



Safety Data Sheet

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

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

1.1. Product identifier

3M™ Adhesion Promoter 4298UV

Product Identification Numbers

70-0706-9724-1 70-0706-9725-8

7000052028 7000002017

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

Identified uses

Automotive - Industrial/Professional use

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

CLP REGULATION (EC) No 1272/2008

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

CLASSIFICATION:

Flammable Liquid, Category 2 - Flam. Liq. 2; H225
 Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
 Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
 Skin Sensitization, Category 1A - Skin Sens. 1A; H317
 Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
 Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
 Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335
 Aspiration Hazard, Category 1 - Asp. Tox. 1; H304
 Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
 Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols

GHS02 (Flame) | GHS07 (Exclamation mark) | GHS08 (Health Hazard) | GHS09 (Environment) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
cyclohexane	110-82-7	203-806-2	45 - 50
xylene	1330-20-7	215-535-7	20 - 50
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	216-823-5	< 1
maleic anhydride	108-31-6	203-571-6	< 0.02

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system sensory organs.
H410	Very toxic 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.

P260A Do not breathe vapours.
 P273 Avoid release to the environment.
 P280E Wear protective gloves.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
 P331 Do NOT induce vomiting.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H317 May cause an allergic skin reaction.
 H304 May be fatal if swallowed and enters airways.

<=125 ml Precautionary statements**Prevention:**

P280E Wear protective gloves.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

2% of the mixture consists of components of unknown acute oral toxicity.

2% of the mixture consists of components of unknown acute dermal toxicity.

2.3. Other hazards

None known.

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]
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2 (REACH-No.) 01-2119463273-41	45 - 50	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
xylene	(CAS-No.) 1330-20-7 (EC-No.) 215-535-7 (REACH-No.) 01-2119488216-32	20 - 50	Flam. Liq. 3, H226 Acute Tox. 4, H332 Acute Tox. 4, H312 Skin Irrit. 2, H315 Nota C Asp. Tox. 1, H304 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412
ethanol	(CAS-No.) 64-17-5	5 - 10	Flam. Liq. 2, H225

	(EC-No.) 200-578-6 (REACH-No.) 01-2119457610-43		Eye Irrit. 2, H319
Acrylate polymer	Trade Secret	1 - 5	Substance not classified as hazardous
2,5-Furandione, reaction products with polypropylene, chlorinated	(CAS-No.) 68609-36-9	1 - 5	Substance not classified as hazardous
ethyl acetate	(CAS-No.) 141-78-6 (EC-No.) 205-500-4 (REACH-No.) 01-2119475103-46	< 4	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
propan-2-ol	(CAS-No.) 67-63-0 (EC-No.) 200-661-7	< 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5 (REACH-No.) 01-2119456619-26	< 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6	< 0.5	Flam. Liq. 2, H225 Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 STOT SE 1, H370
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9	< 0.3	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
cumene	(CAS-No.) 98-82-8 (EC-No.) 202-704-5	< 0.2	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H335 Aquatic Chronic 2, H411 Nota C
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6	< 0.02	EUH071 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372

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
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319
ethanol	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (REACH-No.) 01-	(C >= 50%) Eye Irrit. 2, H319

	2119457610-43	
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6	(C >= 0.001%) Skin Sens. 1A, H317
methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6	(C >= 10%) STOT SE 1, H370 (3% =< C < 10%) STOT SE 2, H371

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

Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

The most important symptoms and effects based on the CLP classification include:

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

In case of fire: Use a fire fighting agent suitable for 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

Aldehydes.
formaldehyde
Carbon monoxide
Carbon dioxide.

Condition

During combustion.
During combustion.
During combustion.
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 an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from 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
maleic anhydride	108-31-6	UK HSC	TWA: 1 mg/m ³ ; STEL: 3 mg/m ³	Respiratory Sensitizer
toluene	108-88-3	UK HSC	TWA: 191 mg/m ³ (50 ppm); STEL: 384 mg/m ³ (100 ppm)	SKIN
cyclohexane	110-82-7	UK HSC	TWA:350 mg/m ³ (100 ppm);STEL:1050 mg/m ³ (300 ppm)	
xylene	1330-20-7	UK HSC	TWA:220 mg/m ³ (50 ppm);STEL:441 mg/m ³ (100 ppm)	SKIN
ethyl acetate	141-78-6	UK HSC	TWA:734 mg/m ³ (200 ppm);STEL:1468 mg/m ³ (400 ppm)	
ethanol	64-17-5	UK HSC	TWA:1920 mg/m ³ (1000 ppm)	
methanol	67-56-1	UK HSC	TWA:266 mg/m ³ (200 ppm);STEL:333 mg/m ³ (250 ppm)	SKIN
propan-2-ol	67-63-0	UK HSC	TWA:999 mg/m ³ (400 ppm);STEL:1250 mg/m ³ (500 ppm)	
cumene	98-82-8	UK HSC	TWA:125 mg/m ³ (25 ppm);STEL:250 mg/m ³ (50 ppm)	SKIN

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
xylene	1330-20-7	UK EH40 BMGVs	Methyl hippuric acid	Creatinine in urine	EOS	650 mmol/mol	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)

EOS: End of shift.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	8.3 mg/kg bw/d
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Dermal, Short-term exposure, Systemic effects	8.3 mg/kg bw/d
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Inhalation, Long-term exposure (8 hours),	12.3 mg/m ³

ane			Systemic effects	
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Inhalation, Short-term exposure, Systemic effects	12.3 mg/m ³
cyclohexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	2,016 mg/kg bw/d
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Local effects	700 mg/m ³
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	700 mg/m ³
cyclohexane		Worker	Inhalation, Short-term exposure, Local effects	700 mg/m ³
cyclohexane		Worker	Inhalation, Short-term exposure, Systemic effects	700 mg/m ³
xylene		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	180 mg/kg bw/d
xylene		Worker	Inhalation, Long-term exposure (8 hours), Local effects	77 mg/m ³
xylene		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	77 mg/m ³
xylene		Worker	Inhalation, Short-term exposure, Local effects	289 mg/m ³
xylene		Worker	Inhalation, Short-term exposure, Systemic effects	289 mg/m ³
ethyl acetate		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	63 mg/kg bw/d
ethyl acetate		Worker	Inhalation, Long-term exposure (8 hours), Local effects	734 mg/m ³
ethyl acetate		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	734 mg/m ³
ethyl acetate		Worker	Inhalation, Short-term exposure, Local effects	1,468 mg/m ³
ethyl acetate		Worker	Inhalation, Short-term exposure, Systemic effects	1,468 mg/m ³
ethanol		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	343 mg/kg bw/d
ethanol		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	950 mg/m ³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Freshwater	0.003 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Freshwater sediments	0.5 mg/kg d.w.
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Intermittent releases to water	0.013 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Marine water	0.0003 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Marine water sediments	0.5 mg/kg d.w.
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Sewage Treatment Plant	10 mg/l
cyclohexane		Freshwater	0.207 mg/l
cyclohexane		Freshwater sediments	3.627 mg/kg d.w.
cyclohexane		Intermittent releases to water	0.207 mg/l
cyclohexane		Marine water	0.207 mg/l
xylene		Agricultural soil	2.31 mg/kg d.w.
xylene		Freshwater	0.327 mg/l
xylene		Freshwater sediments	12.46 mg/kg d.w.
xylene		Marine water	0.327 mg/l
xylene		Marine water sediments	12.46 mg/kg d.w.
xylene		Sewage Treatment Plant	6.58 mg/l
ethyl acetate		Agricultural soil	0.148 mg/kg d.w.
ethyl acetate		Concentration in freshwater fish for secondary poisoning	0.2 mg/kg w.w.
ethyl acetate		Freshwater	0.24 mg/l
ethyl acetate		Freshwater sediments	1.15 mg/kg d.w.
ethyl acetate		Intermittent releases to water	1.65 mg/l
ethyl acetate		Marine water	0.024 mg/l
ethyl acetate		Marine water sediments	0.115 mg/kg d.w.
ethyl acetate		Sewage Treatment Plant	650 mg/l
ethanol		Agricultural soil	0.63 mg/kg d.w.
ethanol		Concentration in marine fish for secondary poisoning	380 mg/kg w.w.
ethanol		Freshwater	0.96 mg/l
ethanol		Freshwater sediments	3.6 mg/kg d.w.
ethanol		Intermittent releases to water	2.75 mg/l
ethanol		Marine water	0.79 mg/l
ethanol		Marine water sediments	2.9 mg/kg d.w.
ethanol		Sewage Treatment Plant	580 mg/l

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from UK HSC

8.2. Exposure controls

In addition, refer to the annex for more information.

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:

Indirect vented goggles.

Applicable Norms/Standards

Use eye 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

Half facepiece or full facepiece supplied-air respirator

Organic vapour respirators may have short service life.

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

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136

Use a respirator conforming to EN 140 or EN 136: filter types A & P

8.2.3. Environmental exposure controls

Refer to Annex

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Liquid.
Specific Physical Form:	Liquid.
Colour	Yellow
Odor	Solvent
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>Not applicable.</i>
Boiling point/boiling range	73.1 °C [<i>Test Method:</i> Tested per ASTM protocol] [<i>Details:</i> @760mmHg]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	approximately 1 %
Flammable Limits(UEL)	11 %
Flash point	1.1 °C [<i>Test Method:</i> Setaflash]
Autoignition temperature	260 °C [<i>Test Method:</i> Estimated]
Decomposition temperature	<i>No data available.</i>
pH	approximately 5.5 Units not available or not applicable. [<i>Test Method:</i> Tested per ASTM protocol] [<i>Details:</i> @23°C]
Kinematic Viscosity	30.4878 mm ² /sec
Water solubility	approximately 10 %
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	11,092.4 Pa [<i>@ 20 °C</i>] [<i>Test Method:</i> Tested per ASTM protocol]
Density	0.8 kg/l
Relative density	0.82 [<i>Ref Std:</i> WATER=1]
Relative Vapor Density	1.7 [<i>Test Method:</i> Estimated] [<i>Ref Std:</i> AIR=1]

9.2. Other information**9.2.2 Other safety characteristics**

EU Volatile Organic Compounds	<i>No data available.</i>
Evaporation rate	approximately 6.4 [<i>Ref Std:</i> XYLENE=1] [<i>Details:</i> Calculated]
Molecular weight	<i>No data available.</i>
Percent volatile	95.2 % [<i>Details:</i> Calculated]

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

None known.

10.6 Hazardous decomposition products

Substance

Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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

Signs and Symptoms of Exposure

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

Inhalation

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

Skin contact

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

Eye contact

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

Ingestion

Chemical (aspiration) pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish coloured skin (cyanosis), and may be fatal. Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

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

Prolonged or repeated exposure may cause target organ effects:

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

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Additional information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

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 ATE2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 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
xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
xylene	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
xylene	Ingestion	Rat	LD50 3,523 mg/kg
ethanol	Dermal	Rabbit	LD50 > 15,800 mg/kg
ethanol	Inhalation-Vapour (4 hours)	Rat	LC50 124.7 mg/l
ethanol	Ingestion	Rat	LD50 17,800 mg/kg
ethyl acetate	Dermal	Rabbit	LD50 > 18,000 mg/kg
ethyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 70.5 mg/l
ethyl acetate	Ingestion	Rat	LD50 5,620 mg/kg
2,5-Furandione, reaction products with polypropylene, chlorinated	Dermal	Guinea pig	LD50 > 1,000 mg/kg
2,5-Furandione, reaction products with polypropylene, chlorinated	Ingestion	Rat	LD50 > 3,200 mg/kg
propan-2-ol	Dermal	Rabbit	LD50 12,870 mg/kg
propan-2-ol	Inhalation-Vapour (4 hours)	Rat	LC50 72.6 mg/l
propan-2-ol	Ingestion	Rat	LD50 4,710 mg/kg
methanol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
methanol	Inhalation-Vapour		LC50 estimated to be 10 - 20 mg/l
methanol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Dermal	Rat	LD50 > 1,600 mg/kg
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Ingestion	Rat	LD50 > 1,000 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
cumene	Dermal	Rabbit	LD50 > 3,160 mg/kg

cumene	Inhalation-Vapour (4 hours)	Rat	LC50 39.4 mg/l
cumene	Ingestion	Rat	LD50 1,400 mg/kg
maleic anhydride	Dermal	Rabbit	LD50 2,620 mg/kg
maleic anhydride	Ingestion	Rat	LD50 1,030 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
xylene	Rabbit	Mild irritant
ethanol	Rabbit	No significant irritation
ethyl acetate	Rabbit	Minimal irritation
2,5-Furandione, reaction products with polypropylene, chlorinated	Guinea pig	No significant irritation
propan-2-ol	Multiple animal species	No significant irritation
methanol	Rabbit	Mild irritant
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Mild irritant
toluene	Rabbit	Irritant
cumene	Rabbit	Minimal irritation
maleic anhydride	Human and animal	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
xylene	Rabbit	Mild irritant
ethanol	Rabbit	Severe irritant
ethyl acetate	Rabbit	Mild irritant
2,5-Furandione, reaction products with polypropylene, chlorinated	Professional judgement	Mild irritant
propan-2-ol	Rabbit	Severe irritant
methanol	Rabbit	Moderate irritant
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Moderate irritant
toluene	Rabbit	Moderate irritant
cumene	Rabbit	Mild irritant
maleic anhydride	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
ethanol	Human	Not classified
ethyl acetate	Guinea pig	Not classified
propan-2-ol	Guinea pig	Not classified
methanol	Guinea pig	Not classified
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Human and animal	Sensitising
toluene	Guinea pig	Not classified
cumene	Guinea pig	Not classified

maleic anhydride	Multiple animal species	Sensitising
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Respiratory Sensitisation

Name	Species	Value
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Human	Not classified
maleic anhydride	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
cyclohexane	In Vitro	Not mutagenic
cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
xylene	In Vitro	Not mutagenic
xylene	In vivo	Not mutagenic
ethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
ethanol	In vivo	Some positive data exist, but the data are not sufficient for classification
ethyl acetate	In Vitro	Not mutagenic
ethyl acetate	In vivo	Not mutagenic
propan-2-ol	In Vitro	Not mutagenic
propan-2-ol	In vivo	Not mutagenic
methanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
methanol	In vivo	Some positive data exist, but the data are not sufficient for classification
bis-[4-(2,3-epoxypropoxy)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxypropoxy)phenyl]propane	In Vitro	Some positive data exist, but the data are not sufficient for classification
toluene	In Vitro	Not mutagenic
toluene	In vivo	Not mutagenic
cumene	In Vitro	Not mutagenic
cumene	In vivo	Not mutagenic
maleic anhydride	In vivo	Not mutagenic
maleic anhydride	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
xylene	Dermal	Rat	Not carcinogenic
xylene	Ingestion	Multiple animal species	Not carcinogenic
xylene	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
propan-2-ol	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
methanol	Inhalation	Multiple animal species	Not carcinogenic
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
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
cumene	Inhalation	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
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
xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
ethanol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
ethanol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	prematuring & during gestation
propan-2-ol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis
propan-2-ol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation
methanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,600 mg/kg/day	21 days
methanol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
methanol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
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
cumene	Inhalation	Not classified for development	Rabbit	NOAEL 11.3 mg/l	during organogenesis
maleic anhydride	Ingestion	Not classified for female reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
maleic anhydride	Ingestion	Not classified for male reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
maleic anhydride	Ingestion	Not classified for development	Rat	NOAEL 140 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
xylene	Ingestion	Mouse	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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	
xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
xylene	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
ethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
ethanol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
ethanol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
ethyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ethyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
ethyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
propan-2-ol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
propan-2-ol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
propan-2-ol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
propan-2-ol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
methanol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
methanol	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	not available

		system depression	dizziness		available	
methanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
methanol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
methanol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
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
cumene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
cumene	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 0.2 mg/l	occupational exposure
cumene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
maleic anhydride	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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
xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
xylene	Inhalation	heart endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
xylene	Ingestion	heart skin endocrine system	Not classified	Mouse	NOAEL 1,000	103 weeks

		bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system			mg/kg/day	
ethanol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
ethanol	Inhalation	hematopoietic system immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
ethanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
ethyl acetate	Inhalation	endocrine system liver nervous system	Not classified	Rat	NOAEL 0.043 mg/l	90 days
ethyl acetate	Inhalation	hematopoietic system	Not classified	Rabbit	LOAEL 16 mg/l	40 days
ethyl acetate	Ingestion	hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 3,600 mg/kg/day	90 days
propan-2-ol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
propan-2-ol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
propan-2-ol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks
methanol	Inhalation	liver	Not classified	Rat	NOAEL 6.55 mg/l	4 weeks
methanol	Inhalation	respiratory system	Not classified	Rat	NOAEL 13.1 mg/l	6 weeks
methanol	Ingestion	liver nervous system	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 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	20 days

					available	
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
cumene	Inhalation	auditory system endocrine system hematopoietic system liver nervous system eyes	Not classified	Rat	NOAEL 59 mg/l	13 weeks
cumene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4.9 mg/l	13 weeks
cumene	Inhalation	respiratory system	Not classified	Rat	NOAEL 59 mg/l	13 weeks
cumene	Ingestion	kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system	Not classified	Rat	NOAEL 769 mg/kg/day	6 months
maleic anhydride	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.0011 mg/l	6 months
maleic anhydride	Inhalation	endocrine system hematopoietic system nervous system kidney and/or bladder heart liver eyes	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
maleic anhydride	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 55 mg/kg/day	80 days
maleic anhydride	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 250 mg/kg/day	183 days
maleic anhydride	Ingestion	heart nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	183 days
maleic anhydride	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
maleic anhydride	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 60 mg/kg/day	90 days
maleic anhydride	Ingestion	skin endocrine system immune system eyes respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days

Aspiration Hazard

Name	Value
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cyclohexane	Aspiration hazard
xylene	Aspiration hazard
toluene	Aspiration hazard
cumene	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 EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 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
xylene	1330-20-7	Activated sludge	Estimated	3 hours	NOEC	157 mg/l
xylene	1330-20-7	Green Algae	Estimated	72 hours	EC50	4.36 mg/l
xylene	1330-20-7	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
xylene	1330-20-7	Water flea	Estimated	48 hours	EC50	3.82 mg/l
xylene	1330-20-7	Green Algae	Estimated	72 hours	NOEC	0.44 mg/l
xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 mg/l
xylene	1330-20-7	Rainbow trout	Experimental	56 days	NOEC	>1.3 mg/l
ethanol	64-17-5	Fathead minnow	Experimental	96 hours	LC50	14,200 mg/l
ethanol	64-17-5	Fish other	Experimental	96 hours	LC50	11,000 mg/l
ethanol	64-17-5	Green algae	Experimental	72 hours	EC50	275 mg/l
ethanol	64-17-5	Water flea	Experimental	48 hours	LC50	5,012 mg/l
ethanol	64-17-5	Green algae	Experimental	72 hours	ErC10	11.5 mg/l
ethanol	64-17-5	Water flea	Experimental	10 days	NOEC	9.6 mg/l
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9		Data not available or insufficient for classification			N/A
Acrylate polymer	Trade Secret		Data not available or insufficient for			N/A

			classification			
ethyl acetate	141-78-6	Bacteria	Experimental	18 hours	EC10	2,900 mg/l
ethyl acetate	141-78-6	Crustacea	Experimental	48 hours	EC50	165 mg/l
ethyl acetate	141-78-6	Fish	Experimental	96 hours	LC50	212.5 mg/l
ethyl acetate	141-78-6	Green Algae	Experimental	72 hours	NOEC	100 mg/l
ethyl acetate	141-78-6	Water flea	Experimental	21 days	NOEC	2.4 mg/l
propan-2-ol	67-63-0	Bacteria	Experimental	16 hours	LOEC	1,050 mg/l
propan-2-ol	67-63-0	Crustacea	Experimental	24 hours	LC50	>10,000 mg/l
propan-2-ol	67-63-0	Green Algae	Experimental	72 hours	EC50	>1,000 mg/l
propan-2-ol	67-63-0	Medaka	Experimental	96 hours	LC50	>100 mg/l
propan-2-ol	67-63-0	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
propan-2-ol	67-63-0	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
propan-2-ol	67-63-0	Water flea	Experimental	21 days	NOEC	100 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green Algae	Experimental	72 hours	EC50	>11 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
methanol	67-56-1	Activated sludge	Experimental	3 hours	IC50	>1,000 mg/l
methanol	67-56-1	Algae or other aquatic plants	Experimental	96 hours	EC50	16.9 mg/l
methanol	67-56-1	Bluegill	Experimental	96 hours	LC50	15,400 mg/l
methanol	67-56-1	Green Algae	Experimental	96 hours	EC50	22,000 mg/l
methanol	67-56-1	Water flea	Experimental	24 hours	EC50	20,803 mg/l
methanol	67-56-1	Algae or other aquatic plants	Experimental	96 hours	NOEC	9.96 mg/l
methanol	67-56-1	Water flea	Experimental	21 days	NOEC	122 mg/l
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)
cumene	98-82-8	Activated sludge	Experimental	3 hours	EC10	>2,000 mg/l
cumene	98-82-8	Green algae	Experimental	72 hours	EC50	2.6 mg/l
cumene	98-82-8	Mysid Shrimp	Experimental	96 hours	EC50	1.2 mg/l
cumene	98-82-8	Rainbow trout	Experimental	96 hours	LC50	2.7 mg/l
cumene	98-82-8	Water flea	Experimental	48 hours	EC50	2.14 mg/l
cumene	98-82-8	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
cumene	98-82-8	Water flea	Experimental	21 days	NOEC	0.35 mg/l
maleic anhydride	108-31-6	Green algae	Estimated	72 hours	EC50	74.4 mg/l
maleic anhydride	108-31-6	Water flea	Estimated	48 hours	EC50	93.8 mg/l
maleic anhydride	108-31-6	Bacteria	Experimental	18 hours	EC10	44.6 mg/l
maleic anhydride	108-31-6	Rainbow trout	Experimental	96 hours	LC50	75 mg/l
maleic anhydride	108-31-6	Green algae	Estimated	72 hours	EC10	11.8 mg/l
maleic anhydride	108-31-6	Water flea	Experimental	21 days	NOEC	10 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	Non-standard method
cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 % BOD/ThBOD	OECD 301F - Manometric respirometry
xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	
xylene	1330-20-7	Experimental Biodegradation	28 days	BOD	90-98 % BOD/ThBOD	OECD 301F - Manometric respirometry
ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 % BOD/ThBOD	OECD 301C - MITI test (I)
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	Data not available			n/a	
Acrylate polymer	Trade Secret	Data not available			N/A	
ethyl acetate	141-78-6	Experimental		Photolytic half-life	20.0 days (t	Non-standard method

		Photolysis		(in air)	1/2)	
ethyl acetate	141-78-6	Experimental Biodegradation	14 days	BOD	94 % BOD/ThBOD	OECD 301C - MITI test (I)
propan-2-ol	67-63-0	Experimental Biodegradation	14 days	BOD	86 % BOD/ThBOD	OECD 301C - MITI test (I)
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
methanol	67-56-1	Experimental Biodegradation	14 days	BOD	92 % BOD/ThBOD	OECD 301C - MITI test (I)
toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 % BOD/ThBOD	APHA Std Meth Water/Wastewater
cumene	98-82-8	Experimental Photolysis		Photolytic half-life (in air)	4.5 days (t 1/2)	Non-standard method
cumene	98-82-8	Experimental Biodegradation	14 days	BOD	33 % BOD/ThBOD	OECD 301C - MITI test (I)
maleic anhydride	108-31-6	Experimental Hydrolysis		Hydrolytic half-life	22 seconds (t 1/2)	Non-standard method
maleic anhydride	108-31-6	Estimated Biodegradation	25 days	CO2 evolution	>90 % weight	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
cyclohexane	110-82-7	Experimental BCF-Carp	56 days	Bioaccumulation factor	129	OECD 305E - Bioaccumulation flow-through fish test
xylene	1330-20-7	Experimental BCF - Rainbow Trout	56 days	Bioaccumulation factor	25.9	
ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.35	Non-standard method
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Acrylate polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ethyl acetate	141-78-6	Experimental Bioconcentration		Log Kow	0.68	Non-standard method
propan-2-ol	67-63-0	Experimental Bioconcentration		Log Kow	0.05	Non-standard method
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Bioconcentration		Log Kow	3.242	Non-standard method
methanol	67-56-1	Experimental Bioconcentration		Log Kow	-0.77	Non-standard method
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
cumene	98-82-8	Estimated Bioconcentration		Bioaccumulation factor	140	Non-standard method
maleic anhydride	108-31-6	Experimental Bioconcentration		Log Kow	-2.61	Non-standard method

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
toluene	108-88-3	Experimental Mobility in Soil	Koc	37 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. Endocrine disrupting properties

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

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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)

070104* Other organic solvents, washing liquids and mother liquors

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number	UN1993	UN1993	UN1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S.(CYCLOHEXANE; XYLENE)	FLAMMABLE LIQUID, N.O.S.(CYCLOHEXANE; XYLENE)	FLAMMABLE LIQUID, N.O.S.(CYCLOHEXANE; XYLENE)
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 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 Tunnel Code	(E)	Not applicable.	Not applicable.
ADR Classification Code	F1	Not applicable.	Not applicable.
ADR Transport Category	2	Not applicable.	Not applicable.
ADR Multiplier	0	0	0
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

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Gr. 3: Not classifiable	International Agency for Research on Cancer
cumene	98-82-8	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
xylene	1330-20-7	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 through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

<u>Ingredient</u>	<u>CAS Nbr</u>
cyclohexane	110-82-7
methanol	67-56-1
toluene	108-88-3

Restriction status: listed in REACH Annex XVII

Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

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.

15.2. Chemical Safety Assessment

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

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system sensory organs.
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: All Properties information was deleted.

Section 14 Multiplier – Regulation Data information was modified.

Annex

1. Title	
Substance identification	bis-[4-(2,3-epoxipropoxy)phenyl]propane; EC No. 216-823-5; CAS Nbr 1675-54-3;
Exposure Scenario Name	Industrial Use of Adhesives
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 05 -Use at industrial site leading to inclusion into/onto article
Processes, tasks and activities covered	Application of product with a roller or brush. Screw adhesive application. Spraying of substances/mixtures.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Duration of use: 8 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.; Environmental: None needed; ; The following task-specific risk management measures apply in addition to those listed above: Task: PROC07; Human Health; Provide extract ventilation to points where emissions occur; Half-facepiece air-purifying respirator; Task: PROC10; Human Health; Provide extract ventilation to points where emissions occur;
Waste management measures	Do not apply industrial sludge to natural soils; Prevent discharge of undissolved substance to or recover from wastewater; Prevent leaks and prevent soil / water pollution caused by leaks; Sludge should be incinerated, contained or reclaimed;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Industrial Use of Coatings
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities

	PROC 10 -Roller application or brushing ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product. Spraying of substances/mixtures. Transfers with dedicated controls, including loading, filling, dumping, bagging. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Indoor use; Task: Spraying; Indoor use with Local Exhaust Ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: None needed; Environmental: None needed; ; The following task-specific risk management measures apply in addition to those listed above: Task: Spraying; Human Health; Half-facepiece air-purifying respirator; Task: Transferring Material; Human Health; Provide extract ventilation to points where emissions occur;
Waste management measures	Incinerate in a permitted hazardous waste incinerator;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Industrial Use of Coatings
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product through a mixing nozzle Application of product with a roller or brush. Application of product with applicator gun. Spraying of substances/mixtures. Transfers with dedicated controls, including loading, filling, dumping, bagging. Transfers without dedicated controls, including loading, filling, dumping, bagging.

2. Operational conditions and risk management measures	
Operating Conditions	<p>Physical state:Liquid.</p> <p>General operating conditions: Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day;</p> <p>Task: PROC07; Indoors with good general ventilation;</p>
Risk management measures	<p>Under the operational conditions described above the following risk management measures apply:</p> <p>General risk management measures:</p> <p>Human health: None needed;</p> <p>Environmental: None needed;</p> <p>;</p> <p>The following task-specific risk management measures apply in addition to those listed above:</p> <p>Task: PROC08a; Human Health; Provide extract ventilation to points where emissions occur;</p> <p>Task: PROC08b; Human Health; Provide extract ventilation to points where emissions occur;</p> <p>Task: PROC10; Human Health; Provide extract ventilation to points where emissions occur;</p>
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	bis-[4-(2,3-epoxipropoxy)phenyl]propane; EC No. 216-823-5; CAS Nbr 1675-54-3;
Exposure Scenario Name	Professional Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying PROC 13 -Treatment of articles by dipping and pouring ERC 08c -Widespread use leading to inclusion into/onto article (indoor)
Processes, tasks and activities covered	Application of product with a roller or brush. Screw adhesive application. Spraying of substances/mixtures. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	<p>Physical state:Liquid.</p> <p>General operating conditions: Duration of use: 8 hours/day;</p>
Risk management measures	<p>Under the operational conditions described above the following risk management measures apply:</p> <p>General risk management measures:</p> <p>Human health: Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’</p>

	employee training. Refer to Section 8 of the SDS for specific glove material.; Environmental: None needed; ; The following task-specific risk management measures apply in addition to those listed above: Task: PROC11; Human Health; Air-purifying Full-Face (with gas/vapour cartridge, that can be combined with a particulate filter);
Waste management measures	Prevent discharge of undissolved substance to or recover from wastewater; Prevent leaks and prevent soil / water pollution caused by leaks;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Application of product with a roller or brush. Application of product with applicator gun. Application of product. Spraying of substances/mixtures.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Indoors with good general ventilation; Task: Spraying; Outdoor use;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: None needed; Environmental: None needed; ; The following task-specific risk management measures apply in addition to those listed above: Task: Spraying; Human Health; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.;
Waste management measures	Incinerate in a permitted hazardous waste incinerator;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	ethanol; EC No. 200-578-6; CAS Nbr 64-17-5;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Spraying of substances/mixtures. Transfer of substances/mixtures into small containers e.g. tubes , bottles or small reservoirs. Transfers with dedicated controls, including loading, filling, dumping, bagging. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Assumes use at not more than 20°C above ambient temperature; Continuous release; Duration of use: 8 hours/day; Indoor use; Task: Spraying: Indoors with good general ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: Goggles - Chemical resistant; Environmental: Air abatement; ; The following task-specific risk management measures apply in addition to those listed above: Task: Spraying; Human Health; Protective clothing / Wear suitable protective clothing; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.;
Waste management measures	Do not release directly to waterways; Incinerate in a permitted hazardous waste incinerator; Send to a municipal sewage treatment plant;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2;

	CAS Nbr 110-82-7;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying PROC 13 -Treatment of articles by dipping and pouring ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Application of product with a roller or brush. Application of product with applicator gun. Spraying of substances/mixtures.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Indoor use; Outdoor use; Task: PROC10; Indoors with good general ventilation; Task: Indoor spraying; Handle substance within a predominantly closed system provided with extract ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: None needed; Environmental: None needed; ; The following task-specific risk management measures apply in addition to those listed above: Task: PROC10; Human Health; Air-purifying Half-Mask (with gas/vapour-cartridge, that can be combined with a particulate filter) (APF 10); Task: PROC11; Human Health; Air-purifying Half-Mask (with gas/vapour-cartridge, that can be combined with a particulate filter) (APF 10); Task: PROC13; Human Health; Provide extract ventilation to points where emissions occur;
Waste management measures	Send to a municipal sewage treatment plant;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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