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™ High Performance Industrial Plastic Adhesive 4693

Product Identification Numbers
62-4493-6530-3

7000046574

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
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
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) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
cyclohexane	110-82-7	203-806-2	60 - 80

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
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.
P261E	Avoid breathing vapour or spray.
P273	Avoid release to the environment.

Response:

P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
P391	Collect spillage.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2 (REACH-No.) 01-2119463273-41	60 - 80	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
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	(CAS-No.) 31393-98-3	5 - 20	Aquatic Chronic 4, H413
Styrene-butadiene polymer	(CAS-No.) 9003-55-8	7 - 13	Substance not classified as hazardous
acetone	(CAS-No.) 67-64-1 (EC-No.) 200-662-2	< 3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
butanone	(CAS-No.) 78-93-3 (EC-No.) 201-159-0	< 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
toluene	(CAS-No.) 108-88-3 (EC-No.) 203-625-9	< 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
4-methylpentan-2-one	(CAS-No.) 108-10-1 (EC-No.) 203-550-1	< 1	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 STOT SE 3, H335 EUH066

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
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist,

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). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

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

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
4-methylpentan-2-one	108-10-1	UK HSC	TWA:208 mg/m3(50 ppm);STEL:416 mg/m3(100 ppm)	SKIN
toluene	108-88-3	UK HSC	TWA: 191 mg/m³ (50 ppm); STEL: 384 mg/m³ (100 ppm)	SKIN
cyclohexane	110-82-7	UK HSC	TWA:350 mg/m³(100 ppm);STEL:1050 mg/m³(300 ppm)	
acetone	67-64-1	UK HSC	TWA:1210 mg/m³(500 ppm);STEL:3620 mg/m³(1500 ppm)	
butanone	78-93-3	UK HSC	TWA: 600 mg/m³ (200 ppm); STEL: 899 mg/m³ (300 ppm)	SKIN

UK HSC : UK Health and Safety Commission
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

cyclohexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	2,016 mg/kg bw/d
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Local effects	700 mg/m³
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	700 mg/m³
cyclohexane		Worker	Inhalation, Short-term exposure, Local effects	700 mg/m³
cyclohexane		Worker	Inhalation, Short-term exposure, Systemic effects	700 mg/m³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
cyclohexane		Freshwater	0.207 mg/l
cyclohexane		Freshwater sediments	3.627 mg/kg d.w.
cyclohexane		Intermittent releases to water	0.207 mg/l
cyclohexane		Marine water	0.207 mg/l

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.

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
Polyvinyl alcohol (PVA).	>0.30	=>8 hours
Polymer laminate	>0.30	=>8 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

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	Light Amber
Odor	Solvent
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=81 ºC [*Details:*Cyclohexane]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	1.1 % volume
Flammable Limits(UEL)	8 % volume
Flash point	-20 ºC [*Test Method:*Closed Cup]
Autoignition temperature	245 ºC
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	274.390243902439 mm²/sec
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	<=12,665.6 Pa [@ 20 ºC]
Density	0.82 g/ml
Relative density	0.82 [*Ref Std:*WATER=1]
Relative Vapor Density	0.8 [*Ref Std:*AIR=1]

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	>=2 [*Ref Std:*WATER=1]

Molecular weight	*No data available.*
Solids content	20 - 40 %

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
Reducing agents.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the 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.

Eye contact
Contact with the eyes during product use is not expected to result in significant irritation.

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. 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.

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 ATE2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
cyclohexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 32.9 mg/l
cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Dermal		LD50 estimated to be > 5,000 mg/kg
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Ingestion	Rat	LD50 > 34,000 mg/kg
Styrene-butadiene polymer	Dermal	Rabbit	LD50 > 2,000 mg/kg
Styrene-butadiene polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
acetone	Inhalation-Vapour (4 hours)	Rat	LC50 76 mg/l
acetone	Ingestion	Rat	LD50 5,800 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
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
4-methylpentan-2-one	Dermal	Rabbit	LD50 > 16,000 mg/kg
4-methylpentan-2-one	Inhalation-	Rat	LC50 >8.2,<16.4 mg/l

	Vapour (4 hours)		
4-methylpentan-2-one	Ingestion	Rat	LD50 3,038 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
Styrene-butadiene polymer	Professional judgement	No significant irritation
acetone	Mouse	Minimal irritation
butanone	Rabbit	Minimal irritation
toluene	Rabbit	Irritant
4-methylpentan-2-one	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
cyclohexane	Rabbit	Mild irritant
acetone	Rabbit	Severe irritant
butanone	Rabbit	Severe irritant
toluene	Rabbit	Moderate irritant
4-methylpentan-2-one	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
toluene	Guinea pig	Not classified
4-methylpentan-2-one	Guinea pig	Not classified

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

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

Carcinogenicity

Name	Route	Species	Value
acetone	Not specified.	Multiple animal species	Not carcinogenic
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
4-methylpentan-2-one	Inhalation	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation
acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
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
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

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	
acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
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
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	May cause respiratory irritation	Human	NOAEL 0.9 mg/l	7 minutes
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

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
acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
acetone	Inhalation	heart | liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
acetone	Ingestion	hematopoietic	Not classified	Rat	NOAEL 200	13 weeks

		system			mg/kg/day	
acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
acetone	Ingestion	skin | bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
butanone	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
butanone	Inhalation	liver | kidney and/or bladder | heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
butanone	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days
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

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

Aspiration Hazard

Name	Value
cyclohexane	Aspiration hazard
toluene	Aspiration hazard
4-methylpentan-2-one	Some positive data exist, but the data are not sufficient for classification

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
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l

with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane						
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Water flea	Endpoint not reached	21 days	EL10	>100 mg/l
Styrene-butadiene polymer	9003-55-8		Data not available or insufficient for classification			N/A
acetone	67-64-1	Algae other	Experimental	96 hours	EC50	11,493 mg/l
acetone	67-64-1	Crustacea other	Experimental	24 hours	LC50	2,100 mg/l
acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
butanone	78-93-3	Activated sludge	Experimental	12 hours	IC50	1,873 mg/l
butanone	78-93-3	Bacteria	Experimental	16 hours	NOEC	1,150 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	EC50	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	EC10	1,289 mg/l
butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
toluene	108-88-3	Green Algae	Experimental	72 hours	EC50	12.5 mg/l
toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l

toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
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

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	Non-standard method
cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 % BOD/ThBOD	OECD 301F - Manometric respirometry
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Experimental Biodegradation	28 days	BOD	4 % BOD/ThBOD	OECD 301D - Closed bottle test
Styrene-butadiene polymer	9003-55-8	Data not availbl-insufficient			N/A	
acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 % BOD/ThBOD	OECD 301D - Closed bottle test
butanone	78-93-3	Experimental Biodegradation	28 days	BOD	98 % BOD/ThBOD	OECD 301D - Closed bottle test
toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 % BOD/ThBOD	APHA Std Meth Water/Wastewater
4-methylpentan-2-one	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.3 days (t 1/2)	
4-methylpentan-2-one	108-10-1	Experimental Biodegradation	28 days	BOD	83 % BOD/ThBOD	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
cyclohexane	110-82-7	Experimental BCF-Carp	56 days	Bioaccumulation factor	129	OECD 305E - Bioaccumulation flow-through fish test
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Experimental Bioconcentration		Log Kow	7.41	Non-standard method
Styrene-butadiene polymer	9003-55-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
acetone	67-64-1	Experimental BCF -		Bioaccumulation	0.65	

		Other		factor		
acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	
butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.29	Non-standard method
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
4-methylpentan-2-one	108-10-1	Experimental Bioconcentration		Log Kow	1.9	OECD 117 log Kow HPLC method

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
acetone	67-64-1	Modeled Mobility in Soil	Koc	9.7 l/kg	Episuite™
toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 l/kg	
4-methylpentan-2-one	108-10-1	Modeled Mobility in Soil	Koc	150 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. 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	UN1133	UN1133	UN1133
14.2 UN proper shipping name	ADHESIVES	ADHESIVES	ADHESIVES
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Not Environmentally Hazardous	Not applicable	Not a Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Tunnel Code	(E)	Not applicable.	Not applicable.
ADR Classification Code	F1	Not applicable.	Not applicable.
ADR Transport Category	2	Not applicable.	Not applicable.
ADR Multiplier	0	0	0
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

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

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
4-methylpentan-2-one	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Styrene-butadiene polymer	9003-55-8	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

Regulation (EU) 2019/1148 (marketing and use of explosive precursors)
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see your local legislation.

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

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.
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.
H400	Very toxic to aquatic life.

H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Revision information:
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Prints No Data if Adverse effects information is not present information was added.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.

Annex

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Formulation
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) ERC 02 -Formulation into mixture
Processes, tasks and activities covered	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;
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;
Waste management measures	Do not apply industrial sludge to natural soils; Prevent discharge of undissolved substance to or recover from wastewater;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Industrial Use of Coatings

Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product through a mixing nozzle Application of product with a roller or brush. Application of product with applicator gun. Spraying of substances/mixtures. Transfers with dedicated controls, including loading, filling, dumping, bagging. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; **Task: PROC07**; Indoors with good general ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** None needed; **Environmental:** None needed; ; The following task-specific risk management measures apply in addition to those listed above: **Task: PROC08a**; **Human Health**; Provide extract ventilation to points where emissions occur; **Task: PROC08b**; **Human Health**; Provide extract ventilation to points where emissions occur; **Task: PROC10**; **Human Health**; Provide extract ventilation to points where emissions occur;
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	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 10 -Roller application or brushing

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

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.

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