



## 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

Primer 94

#### Product Identification Numbers

UU-0116-8146-5      UU-0116-8429-5      UU-0116-8430-3

7100269414      7100269257      7100269256

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

##### Identified uses

Surface Primer

#### 1.3. Details of the supplier of the safety data sheet

**Address:** 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.  
**Telephone:** +353 1 280 3555  
**E Mail:** tox.uk@mmm.com  
**Website:** www.3M.com

#### 1.4. Emergency telephone number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

### 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  
 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	40 - 60
Reaction mass of ethylbenzene and xylene		905-588-0	20 - 50

#### HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
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.

##### Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

P331 present and easy to do. Continue rinsing.  
Do NOT induce vomiting.

#### SUPPLEMENTAL INFORMATION:

##### Supplemental Hazard Statements:

EUH205 Contains epoxy constituents. May produce an allergic reaction.

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.

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]
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2 (REACH-No.) 01-2119463273-41	40 - 60	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
Reaction mass of ethylbenzene and xylene	(EC-No.) 905-588-0	20 - 50	Acute Tox. 4, H332 Acute Tox. 4, H312 Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373
2,5-Furandione, reaction products with polypropylene, chlorinated	(CAS-No.) 68609-36-9	1 - 10	Substance not classified as hazardous
ethanol	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (REACH-No.) 01-2119457610-43	5 - 9	Flam. Liq. 2, H225 Eye Irrit. 2, H319
ethyl acetate	(CAS-No.) 141-78-6 (EC-No.) 205-500-4 (REACH-No.) 01-2119475103-46	1 - 5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
Acrylate Polymer	Trade Secret	1 - 3	Substance not classified as hazardous
2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	(CAS-No.) 3388-04-3 (EC-No.) 222-217-1	< 0.5	Aquatic Chronic 3, H412 Skin Sens. 1, H317

bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	< 0.5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
chlorobenzene	(CAS-No.) 108-90-7 (EC-No.) 203-628-5	< 0.2	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Aquatic Chronic 2, H411 Aquatic Acute 1, H400,M=1
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9	< 0.2	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.

Please see section 16 for the full text of any H statements referred to in this section

### Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
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.) 01-2119457610-43	(C >= 50%) Eye Irrit. 2, H319

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

#### Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

#### Eye contact

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

#### If swallowed

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). 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

Hydrocarbons.  
Carbon monoxide  
Carbon dioxide.  
Hydrogen Chloride  
Toxic vapour, gas, particulate.

#### Condition

During combustion.  
During combustion.  
During combustion.  
During combustion.  
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. When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, tunic and trousers (leggings), 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. 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

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 strong bases. Store away from oxidising agents.

### 7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
toluene	108-88-3	Ireland OELs	TWA(8 hours):192 mg/m <sup>3</sup> (50 ppm);TWA(8 hours):50 ppm(192 mg/m <sup>3</sup> );STEL(15 minutes):384 mg/m <sup>3</sup> (100 ppm);STEL(15 minutes):100 ppm(384 mg/m <sup>3</sup> )	SKIN
chlorobenzene	108-90-7	Ireland OELs	TWA(As monochlorobenzene)(8 hours):5 ppm(23 mg/m <sup>3</sup> );TWA(8 hours):23 mg/m <sup>3</sup> (5 ppm);STEL(As monochlorobenzene)(15 minutes):15 ppm(70 mg/m <sup>3</sup> );STEL(15 minutes):70 mg/m <sup>3</sup> (15 ppm)	as monochlorobenzene
cyclohexane	110-82-7	Ireland OELs	TWA(8 hours):700 mg/m <sup>3</sup> (200 ppm);TWA(8 hours):200 ppm(700 mg/m <sup>3</sup> )	
ethyl acetate	141-78-6	Ireland OELs	TWA(8 hours):734 mg/m <sup>3</sup> (200 ppm);TWA(8 hours):200 ppm(734 mg/m <sup>3</sup> );STEL(15 minutes):1468 mg/m <sup>3</sup> (400 ppm)	

ethanol	64-17-5	Ireland OELs	ppm);STEL(15 minutes):400 ppm(1468 mg/m3) STEL(15 minutes):1000 ppm
Ireland OELs : Ireland. OELs			
TWA: Time-Weighted-Average			
STEL: Short Term Exposure Limit			
CEIL: Ceiling			

**Biological limit values**

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

**Recommended monitoring procedures:**Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

**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:

Safety glasses with side shields.

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:

<b>Material</b>	<b>Thickness (mm)</b>	<b>Breakthrough Time</b>
Polymer laminate	>0.3	> 4 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

*Applicable Norms/Standards*

Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part

of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

#### *Applicable Norms/Standards*

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Specific Physical Form:</b>	Liquid.
<b>Colour</b>	Yellow
<b>Odor</b>	Solvent
<b>Odour threshold</b>	<i>No data available.</i>
<b>Melting point/freezing point</b>	<i>Not applicable.</i>
<b>Boiling point/boiling range</b>	$\geq 76.7$ °C
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	1 %
<b>Flammable Limits(UEL)</b>	11 %
<b>Flash point</b>	-14 °C [ <i>Test Method: Closed Cup</i> ]
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>pH</b>	<i>substance/mixture is non-soluble (in water)</i>
<b>Kinematic Viscosity</b>	36.6 mm <sup>2</sup> /sec
<b>Water solubility</b>	Negligible
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Vapour pressure</b>	$\leq 10,399.1$ Pa [ <i>@ 20 °C</i> ]
<b>Density</b>	0.82 g/ml
<b>Relative density</b>	0.82 [ <i>Ref Std: WATER=1</i> ]
<b>Relative Vapour Density</b>	<i>No data available.</i>

### 9.2. Other information

#### 9.2.2 Other safety characteristics

<b>EU Volatile Organic Compounds</b>	<i>No data available.</i>
<b>Evaporation rate</b>	<i>No data available.</i>
<b>Percent volatile</b>	approximately 97 %

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

Sparks and/or flames.  
Heat.

### 10.5 Incompatible materials

Strong oxidising agents.  
Strong acids.  
Strong bases.

### 10.6 Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not 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.

#### 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 ATE >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >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
Reaction mass of ethylbenzene and xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Reaction mass of ethylbenzene and xylene	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
Reaction mass of ethylbenzene and xylene	Ingestion	Rat	LD50 3,523 mg/kg
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
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
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-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	Dermal	Rabbit	LD50 6,700 mg/kg
2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	Inhalation-Vapour (4 hours)	Rat	LC50 > 7 mg/l
2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	Ingestion	Rat	LD50 13,100 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

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toluene	Ingestion	Rat	LD50 5,550 mg/kg
chlorobenzene	Dermal	Rabbit	LD50 2,212 mg/kg
chlorobenzene	Inhalation-Vapour (4 hours)	Rat	LC50 16.7 mg/l
chlorobenzene	Ingestion	Rat	LD50 1,419 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
Reaction mass of ethylbenzene and xylene	Rabbit	Mild irritant
ethanol	Rabbit	No significant irritation
2,5-Furandione, reaction products with polypropylene, chlorinated	Guinea pig	No significant irritation
ethyl acetate	Rabbit	Minimal irritation
2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane	Rabbit	Minimal irritation
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Rabbit	Mild irritant
toluene	Rabbit	Irritant
chlorobenzene	Rabbit	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
Reaction mass of ethylbenzene and xylene	Rabbit	Mild irritant
ethanol	Rabbit	Severe irritant
2,5-Furandione, reaction products with polypropylene, chlorinated	Professional judgement	Mild irritant
ethyl acetate	Rabbit	Mild irritant
2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane	Rabbit	No significant irritation
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Rabbit	Moderate irritant
toluene	Rabbit	Moderate irritant
chlorobenzene	Rabbit	Mild irritant

**Skin Sensitisation**

Name	Species	Value
ethanol	Human	Not classified
ethyl acetate	Guinea pig	Not classified
2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane	similar compounds	Sensitising
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Human and animal	Sensitising
toluene	Guinea pig	Not classified
chlorobenzene	Multiple animal species	Not classified

**Respiratory Sensitisation**

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

**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
Reaction mass of ethylbenzene and xylene	In Vitro	Not mutagenic
Reaction mass of ethylbenzene and 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
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification
bis-[4-(2,3-epoxipropoxy)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxipropoxy)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
chlorobenzene	In Vitro	Not mutagenic

### Carcinogenicity

Name	Route	Species	Value
Reaction mass of ethylbenzene and xylene	Dermal	Rat	Not carcinogenic
Reaction mass of ethylbenzene and xylene	Ingestion	Multiple animal species	Not carcinogenic
Reaction mass of ethylbenzene and xylene	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
bis-[4-(2,3-epoxipropoxy)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
chlorobenzene	Ingestion	Multiple animal species	Not 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
Reaction mass of ethylbenzene and xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Reaction mass of ethylbenzene and xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Reaction mass of ethylbenzene and xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation

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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
2-(3,4-Epoxy)cyclohexyl)ethyltrimethoxysilane	Ingestion	Not classified for development	Rabbit	NOAEL 0.27 mg/kg/day	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
chlorobenzene	Inhalation	Not classified for female reproduction	Rat	NOAEL 2.07 mg/l	2 generation
chlorobenzene	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	during organogenesis
chlorobenzene	Inhalation	Not classified for development	Rat	NOAEL 2.07 mg/l	2 generation
chlorobenzene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.07 mg/l	2 generation

**Lactation**

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

**Target Organ(s)**
**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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	
Reaction mass of ethylbenzene and xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Reaction mass of ethylbenzene and xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
Reaction mass of ethylbenzene and xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal	NOAEL Not available	

				species		
Reaction mass of ethylbenzene and 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	
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
chlorobenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
chlorobenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

**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
Reaction mass of ethylbenzene and xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
Reaction mass of ethylbenzene and xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Reaction mass of ethylbenzene and xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Inhalation	heart   endocrine system   gastrointestinal tract   hematopoietic system   muscles   kidney and/or bladder   respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Reaction mass of ethylbenzene and xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks

Reaction mass of ethylbenzene and xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Reaction mass of ethylbenzene and xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Reaction mass of ethylbenzene and xylene	Ingestion	heart   skin   endocrine system   bone, teeth, nails, and/or hair   hematopoietic system   immune system   nervous system   respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
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
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   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	NOAEL 11.3	15 weeks

				animal species	mg/l	
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
chlorobenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.69 mg/l	2 generation
chlorobenzene	Inhalation	liver	Not classified	Rat	NOAEL 2.1 mg/l	2 generation
chlorobenzene	Inhalation	blood	Not classified	Rat	NOAEL 0.35 mg/l	24 weeks
chlorobenzene	Ingestion	bone marrow	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	13 weeks
chlorobenzene	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 188 mg/kg/day	192 days
chlorobenzene	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 125 mg/kg/day	13 weeks
chlorobenzene	Ingestion	immune system	Not classified	Rat	NOAEL 750 mg/kg/day	13 weeks

**Aspiration Hazard**

Name	Value
cyclohexane	Aspiration hazard
Reaction mass of ethylbenzene and xylene	Aspiration hazard
toluene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**11.2. Information on other hazards**

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

**SECTION 12: Ecological information**

The information below may not agree with the 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
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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
Reaction mass of ethylbenzene and xylene	905-588-0	Green algae	Estimated	73 hours	EC50	1.3 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Water flea	Estimated	24 hours	IC50	1 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Green algae	Estimated	73 hours	NOEC	0.44 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Reaction mass of ethylbenzene and xylene	905-588-0	Water flea	Estimated	7 days	NOEC	0.96 mg/l
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
ethanol	64-17-5	Fathead minnow	Experimental	96 hours	LC50	14,200 mg/l
ethanol	64-17-5	Fish	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
ethyl acetate	141-78-6	Bacteria	Experimental	18 hours	EC10	2,900 mg/l
ethyl acetate	141-78-6	Fish	Experimental	96 hours	LC50	212.5 mg/l
ethyl acetate	141-78-6	Invertebrate	Experimental	48 hours	EC50	165 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
Acrylate Polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Activated sludge	Estimated	30 minutes	IC50	>100 mg/l
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Green algae	Estimated	72 hours	EC50	280 mg/l
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Rainbow trout	Estimated	96 hours	LC50	180 mg/l
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Water flea	Estimated	48 hours	EC50	20 mg/l
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Green algae	Estimated	72 hours	NOEC	1 mg/l

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bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Activated sludge	Analogous Compound	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	ErC50	>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
chlorobenzene	108-90-7	Bluegill	Experimental	96 hours	LC50	4.5 mg/l
chlorobenzene	108-90-7	Green algae	Experimental	72 hours	ErC50	11.4 mg/l
chlorobenzene	108-90-7	Midge	Experimental	96 hours	NOEC	0.7 mg/l
chlorobenzene	108-90-7	Water flea	Experimental	48 hours	EC50	0.59 mg/l
chlorobenzene	108-90-7	Green algae	Experimental	72 hours	ErC10	5.8 mg/l
chlorobenzene	108-90-7	Medaka	Experimental	43 days	NOEC	0.247 mg/l
chlorobenzene	108-90-7	Water flea	Experimental	8 days	NOEC	0.084 mg/l
chlorobenzene	108-90-7	Bacteria	Experimental	24 hours	IC50	0.71 mg/l
chlorobenzene	108-90-7	Lettuce	Experimental	14 days	EC50	>1,000 mg/kg (Dry Weight)
toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
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)	4.1 days (t 1/2)	
Reaction mass of ethylbenzene and xylene	905-588-0	Experimental Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301F - Manometric respirometry
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	Data not available or insufficient	N/A	N/A	N/A	N/A
ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 %BOD/ThOD	OECD 301C - MITI test (I)
ethyl acetate	141-78-6	Experimental Biodegradation	14 days	BOD	94 %BOD/ThOD	OECD 301C - MITI test (I)
ethyl acetate	141-78-6	Experimental Photolysis		Photolytic half-life (in air)	20.0 days (t 1/2)	
Acrylate Polymer	Trade Secret	Data not available or insufficient	N/A	N/A	N/A	N/A
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Estimated Biodegradation	28 days	BOD	28 %BOD/ThOD	OECD 301D - Closed bottle test
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Estimated Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	117 hours (t 1/2)	OECD 111 Hydrolysis function of pH
chlorobenzene	108-90-7	Experimental Biodegradation	28 days	BOD	15 %BOD/ThOD	OECD 301F - Manometric respirometry
chlorobenzene	108-90-7	Experimental Photolysis		Photolytic half-life (in air)	42 days (t 1/2)	
chlorobenzene	108-90-7	Experimental Biodegradation		Half-life (t 1/2)	46.2 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)	

### 12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
cyclohexane	110-82-7	Experimental Bioconcentration		Log Kow	3.44	
Reaction mass of ethylbenzene and xylene	905-588-0	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
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
ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.35	
ethyl acetate	141-78-6	Experimental Bioconcentration		Log Kow	0.68	
Acrylate Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-(3,4-Epoxy)cyclohexylethyltrimethoxysilane	3388-04-3	Estimated Bioconcentration		Bioaccumulation factor	2.3	
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Experimental Bioconcentration		Log Kow	3.242	OECD 117 log Kow HPLC method

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chlorobenzene	108-90-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	39.6	OECD305-Bioconcentration
chlorobenzene	108-90-7	Experimental Bioconcentration		Log Kow	2.84	
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	

**12.4. Mobility in soil**

Material	Cas No.	Test type	Study Type	Test result	Protocol
cyclohexane	110-82-7	Modeled Mobility in Soil	Koc	770 l/kg	
2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	3388-04-3	Estimated Mobility in Soil	Koc	20 l/kg	Episuite™
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Modeled Mobility in Soil	Koc	450 l/kg	Episuite™
chlorobenzene	108-90-7	Experimental Mobility in Soil	Koc	140 l/kg	
toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 l/kg	

**12.5. Results of the PBT and vPvB assessment**

This material does not contain any substances that are assessed to be a PBT or vPvB

**12.6. 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
- 14 06 03\* Other solvents and solvent mixtures

**SECTION 14: Transportation information**

	<b>Ground Transport (ADR)</b>	<b>Air Transport (IATA)</b>	<b>Marine Transport (IMDG)</b>
<b>14.1 UN number or ID number</b>	UN1866	UN1866	UN1866
<b>14.2 UN proper shipping name</b>	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION(CYCLOHEXANE)
<b>14.3 Transport hazard class(es)</b>	3	3	3
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	Environmentally Hazardous	Not applicable	Marine Pollutant
<b>14.6 Special precautions for user</b>	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.
<b>14.7 Marine Transport in bulk according to IMO instruments</b>	No data available.	No data available.	No data available.
<b>Control Temperature</b>	No data available.	No data available.	No data available.
<b>Emergency Temperature</b>	No data available.	No data available.	No data available.
<b>ADR Classification Code</b>	F1	Not applicable.	Not applicable.
<b>IMDG Segregation Code</b>	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-epoxipropoxy)phenyl]propane	1675-54-3	Gr. 3: Not classifiable	International Agency for Research on Cancer
toluene	108-88-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

#### Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject 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.

<b>Ingredient</b>	<b>CAS Nbr</b>
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3
cyclohexane	110-82-7
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.

### DIRECTIVE 2012/18/EU

Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
E1 Hazardous to the Aquatic environment	100	200
P5c FLAMMABLE LIQUIDS*	5000	50000

\*If maintained at a temperature above its boiling point or if particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, P5a or P5b FLAMMABLE LIQUIDS may apply

Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
chlorobenzene	108-90-7	10	50
cyclohexane	110-82-7	10	50
ethyl acetate	141-78-6	10	50
ethanol	64-17-5	10	50
toluene	108-88-3	10	50

### Regulation (EU) No 649/2012

No chemicals listed

### 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.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
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 8: Occupational exposure limit table information was modified.

Section 11: Acute Toxicity table information was modified.

Section 11: Carcinogenicity Table information was modified.

Section 11: Germ Cell Mutagenicity Table information was modified.

Section 11: Reproductive Toxicity Table information was modified.

Section 11: Serious Eye Damage/Irritation Table information was modified.

Section 11: Skin Corrosion/Irritation Table information was modified.

Section 11: Skin Sensitization Table information was modified.

Section 11: Target Organs - Repeated Table information was modified.

Section 11: Target Organs - Single Table information was modified.

Section 12: Component ecotoxicity information information was modified.

Section 12: Mobility in soil information information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Bioaccumulative potential information information was modified.

Section 15: Seveso Substance Text information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

**3M Ireland MSDSs are available at [www.3M.com](http://www.3M.com)**