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 5816 Elastomeric Coating

Product Identification Numbers
62-5816-7551-9

7000000948

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

Identified uses
Coating.

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 2 - Flam. Liq. 2; H225
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Carcinogenicity, Category 2 - Carc. 2; H351
Reproductive Toxicity, Category 1B - Repr. 1B; H360D
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
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) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms



Ingredient	Identifier(s)	EC No.	% by Wt
tetrahydrofuran	109-99-9	203-726-8	50 - 60
Thermoplastic Polyurethane	Trade Secret		< 12
N, N-dimethylformamide	68-12-2	200-679-5	< 10
butanone	78-93-3	201-159-0	< 10
Titanium dioxide	13463-67-7	236-675-5	< 10
Alkanes, C20-28, chloro	2097144-43-7		<= 5
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	240-920-1	< 5
antimony trioxide	1309-64-4	215-175-0	< 2
cyclohexane	110-82-7	203-806-2	< 1.5
n-hexane	110-54-3	203-777-6	<= 1
4-methylpentan-2-one	108-10-1	203-550-1	<= 1
toluene	108-88-3	203-625-9	<= 1
triethyl phosphate	78-40-0	201-114-5	<= 1

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261A	Avoid breathing vapours.
P280F	Wear respiratory protection.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:
Restricted to professional users.

14% of the mixture consists of components of unknown acute oral toxicity.
14% of the mixture consists of components of unknown acute dermal toxicity.
5% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 10% 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
tetrahydrofuran	(CAS-No.) 109-99-9 (EC-No.) 203-726-8	50 - 60	Flam. Liq. 2, H225 EUH019 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 Acute Tox. 4, H302 STOT SE 3, H336
Thermoplastic Polyurethane	Trade Secret	< 12	Substance not classified as hazardous
butanone	(CAS-No.) 78-93-3 (EC-No.) 201-159-0	< 10	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
N, N-dimethylformamide	(CAS-No.) 68-12-2 (EC-No.) 200-679-5	< 10	Acute Tox. 3, H331 Acute Tox. 4, H312 Eye Irrit. 2, H319 Repr. 1B, H360D Flam. Liq. 3, H226

			Repr. 2, H361f
Titanium dioxide	(CAS-No.) 13463-67-7 (EC-No.) 236-675-5	< 10	Substance with a national occupational exposure limit
Alkanes, C20-28, chloro	(CAS-No.) 2097144-43-7	<= 5	Substance not classified as hazardous
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	(CAS-No.) 16883-83-3 (EC-No.) 240-920-1	< 5	Substance not classified as hazardous
antimony trioxide	(CAS-No.) 1309-64-4 (EC-No.) 215-175-0	< 2	Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 3, H412
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2	< 1.5	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9	<= 1	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
triethyl phosphate	(CAS-No.) 78-40-0 (EC-No.) 201-114-5	<= 1	Acute Tox. 4, H302 Eye Irrit. 2, H319
4-methylpentan-2-one	(CAS-No.) 108-10-1 (EC-No.) 203-550-1	<= 1	Flam. Liq. 2, H225 Acute Tox. 4, H332(LC50 = 11 mg/l **ATE values per GB MCL**) Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066
n-hexane	(CAS-No.) 110-54-3 (EC-No.) 203-777-6	<= 1	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Repr. 2, H361f STOT SE 3, H336 STOT RE 1, H372 Aquatic Chronic 2, H411

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**
tetrahydrofuran	(CAS-No.) 109-99-9 (EC-No.) 203-726-8	(C >= 25%) Eye Irrit. 2, H319 (C >= 25%) STOT SE 3, H335

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:
Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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.
Oxides of antimony.	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. Avoid release to the environment. 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 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	Identifier(s)	Agency	Limit type	Additional comments
4-methylpentan-2-one	108-10-1	UK HSE	TWA:208 mg/m3(50 ppm);STEL:416 mg/m3(100 ppm)	SKIN
toluene	108-88-3	UK HSE	TWA: 191 mg/m³ (50 ppm); STEL: 384 mg/m³ (100 ppm)	SKIN
tetrahydrofuran	109-99-9	UK HSE	TWA: 150 mg/m³ (50 ppm); STEL: 300 mg/m³ (100 ppm)	SKIN
n-hexane	110-54-3	UK HSE	TWA:72 mg/m3(20 ppm)	
cyclohexane	110-82-7	UK HSE	TWA:350 mg/m³(100 ppm);STEL:1050 mg/m³(300 ppm)	
Antimony and compounds except stibine (as Sb)	1309-64-4	UK HSE	TWA(as Sb):0.5 mg/m3	
Titanium dioxide	13463-67-7	UK HSE	TWA(respirable):4 mg/m3;TWA(Inhalable):10 mg/m3	
N, N-dimethylformamide	68-12-2	UK HSE	TWA:15 mg/m3(5 ppm);STEL:30 mg/m3(10 ppm)	SKIN
butanone	78-93-3	UK HSE	TWA: 600 mg/m³ (200 ppm); STEL: 899 mg/m³ (300 ppm)	SKIN

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

Biological limit values

Ingredient	Identifier(s)	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
4-methylpentan-2-one	108-10-1	UK EH40 BMGVs	4-Methyl pentan-2-one	Urine	EOS	20 umol/L	
butanone	78-93-3	UK EH40 BMGVs	Butan-2-one	Urine	EOS	70 umol/L	

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 16321

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

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.
Colour	White
Odor	Pungent Solvent
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	66.1 ºC [*Details:*THF]
Flammability	Flammable Liquid: Category 2.
Flammable Limits(LEL)	2 % volume [*Details:*(based on THF)]
Flammable Limits(UEL)	11.8 % volume [*Details:*(based on THF)]
Flash point	-14.4 ºC [*Test Method:*Closed Cup] [*Details:*(based on THF)]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*No data available.*
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	1.017 g/ml
Relative density	1.017 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*
Particle Characteristics	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Molecular weight	*No data available.*
Percent volatile	<=81 % weight [*Test Method:*Tested per ASTM protocol]

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
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
Contact with the skin during product use is not expected to result in significant irritation. May cause additional health effects (see below).

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

Ingestion
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:
Fibrosis: Signs/symptoms may include breathlessness, chronic dry cough, phlegm production, wheezing, and changes in lung function tests. Dermal effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

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

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

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
tetrahydrofuran	Dermal	Rat	LD50 > 2,000 mg/kg
tetrahydrofuran	Inhalation-Vapour (4 hours)	Rat	LC50 54 mg/l
tetrahydrofuran	Ingestion	Rat	LD50 1,650 mg/kg
butanone	Dermal	Rabbit	LD50 > 8,050 mg/kg
butanone	Inhalation-Vapour (4 hours)	Rat	LC50 34.5 mg/l
butanone	Ingestion	Rat	LD50 2,737 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
N, N-dimethylformamide	Dermal	Rat	LD50 > 5,000 mg/kg
N, N-dimethylformamide	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.9 mg/l
N, N-dimethylformamide	Ingestion	Rat	LD50 3,010 mg/kg
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Ingestion	Rat	LD50 > 15,800 mg/kg
antimony trioxide	Dermal	Rabbit	LD50 > 6,685 mg/kg

antimony trioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.76 mg/l
antimony trioxide	Ingestion	Rat	LD50 > 34,600 mg/kg
n-hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
n-hexane	Inhalation-Vapour (4 hours)	Rat	LC50 170 mg/l
n-hexane	Ingestion	Rat	LD50 > 28,700 mg/kg
cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
cyclohexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 32.9 mg/l
cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
4-methylpentan-2-one	Dermal	Rabbit	LD50 > 16,000 mg/kg
4-methylpentan-2-one	Inhalation-Vapour (4 hours)	Rat	LC50 11 mg/l
4-methylpentan-2-one	Ingestion	Rat	LD50 3,038 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
triethyl phosphate	Dermal	Guinea pig	LD50 > 21,400 mg/kg
triethyl phosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 8.8 mg/l
triethyl phosphate	Ingestion	Rat	LD50 1,131 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
tetrahydrofuran	Rabbit	Minimal irritation
butanone	Rabbit	Minimal irritation
Titanium dioxide	Rabbit	No significant irritation
N, N-dimethylformamide	Rabbit	No significant irritation
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Rabbit	Minimal irritation
antimony trioxide	Human and animal	Minimal irritation
n-hexane	Human and animal	Mild irritant
cyclohexane	Rabbit	Mild irritant
4-methylpentan-2-one	Rabbit	Mild irritant
toluene	Rabbit	Irritant
triethyl phosphate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
tetrahydrofuran	Rabbit	Corrosive
butanone	Rabbit	Severe irritant
Titanium dioxide	Rabbit	No significant irritation
N, N-dimethylformamide	Rabbit	Severe irritant
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Rabbit	Mild irritant
antimony trioxide	Rabbit	Mild irritant
n-hexane	Rabbit	Mild irritant
cyclohexane	Rabbit	Mild irritant
4-methylpentan-2-one	Rabbit	Mild irritant
toluene	Rabbit	Moderate irritant

triethyl phosphate	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
tetrahydrofuran	Human and animal	Not classified
Titanium dioxide	Human and animal	Not classified
N, N-dimethylformamide	Multiple animal species	Not classified
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	similar compounds	Not classified
antimony trioxide	Human	Not classified
n-hexane	Human	Not classified
4-methylpentan-2-one	Guinea pig	Not classified
toluene	Guinea pig	Not classified
triethyl phosphate	Mouse	Not classified

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
tetrahydrofuran	In Vitro	Not mutagenic
tetrahydrofuran	In vivo	Not mutagenic
butanone	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
N, N-dimethylformamide	In Vitro	Not mutagenic
N, N-dimethylformamide	In vivo	Not mutagenic
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	In Vitro	Not mutagenic
antimony trioxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
antimony trioxide	In vivo	Some positive data exist, but the data are not sufficient for classification
n-hexane	In Vitro	Not mutagenic
n-hexane	In vivo	Not mutagenic
cyclohexane	In Vitro	Not mutagenic
cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
4-methylpentan-2-one	In Vitro	Not mutagenic
toluene	In Vitro	Not mutagenic
toluene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
tetrahydrofuran	Inhalation	Multiple animal species	Carcinogenic.
butanone	Inhalation	Human	Not carcinogenic
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
N, N-dimethylformamide	Ingestion	Rat	Some positive data exist, but the data are not

			sufficient for classification
N, N-dimethylformamide	Inhalation	Human and animal	Carcinogenic.
antimony trioxide	Inhalation	Multiple animal species	Carcinogenic.
n-hexane	Dermal	Mouse	Not carcinogenic
n-hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
4-methylpentan-2-one	Inhalation	Multiple animal species	Carcinogenic.
toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
tetrahydrofuran	Ingestion	Not classified for female reproduction	Rat	NOAEL 782 mg/kg/day	2 generation
tetrahydrofuran	Ingestion	Not classified for male reproduction	Rat	NOAEL 782 mg/kg/day	2 generation
tetrahydrofuran	Ingestion	Not classified for development	Rat	NOAEL 305 mg/kg/day	2 generation
tetrahydrofuran	Inhalation	Not classified for development	Mouse	NOAEL 1.8 mg/l	during gestation
butanone	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation
N, N-dimethylformamide	Ingestion	Not classified for male reproduction	Mouse	NOAEL 219 mg/kg/day	2 generation
N, N-dimethylformamide	Ingestion	Toxic to female reproduction	Mouse	NOAEL 219 mg/kg/day	2 generation
N, N-dimethylformamide	Dermal	Toxic to development	Rabbit	LOAEL 100 mg/kg/day	during organogenesis
N, N-dimethylformamide	Ingestion	Toxic to development	Rat	NOAEL 165 mg/kg/day	during organogenesis
N, N-dimethylformamide	Inhalation	Toxic to development	Rabbit	NOAEL 0.45 mg/l	during organogenesis
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	2 generation
antimony trioxide	Inhalation	Not classified for female reproduction	Rat	LOAEL 0.25 mg/l	premating & during gestation
n-hexane	Ingestion	Not classified for development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
n-hexane	Inhalation	Not classified for development	Rat	NOAEL 0.7 mg/l	during gestation
n-hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
n-hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52	28 days

				mg/l	
cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation
4-methylpentan-2-one	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-methylpentan-2-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-methylpentan-2-one	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-methylpentan-2-one	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational 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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
tetrahydrofuran	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
tetrahydrofuran	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
tetrahydrofuran	Inhalation	respiratory system	Not classified	Rabbit	NOAEL 2.9 mg/l	4 hours
tetrahydrofuran	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL 180 mg/kg	not applicable
butanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
butanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
butanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	not applicable
butanone	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable
N, N-dimethylformamide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
antimony trioxide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
n-hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
n-hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
n-hexane	Inhalation	respiratory system	Not classified	Rat	NOAEL 24.6	8 hours

					mg/l	
cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
4-methylpentan-2-one	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
4-methylpentan-2-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
4-methylpentan-2-one	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
4-methylpentan-2-one	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
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 system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
triethyl phosphate	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
tetrahydrofuran	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.6 mg/l	12 weeks
tetrahydrofuran	Inhalation	respiratory system	Not classified	Rat	NOAEL 2.9 mg/l	12 weeks
tetrahydrofuran	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.6 mg/l	105 weeks
tetrahydrofuran	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	2 weeks
butanone	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
butanone	Inhalation	liver | kidney and/or bladder | heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
butanone	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
N, N-dimethylformamide	Inhalation	liver	Some positive data exist, but the	Rat	NOAEL 0.61	90 days

			data are not sufficient for classification		mg/l	
N, N-dimethylformamide	Inhalation	heart | hematopoietic system | immune system | kidney and/or bladder | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | muscles | nervous system | eyes | respiratory system | vascular system	Not classified	Rat	NOAEL 2.43 mg/l	90 days
N, N-dimethylformamide	Ingestion	hematopoietic system | liver | heart | endocrine system | gastrointestinal tract | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 300 mg/kg/day	90 days
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	Ingestion	endocrine system | liver | hematopoietic system | nervous system | eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
antimony trioxide	Dermal	skin	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
antimony trioxide	Inhalation	pulmonary fibrosis	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.002 mg/l	1 years
antimony trioxide	Inhalation	liver	Not classified	Rat	NOAEL 0.043 mg/l	1 years
antimony trioxide	Inhalation	blood	Not classified	Rat	NOAEL 0.004 mg/l	not available
antimony trioxide	Inhalation	pneumoconiosis	Not classified	Human	LOAEL 0.01 mg/l	occupational exposure
antimony trioxide	Inhalation	heart	Not classified	Rat	NOAEL 0.02 mg/l	1 years
antimony trioxide	Ingestion	blood | liver	Not classified	Rat	NOAEL 418 mg/kg/day	not available
antimony trioxide	Ingestion	heart	Not classified	Rat	NOAEL Not available	not available
n-hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
n-hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
n-hexane	Inhalation	liver	Not classified	Rat	NOAEL Not available	6 months
n-hexane	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.76 mg/l	6 months
n-hexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 35.2 mg/l	13 weeks
n-hexane	Inhalation	auditory system | immune system | eyes	Not classified	Human	NOAEL Not available	occupational exposure
n-hexane	Inhalation	heart | skin | endocrine system	Not classified	Rat	NOAEL 1.76 mg/l	6 months
n-hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
n-hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or	Not classified	Rat	NOAEL Not available	13 weeks

		bladder				
cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
4-methylpentan-2-one	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
4-methylpentan-2-one	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
4-methylpentan-2-one	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
4-methylpentan-2-one	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
4-methylpentan-2-one	Inhalation	endocrine system | hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
4-methylpentan-2-one	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
4-methylpentan-2-one	Ingestion	endocrine system | hematopoietic system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-methylpentan-2-one	Ingestion	heart | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
toluene	Inhalation	auditory system | nervous system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
toluene	Inhalation	heart | liver | kidney and/or bladder	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	Not classified	Mouse	NOAEL 600	14 days

		system			mg/kg/day	
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

Aspiration Hazard

Name	Value
n-hexane	Aspiration hazard
cyclohexane	Aspiration hazard
4-methylpentan-2-one	Some positive data exist, but the data are not sufficient for classification
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	Identifier(s)	Organism	Type	Exposure	Test endpoint	Test result
tetrahydrofuran	109-99-9	Activated sludge	Experimental	3 hours	IC50	460 mg/l
tetrahydrofuran	109-99-9	Fathead minnow	Experimental	96 hours	LC50	2,160 mg/l
tetrahydrofuran	109-99-9	Water flea	Experimental	48 hours	LC50	3,485 mg/l
tetrahydrofuran	109-99-9	Fathead minnow	Experimental	33 days	NOEC	216 mg/l
N, N-dimethylformamide	68-12-2	Bluegill	Experimental	96 hours	LC50	7,100 mg/l
N, N-dimethylformamide	68-12-2	Green algae	Experimental	72 hours	ErC50	>1,000 mg/l
N, N-dimethylformamide	68-12-2	Water flea	Experimental	48 hours	EC50	13,100 mg/l
N, N-dimethylformamide	68-12-2	Green algae	Experimental	72 hours	ErC10	>1,000 mg/l
N, N-dimethylformamide	68-12-2	Water flea	Experimental	21 days	NOEC	>1,000
butanone	78-93-3	Fathead minnow	Experimental	96 hours	LC50	2,993 mg/l
butanone	78-93-3	Green algae	Experimental	96 hours	ErC50	2,029 mg/l
butanone	78-93-3	Water flea	Experimental	48 hours	EC50	308 mg/l
butanone	78-93-3	Green algae	Experimental	96 hours	ErC10	1,289 mg/l
butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
butanone	78-93-3	Bacteria	Experimental	16 hours	LOEC	1,150 mg/l

Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Alkanes, C20-28, chloro	2097144-43-7	Rainbow trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l
Alkanes, C20-28, chloro	2097144-43-7	Water flea	Estimated	24 hours	No tox obs at lmt of water sol	>100 mg/l
Alkanes, C20-28, chloro	2097144-43-7	Rainbow trout	Estimated	60 days	No tox obs at lmt of water sol	>100 mg/l
Alkanes, C20-28, chloro	2097144-43-7	Water flea	Estimated	21 days	No tox obs at lmt of water sol	>100 mg/l
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	Green algae	Experimental	96 hours	EC50	>100 mg/l
antimony trioxide	1309-64-4	Green algae	Endpoint not reached	72 hours	ErC50	>100 mg/l
antimony trioxide	1309-64-4	Fathead minnow	Estimated	96 hours	LC50	17.2 mg/l
antimony trioxide	1309-64-4	Fish	Estimated	96 hours	LC50	8.3 mg/l
antimony trioxide	1309-64-4	Invertebrate	Estimated	96 hours	EC50	2.12 mg/l
antimony trioxide	1309-64-4	Green algae	Estimated	72 hours	NOEC	2.53 mg/l
antimony trioxide	1309-64-4	Rainbow trout	Estimated	28 days	LC10	0.188 mg/l
antimony trioxide	1309-64-4	Water flea	Estimated	21 days	NOEC	2.08 mg/l
antimony trioxide	1309-64-4	Activated sludge	Estimated	4 hours	NOEC	6.1 mg/l
cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
n-hexane	110-54-3	Fathead minnow	Experimental	96 hours	LC50	2.5 mg/l
n-hexane	110-54-3	Water flea	Experimental	48 hours	LC50	3.9 mg/l
4-methylpentan-2-one	108-10-1	Green algae	Experimental	96 hours	EC50	400 mg/l
4-methylpentan-2-one	108-10-1	Water flea	Experimental	48 hours	EC50	>200 mg/l
4-methylpentan-2-one	108-10-1	Zebra Fish	Experimental	96 hours	LC50	>179 mg/l
4-methylpentan-2-one	108-10-1	Fathead minnow	Experimental	32 days	NOEC	56.2 mg/l
4-methylpentan-2-one	108-10-1	Water flea	Experimental	21 days	NOEC	78 mg/l
4-methylpentan-2-one	108-10-1	Activated sludge	Experimental	30 minutes	EC50	>1,000

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)
triethyl phosphate	78-40-0	Activated sludge	Experimental	5 hours	EC50	5,000 mg/l
triethyl phosphate	78-40-0	Bacteria	Experimental	30 minutes	EC10	2,985 mg/l
triethyl phosphate	78-40-0	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
triethyl phosphate	78-40-0	Green algae	Experimental	72 hours	EbC50	900 mg/l
triethyl phosphate	78-40-0	Water flea	Experimental	48 hours	EC50	350 mg/l
triethyl phosphate	78-40-0	Water flea	Experimental	21 days	NOEC	31.6 mg/l

12.2. Persistence and degradability

Material	Identifier(s)	Test type	Duration	Study Type	Test result	Protocol
tetrahydrofuran	109-99-9	Experimental Biodegradation	28 days	BOD	39 %BOD/ThOD	
N, N-dimethylformamide	68-12-2	Experimental Biodegradation	21 days	Dissolv. Organic Carbon Deplet	100 %removal of DOC	OECD 301E - Modif. OECD Screen
butanone	78-93-3	Experimental Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301D - Closed bottle test
Titanium dioxide	13463-67-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Alkanes, C20-28, chloro	2097144-43-7	Estimated Biodegradation	25 days	BOD	7.5 %BOD/ThOD	
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	Estimated Biodegradation	28 days	BOD	40 %BOD/ThOD	OECD 301F - Manometric respirometry
antimony trioxide	1309-64-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry
cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.3 days (t 1/2)	
n-hexane	110-54-3	Experimental	28 days	BOD	100 %BOD/ThOD	OECD 301C - MITI test (I)

		Bioconcentration				
n-hexane	110-54-3	Experimental Photolysis		Photolytic half-life (in air)	5.4 days (t 1/2)	
4-methylpentan-2-one	108-10-1	Experimental Biodegradation	28 days	BOD	83 %BOD/ThOD	OECD 301F - Manometric respirometry
4-methylpentan-2-one	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.3 days (t 1/2)	
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)	
triethyl phosphate	78-40-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	97 %removal of DOC	835.3200 Zhan-Wellens
triethyl phosphate	78-40-0	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
triethyl phosphate	78-40-0	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	EC C.7 Hydrolysis at pH

12.3 : Bioaccumulative potential

Material	Identifier(s)	Test type	Duration	Study Type	Test result	Protocol
tetrahydrofuran	109-99-9	Experimental Bioconcentration		Log Kow	0.45	
N, N-dimethylformamide	68-12-2	Experimental BCF - Fish	56 days	Bioaccumulation factor	1.2	OECD305-Bioconcentration
N, N-dimethylformamide	68-12-2	Experimental Bioconcentration		Log Kow	-1.01	
butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.3	OECD 117 log Kow HPLC method
Titanium dioxide	13463-67-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	9.6	
Alkanes, C20-28, chloro	2097144-43-7	Estimated BCF - Fish	60 days	Bioaccumulation factor	37.6	
Alkanes, C20-28, chloro	2097144-43-7	Estimated Bioconcentration		Log Kow	≥7.63	
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate	16883-83-3	Estimated Bioconcentration		Bioaccumulation factor	79	
antimony trioxide	1309-64-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
cyclohexane	110-82-7	Experimental Bioconcentration		Log Kow	3.44	
n-hexane	110-54-3	Modeled Bioconcentration		Bioaccumulation factor	50	Catalogic™
4-methylpentan-2-one	108-10-1	Experimental Bioconcentration		Log Kow	1.9	OECD 117 log Kow HPLC method
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
triethyl phosphate	78-40-0	Experimental BCF - Fish	42 days	Bioaccumulation factor	<1.3	OECD305-Bioconcentration

12.4. Mobility in soil

Material	Identifier(s)	Test type	Study Type	Test result	Protocol
N, N-dimethylformamide	68-12-2	Modeled Mobility in Soil	Koc	1 l/kg	Episuite™
Benzyl 3-isobutyryloxy-1-	16883-83-3	Estimated Mobility in Soil	Koc	1,300,000 l/kg	Episuite™

isopropyl-2,2-dimethylpropyl phthalate					
cyclohexane	110-82-7	Modeled Mobility in Soil	Koc	970 l/kg	Episuite™
4-methylpentan-2-one	108-10-1	Modeled Mobility in Soil	Koc	150 l/kg	Episuite™
toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 l/kg	
triethyl phosphate	78-40-0	Modeled Mobility in Soil	Koc	30 l/kg	Episuite™

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. 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)
08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 - UN Number or ID number	UN1139	UN1139	UN1139
14.2 UN proper shipping name	COATING SOLUTION	COATING SOLUTION	COATING SOLUTION
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II

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 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	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	Identifier(s)	Classification	Regulation
antimony trioxide	1309-64-4	Carc. 2	The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list
antimony trioxide	1309-64-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
N, N-dimethylformamide	68-12-2	Grp. 2A: Probable human carc.	International Agency for Research on Cancer
4-methylpentan-2-one	108-10-1	Carc. 2	The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list
4-methylpentan-2-one	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
tetrahydrofuran	109-99-9	Carc. 2	The retained CLP

			Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list
tetrahydrofuran	109-99-9	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	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	Identifier(s)
cyclohexane	110-82-7
N, N-dimethylformamide	68-12-2
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

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

Ingredient	Identifier(s)
N, N-dimethylformamide	68-12-2

Authorisation status: listed in the UK REACH Candidate List of Substances of Very High Concern for Authorisation

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

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
None

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

EUH019	May form explosive peroxides.
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.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
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 3: Composition/ Information of ingredients table information was modified.
Section 9: Vapour pressure value information was added.
Section 9: Vapour pressure value information was deleted.

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.