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™ Scotch-Weld™ Adhesive EC-4419

Product Identification Numbers
62-4419-8540-5

7000046570

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

Identified uses
Industrial use.

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.
The aspiration hazard classification is not required due to the product's viscosity.

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 1 - Skin Sens. 1; H317
Carcinogenicity, Category 2 - Carc. 2; H351
Reproductive Toxicity, Category 2 - Repr. 2; H361fd
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

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
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane		924-168-8	30 - 40
butanone	78-93-3	201-159-0	15 - 25
toluene	108-88-3	203-625-9	1 - 9
Phenol, styrenated	61788-44-1	262-975-0	< 0.5
antimony trioxide	1309-64-4	215-175-0	< 2
rosin	8050-09-7	232-475-7	< 1

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system.
H411	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.
P280K	Wear protective gloves and respiratory protection.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Contains 20% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2	<= 1.75	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
4-methylpentan-2-one	(CAS-No.) 108-10-1 (EC-No.) 203-550-1	<= 0.99	Flam. Liq. 2, H225 Acute Tox. 4, H332(LC50 = 11 mg/l **ATE values per Annex VI**) Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	(EC-No.) 924-168-8	30 - 40	Aquatic Chronic 2, H411 Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Repr. 2, H361f STOT SE 3, H336 STOT RE 2, H373
butanone	(CAS-No.) 78-93-3 (EC-No.) 201-159-0 (REACH-No.) 01-2119457290-43	15 - 25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
Polychloroprene	(CAS-No.) 9010-98-4	10 - 20	Substance not classified as hazardous
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	(CAS-No.) 25085-50-1	1 - 10	Substance not classified as hazardous
Magnesium oxide	(CAS-No.) 1309-48-4	1 - 10	Substance with a national occupational

	(EC-No.) 215-171-9		exposure limit
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (REACH-No.) 01-2119471310-51	1 - 9	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
Phenol, styrenated	(CAS-No.) 61788-44-1 (EC-No.) 262-975-0	< 0.5	Skin Sens. 1A, H317 Aquatic Chronic 2, H411
ethylbenzene	(CAS-No.) 100-41-4 (EC-No.) 202-849-4	< 0.5	Flam. Liq. 2, H225 Acute Tox. 4, H332 Asp. Tox. 1, H304 STOT RE 2, H373 Aquatic Chronic 3, H412
Cellulose	(CAS-No.) 9004-34-6 (EC-No.) 232-674-9	1 - 5	Substance with a national occupational exposure limit
antimony trioxide	(CAS-No.) 1309-64-4 (EC-No.) 215-175-0	< 2	Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 2, H411
zinc oxide	(CAS-No.) 1314-13-2 (EC-No.) 215-222-5	< 1	Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1
rosin	(CAS-No.) 8050-09-7 (EC-No.) 232-475-7	< 1	Skin Sens. 1B, H317

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

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. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

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

The most important symptoms and effects based on the CLP classification include:
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). 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	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	During combustion.
Oxides of antimony.	During combustion.

5.3. Advice for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. 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. 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 use in a confined area with minimal air exchange. 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
ethylbenzene	100-41-4	Ireland OELs	TWA(8 hours):442 mg/m3(100 ppm);TWA(8 hours):100 ppm(442 mg/m3);STEL(15 minutes):884 mg/m3(200 ppm);STEL(15 minutes):200 ppm(884 mg/m3)	SKIN
4-methylpentan-2-one	108-10-1	Ireland OELs	TWA(8 hours):83 mg/m3(20 ppm);TWA(8 hours):20 ppm(83 mg/m3);STEL(15 minutes):208 mg/m3(50 ppm);STEL(15 minutes):50 ppm(208 mg/m3)	SKIN
toluene	108-88-3	Ireland OELs	TWA(8 hours):192 mg/m3(50 ppm);TWA(8 hours):50 ppm(192 mg/m3);STEL(15 minutes):384 mg/m3(100 ppm);STEL(15 minutes):100 ppm(384 mg/m3)	SKIN
cyclohexane	110-82-7	Ireland OELs	TWA(8 hours):700 mg/m3(200 ppm);TWA(8 hours):200 ppm(700 mg/m3)	
Magnesium oxide	1309-48-4	Ireland OELs	TWA(Total inhalable dust)(8	

			hours):10 mg/m3;TWA(as respirable dust)(8 hours):4 mg/m3;TWA(as fume)(8 hours):5 mg/m3;STEL(as fume)(15 minutes):10 mg/m3	
ANTIMONY COMPOUNDS	1309-64-4	Ireland OELs	TWA(8 hours):0.5 mg/m3	as Sb
zinc oxide	1314-13-2	Ireland OELs	TWA(Respirable fraction & fume)(8 hours):2 mg/m3;STEL(Respirable fraction & fume)(15 minutes):10 mg/m3	
butanone	78-93-3	Ireland OELs	TWA(8 hours):600 mg/m3(200 ppm);TWA(8 hours):200 ppm(600 mg/m3);STEL(15 minutes):900 mg/m3(300 ppm);STEL(15 minutes):300 ppm(900 mg/m3)	SKIN
ROSIN CORE SOLDER PYROLYSIS PRODUCTS	8050-09-7	Ireland OELs	TWA(8 hours):0.05 mg/m3;STEL(15 minutes):0.15 mg/m3	AIR, total respirable
Cellulose	9004-34-6	Ireland OELs	TWA(8 hours):10 mg/m3	

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.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
butanone		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	1,161 mg/kg bw/d
butanone		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	600 mg/m³
toluene		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	384 mg/kg bw/d
toluene		Worker	Inhalation, Long-term exposure (8 hours), Local effects	192 mg/m³
toluene		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	192 mg/m³
toluene		Worker	Inhalation, Short-term exposure, Local effects	384 mg/m³
toluene		Worker	Inhalation, Short-term exposure, Systemic effects	384 mg/m³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC

butanone		Agricultural soil	22.5 mg/kg d.w.
butanone		Freshwater	55.8 mg/l
butanone		Freshwater sediments	284.7 mg/kg d.w.
butanone		Intermittent releases to water	55.8 mg/l
butanone		Marine water	55.8 mg/l
butanone		Marine water sediments	284.7 mg/kg d.w.
butanone		Sewage Treatment Plant	709 mg/l
toluene		Agricultural soil	2.89 mg/kg d.w.
toluene		Freshwater	0.68 mg/l
toluene		Sewage Treatment Plant	13.61 mg/l

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

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:
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:

Material	**Thickness (mm)**	**Breakthrough Time**
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

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.
Colour	Yellow
Odor	Sweet Odor, Sharp Odor
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=80 ºC [*Details:*MEK]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	1.3 % volume
Flammable Limits(UEL)	10 % volume
Flash point	-25.6 ºC [*Test Method:*Closed Cup]
Autoignition temperature	404 ºC [*Details:*MEK]
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	14,205 mm²/sec
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	<=12,132.3 Pa [@ 25 ºC]
Density	0.88 g/ml
Relative density	0.88 [*Ref Std:*WATER=1]
Relative Vapour Density	2.41 [*Ref Std:*AIR=1]

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	2.5 [*Ref Std:*ETHER=1]
Percent volatile	60.9 %

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
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
Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching. 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
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:
Ocular effects: Signs/symptoms may include blurred or significantly impaired vision. Auditory effects: Signs/symptoms

may include hearing impairment, balance dysfunction and ringing in the ears. Peripheral neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy. Olfactory effects: Signs/symptoms may include decreased ability to detect odours and complete loss of smell. 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. Dermal effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

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

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

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Dermal	Rat	LD50 > 2,800 mg/kg
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 25.2 mg/l
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Ingestion	Rat	LD50 > 5,840 mg/kg
butanone	Dermal	Rabbit	LD50 > 8,050 mg/kg
butanone	Inhalation-Vapour (4 hours)	Rat	LC50 34.5 mg/l
butanone	Ingestion	Rat	LD50 2,737 mg/kg
Polychloroprene	Dermal		LD50 estimated to be > 5,000 mg/kg
Polychloroprene	Ingestion	Rat	LD50 > 20,000 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
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Dermal		LD50 estimated to be > 5,000 mg/kg
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Ingestion	Rat	LD50 5,660 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
Magnesium oxide	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Magnesium oxide	Ingestion	Rat	LD50 3,870 mg/kg
Cellulose	Dermal	Rabbit	LD50 > 2,000 mg/kg
Cellulose	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
Cellulose	Ingestion	Rat	LD50 > 5,000 mg/kg
antimony trioxide	Dermal	Rabbit	LD50 > 6,685 mg/kg

antimony trioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.76 mg/l
antimony trioxide	Ingestion	Rat	LD50 > 34,600 mg/kg
4-methylpentan-2-one	Dermal	Rabbit	LD50 > 16,000 mg/kg
4-methylpentan-2-one	Inhalation-Vapour (4 hours)	Rat	LC50 11 mg/l
4-methylpentan-2-one	Ingestion	Rat	LD50 3,038 mg/kg
zinc oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
zinc oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
rosin	Dermal	Rabbit	LD50 > 2,500 mg/kg
rosin	Ingestion	Rat	LD50 7,600 mg/kg
ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
ethylbenzene	Inhalation-Vapour (4 hours)	Rat	LC50 17.4 mg/l
ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Phenol, styrenated	Dermal	Rat	LD50 > 2,000 mg/kg
Phenol, styrenated	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Rabbit	Irritant
butanone	Rabbit	Minimal irritation
Polychloroprene	Human	No significant irritation
toluene	Rabbit	Irritant
cyclohexane	Rabbit	Mild irritant
Magnesium oxide	Professional judgement	No significant irritation
Cellulose	Not available	No significant irritation
antimony trioxide	Human and animal	Minimal irritation
4-methylpentan-2-one	Rabbit	Mild irritant
zinc oxide	Human and animal	No significant irritation
rosin	Rabbit	No significant irritation
ethylbenzene	Rabbit	Mild irritant
Phenol, styrenated	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Rabbit	Mild irritant
butanone	Rabbit	Severe irritant
Polychloroprene	Professional judgement	No significant irritation
toluene	Rabbit	Moderate irritant
cyclohexane	Rabbit	Mild irritant
Cellulose	Not available	No significant irritation
antimony trioxide	Rabbit	Mild irritant

4-methylpentan-2-one	Rabbit	Mild irritant
zinc oxide	Rabbit	Mild irritant
rosin	Rabbit	Mild irritant
ethylbenzene	Rabbit	Moderate irritant
Phenol, styrenated	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Guinea pig	Not classified
toluene	Guinea pig	Not classified
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Human	Some positive data exist, but the data are not sufficient for classification
antimony trioxide	Human	Not classified
4-methylpentan-2-one	Guinea pig	Not classified
zinc oxide	Guinea pig	Not classified
rosin	Guinea pig	Sensitising
ethylbenzene	Human	Not classified
Phenol, styrenated	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
rosin	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
butanone	In Vitro	Not mutagenic
toluene	In Vitro	Not mutagenic
toluene	In vivo	Not mutagenic
cyclohexane	In Vitro	Not mutagenic
cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Magnesium oxide	In Vitro	Not mutagenic
antimony trioxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
antimony trioxide	In vivo	Some positive data exist, but the data are not sufficient for classification
4-methylpentan-2-one	In Vitro	Not mutagenic
zinc oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
zinc oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
ethylbenzene	In vivo	Not mutagenic
ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
butanone	Inhalation	Human	Not carcinogenic
toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Magnesium oxide	Not	Human	Some positive data exist, but the data are not

	specified.	and animal	sufficient for classification
antimony trioxide	Inhalation	Multiple animal species	Carcinogenic.
4-methylpentan-2-one	Inhalation	Multiple animal species	Carcinogenic.
ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Ingestion	Toxic to male reproduction	similar compounds	NOAEL Not available	not available
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Inhalation	Toxic to male reproduction	similar compounds	NOAEL Not available	not available
butanone	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation
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
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
antimony trioxide	Inhalation	Not classified for female reproduction	Rat	LOAEL 0.25 mg/l	premating & during gestation
4-methylpentan-2-one	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-methylpentan-2-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-methylpentan-2-one	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-methylpentan-2-one	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Hydrocarbons, C6-C7, n-	Inhalation	central nervous	May cause drowsiness or	similar	NOAEL Not	not available

alkanes, isoalkanes, cyclics, >5% n-hexane		system depression	dizziness	compounds	available	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	similar compounds	NOAEL Not available	not available
butanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
butanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
butanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	not applicable
butanone	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable
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
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	
Magnesium oxide	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	
antimony trioxide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
4-methylpentan-2-one	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
4-methylpentan-2-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
4-methylpentan-2-one	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
4-methylpentan-2-one	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Hydrocarbons, C6-C7, n-alkanes, isoalkanes,	Inhalation	peripheral nervous system	May cause damage to organs though prolonged or repeated	similar compoun	NOAEL Not available	not available

cyclics, >5% n-hexane			exposure	ds		
butanone	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
butanone	Inhalation	liver | kidney and/or bladder | heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
butanone	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days
toluene	Inhalation	auditory system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
toluene	Inhalation	heart | liver | kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
toluene	Inhalation	hematopoietic system | vascular system	Not classified	Human	NOAEL Not available	occupational exposure
toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
toluene	Ingestion	liver | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
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
antimony trioxide	Dermal	skin	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
antimony trioxide	Inhalation	pulmonary fibrosis	May cause damage to organs though prolonged or repeated	Rat	NOAEL 0.002 mg/l	1 years

			exposure			
antimony trioxide	Inhalation	liver	Not classified	Rat	NOAEL 0.043 mg/l	1 years
antimony trioxide	Inhalation	blood	Not classified	Rat	NOAEL 0.004 mg/l	not available
antimony trioxide	Inhalation	pneumoconiosis	Not classified	Human	LOAEL 0.01 mg/l	occupational exposure
antimony trioxide	Inhalation	heart	Not classified	Rat	NOAEL 0.02 mg/l	1 years
antimony trioxide	Ingestion	blood | liver	Not classified	Rat	NOAEL 418 mg/kg/day	not available
antimony trioxide	Ingestion	heart	Not classified	Rat	NOAEL Not available	not available
4-methylpentan-2-one	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
4-methylpentan-2-one	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
4-methylpentan-2-one	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
4-methylpentan-2-one	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
4-methylpentan-2-one	Inhalation	endocrine system | hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
4-methylpentan-2-one	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
4-methylpentan-2-one	Ingestion	endocrine system | hematopoietic system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-methylpentan-2-one	Ingestion	heart | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
zinc oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
zinc oxide	Ingestion	endocrine system | hematopoietic system | kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
ethylbenzene	Inhalation	bone, teeth, nails, and/or hair | muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
ethylbenzene	Inhalation	heart | immune system | respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
ethylbenzene	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months

Aspiration Hazard

Name	Value
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	Aspiration hazard
toluene	Aspiration hazard
cyclohexane	Aspiration hazard
4-methylpentan-2-one	Some positive data exist, but the data are not sufficient for classification
ethylbenzene	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
4-methylpentan-2-one	108-10-1	Green algae	Experimental	96 hours	EC50	400 mg/l
4-methylpentan-2-one	108-10-1	Water flea	Experimental	48 hours	EC50	>200 mg/l
4-methylpentan-2-one	108-10-1	Zebra Fish	Experimental	96 hours	LC50	>179 mg/l
4-methylpentan-2-one	108-10-1	Fathead minnow	Experimental	32 days	NOEC	56.2 mg/l
4-methylpentan-2-one	108-10-1	Water flea	Experimental	21 days	NOEC	78 mg/l
4-methylpentan-2-one	108-10-1	Activated sludge	Experimental	30 minutes	EC50	>1,000
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Green algae	Estimated	72 hours	EL50	30-100 mg/l
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Rainbow trout	Estimated	96 hours	LL50	11.4 mg/l
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Water flea	Estimated	48 hours	EL50	3 mg/l
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Green algae	Estimated	72 hours	NOEL	3 mg/l
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Water flea	Estimated	21 days	NOEC	0.17 mg/l

butanone	78-93-3	Fathead minnow	Experimental	96 hours	LC50	2,993 mg/l
butanone	78-93-3	Green algae	Experimental	96 hours	ErC50	2,029 mg/l
butanone	78-93-3	Water flea	Experimental	48 hours	EC50	308 mg/l
butanone	78-93-3	Green algae	Experimental	96 hours	ErC10	1,289 mg/l
butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
butanone	78-93-3	Bacteria	Experimental	16 hours	LOEC	1,150 mg/l
Polychloroprene	9010-98-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Magnesium oxide	1309-48-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
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)
Cellulose	9004-34-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
ethylbenzene	100-41-4	Activated sludge	Experimental	49 hours	EC50	130 mg/l
ethylbenzene	100-41-4	Atlantic Silverside	Experimental	96 hours	LC50	5.1 mg/l
ethylbenzene	100-41-4	Green algae	Experimental	96 hours	EC50	3.6 mg/l
ethylbenzene	100-41-4	Mysid Shrimp	Experimental	96 hours	LC50	2.6 mg/l
ethylbenzene	100-41-4	Rainbow trout	Experimental	96 hours	LC50	4.2 mg/l
ethylbenzene	100-41-4	Water flea	Experimental	48 hours	EC50	1.8 mg/l
ethylbenzene	100-41-4	Water flea	Experimental	7 days	NOEC	0.96 mg/l

Phenol, styrenated	61788-44-1	Activated sludge	Experimental	3 hours	EC50	362 mg/l
Phenol, styrenated	61788-44-1	Green algae	Experimental	72 hours	EC50	1.35 mg/l
Phenol, styrenated	61788-44-1	Medaka	Experimental	96 hours	LC50	5.6 mg/l
Phenol, styrenated	61788-44-1	Water flea	Experimental	48 hours	EC50	4.6 mg/l
Phenol, styrenated	61788-44-1	Green algae	Experimental	72 hours	NOEC	0.42 mg/l
Phenol, styrenated	61788-44-1	Water flea	Experimental	21 days	NOEC	0.2 mg/l
antimony trioxide	1309-64-4	Green algae	Endpoint not reached	72 hours	EC50	>100 mg/l
antimony trioxide	1309-64-4	N/A	Estimated	96 hours	EC50	2.12 mg/l
antimony trioxide	1309-64-4	Fathead minnow	Estimated	96 hours	LC50	17.2 mg/l
antimony trioxide	1309-64-4	Fish	Estimated	96 hours	LC50	8.3 mg/l
antimony trioxide	1309-64-4	Activated sludge	Experimental	4 hours	NOEC	6.1 mg/l
antimony trioxide	1309-64-4	Rainbow trout	Estimated	28 days	LC10	0.188 mg/l
antimony trioxide	1309-64-4	Water flea	Estimated	21 days	NOEC	2.08 mg/l
antimony trioxide	1309-64-4	Green algae	Experimental	72	NOEC	2.53 mg/l
rosin	8050-09-7	Bacteria	Experimental	N/A	EC50	76.1 mg/l
rosin	8050-09-7	Green algae	Experimental	72 hours	EL50	>100 mg/l
rosin	8050-09-7	Water flea	Experimental	48 hours	EL50	911 mg/l
rosin	8050-09-7	Zebra Fish	Experimental	96 hours	LL50	>1 mg/l
rosin	8050-09-7	Green algae	Experimental	72 hours	NOEL	100 mg/l
zinc oxide	1314-13-2	Activated sludge	Estimated	3 hours	EC50	6.5 mg/l
zinc oxide	1314-13-2	Green algae	Estimated	72 hours	EC50	0.052 mg/l
zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
zinc oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
zinc oxide	1314-13-2	Green algae	Estimated	72 hours	NOEC	0.006 mg/l
zinc oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l

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)	
4-methylpentan-2-one	108-10-1	Experimental Biodegradation	28 days	BOD	83 %BOD/ThOD	OECD 301F - Manometric respirometry
4-methylpentan-2-one	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.3 days (t 1/2)	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Estimated Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301F - Manometric respirometry
butanone	78-93-3	Experimental	28 days	BOD	98 %BOD/ThO	OECD 301D - Closed bottle

		Biodegradation			D	test
Polychloroprene	9010-98-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Magnesium oxide	1309-48-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THCO2 evolution	
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)	
Cellulose	9004-34-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
ethylbenzene	100-41-4	Experimental Biodegradation	28 days	CO2 evolution	70-80 %CO2 evolution/THCO2 evolution	ISO 14593 Inorg C Headspace
ethylbenzene	100-41-4	Experimental Photolysis		Photolytic half-life (in air)	4.26 days (t 1/2)	
Phenol, styrenated	61788-44-1	Experimental Biodegradation	28 days	BOD	7 %BOD/ThOD	OECD 301F - Manometric respirometry
antimony trioxide	1309-64-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
rosin	8050-09-7	Experimental Biodegradation	28 days	CO2 evolution	64 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
zinc oxide	1314-13-2	Data not availbl-insufficient	N/A	N/A	N/A	N/A

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	
4-methylpentan-2-one	108-10-1	Experimental Bioconcentration		Log Kow	1.9	OECD 117 log Kow HPLC method
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, >5% n-hexane	924-168-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.3	OECD 117 log Kow HPLC method
Polychloroprene	9010-98-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Magnesium oxide	1309-48-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	Estimated Bioconcentration		Bioaccumulation factor	7.4	
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
Cellulose	9004-34-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ethylbenzene	100-41-4	Experimental BCF - Fish	42 days	Bioaccumulation factor	1	
Phenol, styrenated	61788-44-1	Experimental BCF - Fish	10 days	Bioaccumulation factor	10395	
antimony trioxide	1309-64-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

rosin	8050-09-7	Analogous Compound BCF - Fish	20 days	Bioaccumulation factor	129	
zinc oxide	1314-13-2	Experimental BCF - Fish	56 days	Bioaccumulation factor	≤217	OECD305-Bioconcentration

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	
4-methylpentan-2-one	108-10-1	Modeled Mobility in Soil	Koc	150 l/kg	Episuite™
toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 l/kg	
Phenol, styrenated	61788-44-1	Estimated Mobility in Soil	Koc	≥20000 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

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

12.6. 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)
08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)

14.1 UN number or ID number	UN1133	UN1133	UN1133
14.2 UN proper shipping name	ADHESIVES	ADHESIVES	ADHESIVES (ZINC OXIDE)
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	F1	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
antimony trioxide	1309-64-4	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
antimony trioxide	1309-64-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
4-methylpentan-2-one	108-10-1	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
4-methylpentan-2-one	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Polychloroprene	9010-98-4	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.

Ingredient	CAS Nbr
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
E2 Hazardous to the Aquatic environment	200	500
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
antimony trioxide	1309-64-4	200	500
cyclohexane	110-82-7	10	50
ethylbenzene	100-41-4	10	50
butanone	78-93-3	10	50
4-methylpentan-2-one	108-10-1	10	50
toluene	108-88-3	10	50
zinc oxide	1314-13-2	100	200

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.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. 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.
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:
CLP: Ingredient table information was modified.
Label: CLP Classification information was modified.
Label: CLP Percent Unknown information was deleted.
Label: CLP Percent Unknown information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 09: Kinematic Viscosity information information was modified.
Section 9: Property description for optional properties information was modified.
Section 9: Vapour density value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard 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 added.
Section 11: Target Organs - Repeated Table information was deleted.
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:Bioccumulative potential information information was modified.
Section 14 Multiplier – Main Heading information was deleted.
Section 14 Multiplier – Regulation Data information was deleted.
Section 14 Transport Category – Main Heading information was deleted.
Section 14 Transport Category – Regulation Data information was deleted.
Section 14 Marine transport in bulk according to IMO instruments – Main Heading information was modified.
Section 14 Tunnel Code – Main Heading information was deleted.
Section 14 Tunnel Code – Regulation Data information was deleted.

Section 14 UN Number information was modified.
Section 15: Carcinogenicity information information was modified.
Section 15: Restrictions on manufacture ingredients information information was modified.
Section 15: Seveso Hazard Category Text information was added.
Section 15: Seveso Substance Text information was added.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.
Section 2: No PBT/vPvB information available warning information was added.

Annex

1. Title	
Substance identification	toluene; EC No. 203-625-9; CAS Nbr 108-88-3;
Exposure Scenario Name	Formulation
Lifecycle Stage	Use at industrial sites
Contributing activities	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) ERC 02 -Formulation into mixture
Processes, tasks and activities covered	Transfer of substance/mixture with dedicated engineering controls. Transfer of substances/mixtures into small containers e.g. tubes , bottles or small reservoirs.
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 exposure per day at workplace [for one worker]: 8 hours/day; Duration of use: 5 days/week; Emission days per year: 300 days/year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); **Environmental:** None needed;
Waste management measures	Do not apply industrial sludge to natural soils; Send to an industrial 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	butanone; EC No. 201-159-0; CAS Nbr 78-93-3;
Exposure Scenario Name	Industrial Use of Adhesives
Lifecycle Stage	Use at industrial sites

Contributing activities	PROC 05 -Mixing or blending in batch processes 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 PROC 15 -Use a laboratory reagent 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. Mixing operations (open systems). 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. Use as a laboratory reagent.
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; Emission days per year: <= 100 days per year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Provide extract ventilation to points where emissions occur; **Environmental:** None needed; ; The following task-specific risk management measures apply in addition to those listed above: **Task: Spraying**; **Human Health**; Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); Laminar Flow Booth; Half-facepiece air-purifying respirator;
Waste management measures	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
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	toluene; EC No. 203-625-9; CAS Nbr 108-88-3;
Exposure Scenario Name	Industrial Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 05 -Mixing or blending in batch processes 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 with a roller or brush. Application of product. Mixing operations (open systems). Transfer of substance/mixture with dedicated engineering controls. Transfer of substances/mixtures into small containers e.g. tubes , bottles or small reservoirs.
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 exposure per day at workplace [for one worker]: 8 hours/day; Duration of use: 5 days/week; Emission days per year: 300 days/year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); **Environmental:** Air abatement;
Waste management measures	Do not apply industrial sludge to natural soils; Send to an industrial 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	toluene; EC No. 203-625-9; CAS Nbr 108-88-3;
Exposure Scenario Name	Industrial Use of Coatings
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 03 -Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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 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 with a roller or brush. Manual 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 exposure per day at workplace [for one worker]: 8 hours/day; Duration of use: 5 days/week; Emission days per year: 300 days/year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); **Environmental:** Air abatement; Industrial Sewage Treatment Plant; ; The following task-specific risk management measures apply in addition to those listed above: **Task: Spraying**; **Human Health**; Ventilated Process Enclosures; Air-purifying Full-Face (with gas/vapour cartridge, that can be combined with a particulate filter);
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	butanone; EC No. 201-159-0; CAS Nbr 78-93-3;
Exposure Scenario Name	Professional Use of Adhesives and Sealants
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 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. 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; Emission days per year: <= 100 days per year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:**

	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); **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;
Waste management measures	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
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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