experimental	96 hours	LC50	0.9 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Water flea	Experimental	21 days	NOEC	1 mg/l
Zinc bis(2-ethylhexanoate)	136-53-8	Rainbow trout	Experimental	96 hours	LC50	0.44 mg/l
Zinc bis(2-ethylhexanoate)	136-53-8	Water flea	Experimental	48 hours	EC50	1.6 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
methyl methacrylate	80-62-6	Green algae	Experimental	72 hours	EC50	>110 mg/l
methyl methacrylate	80-62-6	Rainbow trout	Experimental	96 hours	LC50	>79 mg/l
methyl methacrylate	80-62-6	Water flea	Experimental	48 hours	EC50	69 mg/l
methyl methacrylate	80-62-6	Green algae	Experimental	72 hours	NOEC	110 mg/l
methyl methacrylate	80-62-6	Water flea	Experimental	21 days	NOEC	37 mg/l
methyl methacrylate	80-62-6	Activated sludge	Experimental	30 minutes	EC20	150 mg/l
methyl methacrylate	80-62-6	Soil microbes	Experimental	28 days	NOEC	>1,000 mg/kg (Dry Weight)
toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l

toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
triphenyl phosphite	101-02-0	Green algae	Experimental	72 hours	EC50	>16 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	16 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)
C.I. Pigment Red 254	84632-65-5	Experimental Biodegradation	28 days	CO2 evolution	10 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Ethyl 3-ethoxypropionate	763-69-9	Experimental Biodegradation	18 days	CO2 evolution	100 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Ethyl 3-ethoxypropionate	763-69-9	Experimental Photolysis		Photolytic half-life (in air)	1.2 days (t 1/2)	
Vinyl acetate - vinyl alcohol - vinyl chloride polymer	25086-48-0	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2-butoxyethyl acetate	112-07-2	Experimental Biodegradation	28 days	BOD	88 %BOD/ThOD	OECD 301F - Manometric respirometry
2-butoxyethyl acetate	112-07-2	Experimental Aquatic Inherent Biodegrad.	6.5 days	Dissolv. Organic Carbon Deplet	>90 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
2-butoxyethyl acetate	112-07-2	Experimental Biodegradation	3 hours	Percent degraded	96.7 %removal of DOC	OECD 303A - Simulated Aerobic
Soybean oil, epoxidised	8013-07-8	Experimental Biodegradation	28 days	CO2 evolution	92 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Soybean oil, epoxidised	8013-07-8	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
Reaction mass of Polymeric benzotriazole and Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-	400-830-7	Experimental Biodegradation	28 days	CO2 evolution	12-24 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2

dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-						
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Experimental Biodegradation	28 days	BOD	58 %BOD/COD	OECD 301F - Manometric respirometry
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	38 %removal of DOC	OECD 301E - Modif. OECD Screen
Zinc bis(2-ethylhexanoate)	136-53-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
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
methyl methacrylate	80-62-6	Experimental Biodegradation	14 days	BOD	94 %BOD/ThOD	OECD 301C - MITI test (I)
toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 %BOD/ThOD	APHA Std Meth Water/Wastewater
toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
triphenyl phosphite	101-02-0	Estimated Biodegradation	14 days	BOD	85 %BOD/ThOD	OECD 301C - MITI test (I)
triphenyl phosphite	101-02-0	Experimental Hydrolysis		Hydrolytic half-life	0.5 hours (t 1/2)	

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
C.I. Pigment Red 254	84632-65-5	Experimental Bioconcentration		Log Kow	2.4	
Ethyl 3-ethoxypropionate	763-69-9	Experimental Bioconcentration		Log Kow	1.35	OECD 117 log Kow HPLC method
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
2-butoxyethyl acetate	112-07-2	Modeled Bioconcentration		Bioaccumulation factor	3.3	Catalogic™
2-butoxyethyl acetate	112-07-2	Experimental Bioconcentration		Log Kow	1.51	
Soybean oil, epoxidised	8013-07-8	Experimental Bioconcentration		Log Kow	>6.2	OECD 117 log Kow HPLC method
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
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	31.4	
Zinc bis(2-ethylhexanoate)	136-53-8	Estimated Bioconcentration		Log Kow	2.7	
Calcium bis(2-ethylhexanoate)	136-51-6	Transformation product Bioconcentration		Log Kow	2.7	similar to OECD 107
methyl methacrylate	80-62-6	Experimental Bioconcentration		Log Kow	1.38	OECD 107 log Kow shke flsk mtd
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
triphenyl phosphite	101-02-0	Estimated Bioconcentration		Bioaccumulation factor	13800	

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™
2-butoxyethyl acetate	112-07-2	Modeled Mobility in Soil	Koc	15 l/kg	Episuite™
Soybean oil, epoxidised	8013-07-8	Modeled Mobility in Soil	Koc	10,000,000,000 l/kg	Episuite™
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Modeled Mobility in Soil	Koc	200,000 l/kg	Episuite™
methyl methacrylate	80-62-6	Experimental Mobility in Soil	Koc	8.7-72 l/kg	
toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 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)

20 01 27* Paint, inks, adhesives and resins 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 of Marpol 73/78 and IBC Code	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	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
Hydrocarbons, C10, aromatics, >1% naphthalene	919-284-0	Carc. 2	3M classified according to the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain
methyl methacrylate	80-62-6	Gr. 3: Not classifiable	International Agency for Research on Cancer
toluene	108-88-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:
The following substance(s) contained in this product is/are subject to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

Ingredient	CAS Nbr
toluene	108-88-3

Restriction status: listed in UK REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 as amended for Great Britain for Conditions of Restriction

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional 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. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

COMAH Regulation, SI 2015/483
Seveso hazard categories, Annex 1, Part 1
None

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
cyclohexanone	108-94-1	10	50
methyl methacrylate	80-62-6	50	200

toluene	108-88-3	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

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
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:
No revision information

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.