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
Stamark pavement preparation P50

Product Identification Numbers
FS-9100-1623-7

7000146237

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

Identified uses
Pavement surface preparation for stamark products

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
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols
GHS02 (Flame) |GHS07 (Exclamation mark) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
ethyl acetate	141-78-6	205-500-4	30 - 40
butanone	78-93-3	201-159-0	30 - 40

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful 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.

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

10% of the mixture consists of components of unknown acute oral toxicity.

Contains 10% of components with unknown hazards to the aquatic environment.

Nota L applied.

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]
butanone	(CAS-No.) 78-93-3 (EC-No.) 201-159-0 (REACH-No.) 01-2119457290-43	30 - 40	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
ethyl acetate	(CAS-No.) 141-78-6 (EC-No.) 205-500-4 (REACH-No.) 01-2119475103-46	30 - 40	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	(EC-No.) 927-510-4 (REACH-No.) 01-2119475515-33	10 - 15	Aquatic Chronic 2, H411 Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336
ALIPHATIC HYDROCARBONED RESIN	None	5 - 10	Substance not classified as hazardous
Styrene-isoprene copolymer	(CAS-No.) 25038-32-8	5 - 10	Substance not classified as hazardous
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	0.5 - 1.5	Aquatic Chronic 4, H413
Distillates (petroleum), hydrotreated light naphthenic	(CAS-No.) 64742-53-6 (EC-No.) 265-156-6	0.5 - 1.5	Nota L Acute Tox. 4, H332 Asp. Tox. 1, H304

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). Toxic by eye contact. Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Methane	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Ketones.	During combustion.
Toxic vapour, gas, particulate.	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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing 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. 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
ethyl acetate	141-78-6	Ireland OELs	TWA(8 hours):734 mg/m3(200 ppm);TWA(8 hours):200 ppm(734 mg/m3);STEL(15 minutes):1468 mg/m3(400 ppm);STEL(15 minutes):400 ppm(1468 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

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
ethyl acetate		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	63 mg/kg bw/d
ethyl acetate		Worker	Inhalation, Long-term exposure (8 hours), Local effects	734 mg/m³
ethyl acetate		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	734 mg/m³
ethyl acetate		Worker	Inhalation, Short-term exposure, Local effects	1,468 mg/m³
ethyl acetate		Worker	Inhalation, Short-term exposure, Systemic effects	1,468 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
ethyl acetate		Agricultural soil	0.148 mg/kg d.w.
ethyl acetate		Concenctration in freshwater fish for secondary poisoning	0.2 mg/kg w.w.
ethyl acetate		Freshwater	0.24 mg/l
ethyl acetate		Freshwater sediments	1.15 mg/kg d.w.
ethyl acetate		Intermittent releases to water	1.65 mg/l
ethyl acetate		Marine water	0.024 mg/l
ethyl acetate		Marine water sediments	0.115 mg/kg d.w.
ethyl acetate		Sewage Treatment Plant	650 mg/l

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
Provide ventilated enclosure for heat curing. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

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

Applicable Norms/Standards
Use gloves tested to EN 374

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.
Specific Physical Form:	Liquid.
Colour	Light Yellow
Odor	Solvent
Odour threshold	*No data available.*

Melting point/freezing point	*No data available.*
Boiling point/boiling range	75 ºC
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	-8 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	22.2 mm²/sec
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	0.9 g/cm3
Relative density	0.9 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*
Particle Characteristics	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Percent volatile	*No data available.*

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
Explosive when mixed with oxidizing substances.
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
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.

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.

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.

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	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 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
ethyl acetate	Dermal	Rabbit	LD50 > 18,000 mg/kg
ethyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 70.5 mg/l
ethyl acetate	Ingestion	Rat	LD50 5,620 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rabbit	LD50 > 2,920 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rat	LD50 > 2,000 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation-Vapour (4 hours)	Rat	LC50 > 23.3 mg/l

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.61 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	Rat	LD50 > 5,840 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	Rat	LD50 > 5,000 mg/kg
Styrene-isoprene copolymer	Dermal	Not available	LD50 > 2,000 mg/kg
Styrene-isoprene copolymer	Ingestion	Not available	LD50 > 2,000 mg/kg
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Dermal	Professional judgement	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 > 2,000 mg/kg
Distillates (petroleum), hydrotreated light naphthenic	Dermal	Rabbit	LD50 > 2,000 mg/kg
Distillates (petroleum), hydrotreated light naphthenic	Inhalation-Dust/Mist (4 hours)	Rat	LC50 2.2 mg/l
Distillates (petroleum), hydrotreated light naphthenic	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
butanone	Rabbit	Minimal irritation
ethyl acetate	Rabbit	Minimal irritation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	Irritant
Styrene-isoprene copolymer	Professional judgement	No significant irritation
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In vitro data	No significant irritation
Distillates (petroleum), hydrotreated light naphthenic	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
butanone	Rabbit	Severe irritant
ethyl acetate	Rabbit	Mild irritant
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	No significant irritation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	Mild irritant
Styrene-isoprene copolymer	Professional judgement	No significant irritation
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In vitro data	No significant irritation
Distillates (petroleum), hydrotreated light naphthenic	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
ethyl acetate	Guinea pig	Not classified
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Guinea pig	Not classified
Styrene-isoprene copolymer		Not classified
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Multiple animal species	Not classified
Distillates (petroleum), hydrotreated light naphthenic	Guinea	Not classified

	pig	

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
butanone	In Vitro	Not mutagenic
ethyl acetate	In Vitro	Not mutagenic
ethyl acetate	In vivo	Not mutagenic
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	In Vitro	Not mutagenic
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In Vitro	Not mutagenic
Distillates (petroleum), hydrotreated light naphthenic	In Vitro	Some positive data exist, but the data are not sufficient for classification
Distillates (petroleum), hydrotreated light naphthenic	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
butanone	Inhalation	Human	Not carcinogenic
Distillates (petroleum), hydrotreated light naphthenic	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
butanone	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not specified.	Not classified for development	Rat	NOAEL Not available	2 generation
Distillates (petroleum), hydrotreated light naphthenic	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Distillates (petroleum), hydrotreated light naphthenic	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Distillates (petroleum), hydrotreated light naphthenic	Dermal	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	during gestation
Distillates (petroleum), hydrotreated light naphthenic	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Distillates (petroleum), hydrotreated light naphthenic	Dermal	Not classified for male reproduction	Rabbit	NOAEL 1,000 mg/kg/day	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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	Human	NOAEL Not available	

			classification			
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
ethyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ethyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
ethyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	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
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
ethyl acetate	Inhalation	endocrine system | liver | nervous system	Not classified	Rat	NOAEL 0.043 mg/l	90 days
ethyl acetate	Inhalation	hematopoietic system	Not classified	Rabbit	LOAEL 16 mg/l	40 days
ethyl acetate	Ingestion	hematopoietic system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 3,600 mg/kg/day	90 days
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Ingestion	heart | gastrointestinal tract | hematopoietic system | liver | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 331 mg/kg/day	90 days

Aspiration Hazard

Name	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Aspiration hazard

Distillates (petroleum), hydrotreated light naphthenic	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
ethyl acetate	141-78-6	Bacteria	Experimental	18 hours	EC10	2,900 mg/l
ethyl acetate	141-78-6	Fish	Experimental	96 hours	LC50	212.5 mg/l
ethyl acetate	141-78-6	Invertebrate	Experimental	48 hours	EC50	165 mg/l
ethyl acetate	141-78-6	Green algae	Experimental	72 hours	NOEC	>100 mg/l
ethyl acetate	141-78-6	Water flea	Experimental	21 days	NOEC	2.4 mg/l
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
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Analogous Compound	72 hours	EL50	29 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Medaka	Analogous Compound	96 hours	LC50	0.561 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Analogous Compound	48 hours	EC50	0.4 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	EL50	29 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	48 hours	EL50	3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Rainbow trout	Experimental	96 hours	LL50	>13.4 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes,	927-510-4	Green algae	Analogous Compound	72 hours	NOEL	6.3 mg/l

cyclics						
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Analogous Compound	21 days	NOEC	0.17 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	NOEL	6.3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	21 days	NOEL	1 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Activated sludge	Analogous Compound	15 hours	IC50	29 mg/l
Styrene-isoprene copolymer	25038-32-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 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	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
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	Green algae	Analogous Compound	96 hours	ErC50	>100 mg/l
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	Water flea	Experimental	48 hours	EC50	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
ethyl acetate	141-78-6	Experimental Biodegradation	14 days	BOD	94 %BOD/ThOD	OECD 301C - MITI test (I)
ethyl acetate	141-78-6	Experimental Photolysis		Photolytic half-life (in air)	20.0 days (t 1/2)	
butanone	78-93-3	Experimental Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301D - Closed bottle test
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound Biodegradation	28 days	BOD	74.4 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Estimated Biodegradation	28 days	BOD	98 %BOD/COD	OECD 301F - Manometric respirometry
Styrene-isoprene copolymer	25038-32-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
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/ThOD	OECD 301D - Closed bottle test
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	Experimental Biodegradation	28 days	BOD	42 %BOD/ThOD	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
ethyl acetate	141-78-6	Experimental Bioconcentration		Log Kow	0.68	
butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.3	OECD 117 log Kow HPLC method
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	540	OECD305-Bioconcentration
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound Bioconcentration		Log Kow	4.66	
Styrene-isoprene copolymer	25038-32-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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	
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	Modeled Bioconcentration		Log Kow	5.07	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Modeled Mobility in Soil	Koc	≥202 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 or ID 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 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

Global inventory status
Contact 3M for more 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. 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
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
ethyl acetate	141-78-6	10	50
butanone	78-93-3	10	50

Regulation (EU) No 649/2012
No chemicals listed

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

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H411	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 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.

Annex

1. Title	
Substance identification	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Formulation
Lifecycle Stage	Formulation or re-packing
Contributing activities	PROC 05 -Mixing or blending in batch processes 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	Mixing operations (open systems). Open sampling. 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:** Duration of exposure per day at workplace [for one worker]: 8 hours/day; Emission days per year: 240 days per year; Indoor use; **Task: PROC08a**; Duration of exposure per day at workplace [for one worker]: <= 240 minutes per task; **Task: PROC08b**; Duration of exposure per day at workplace [for one worker]: <= 240 minutes per task;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.; Provide extract ventilation to points where emissions occur; Safety glasses with side shields.; **Environmental:** None needed;
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	butanone; EC No. 201-159-0; CAS Nbr 78-93-3;
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	Transfer of substances/mixtures into small containers e.g. tubes , bottles or small reservoirs. Transfers with dedicated controls, including loading, filling, dumping, bagging. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Duration of exposure per day at workplace [for one worker]: 8 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Goggles - Chemical resistant; Local exhaust ventilation; **Environmental:** None needed;
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	butanone; EC No. 201-159-0; CAS Nbr 78-93-3;
Exposure Scenario Name	Industrial Use of Coatings
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 05 -Mixing or blending in batch processes PROC 07 -Industrial spraying 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. Mixing operations (open systems). 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:** Duration of exposure per day at workplace [for one worker]: 8 hours/day; **Task: PROC07**; Air exchange rate:: 10 - 15 ;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Goggles - Chemical resistant; **Environmental:** None needed;

	; The following task-specific risk management measures apply in addition to those listed above: **Task: Transferring Material**; **Human Health**; Half-facepiece air-purifying respirator; **Task: PROC05**; **Human Health**; Local exhaust ventilation; **Task: PROC07**; **Human Health**; Half-facepiece air-purifying respirator; **Task: PROC10**; **Human Health**; Provide extract ventilation to points where emissions occur;
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	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying ERC 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.
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; Outdoor use; **Task: Spraying**; Duration of use: 4 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** None needed; **Environmental:** None needed; ; The following task-specific risk management measures apply in addition to those listed above: **Task: Spraying**; **Human Health**; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.;
Waste management measures	Incinerate in a permitted hazardous waste incinerator;

3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing 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. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Emission days per year: 300 days per year; Outdoor use; **Task: PROC08a**; Duration of exposure per day at workplace [for one worker]: <= 15 minutes per task; **Task: PROC10**; Duration of exposure per day at workplace [for one worker]: <= 240 minutes per task;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.; Provide extract ventilation to points where emissions occur; Safety glasses with side shields.; **Environmental:** None needed;
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	ethyl acetate; EC No. 205-500-4; CAS Nbr 141-78-6;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

	PROC 11 -Non industrial spraying 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 without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Emission days per year: 300 days per year; Outdoor use; **Task: PROC08a**; Duration of exposure per day at workplace [for one worker]: 8 hours/day; **Task: PROC11**; Duration of exposure per day at workplace [for one worker]: <= 240 minutes per task;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.; Provide extract ventilation to points where emissions occur; Safety glasses with side shields.; **Environmental:** None needed;
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	butanone; EC No. 201-159-0; CAS Nbr 78-93-3;
Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 05 -Mixing or blending in batch processes PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 10 -Roller application or brushing ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
Processes, tasks and activities covered	Application of product. Mixing operations (open systems). 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:** Duration of exposure per day at workplace [for one worker]: 8 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:**

	Human health: Goggles - Chemical resistant; 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: Transferring Material**; **Human Health**; Half-facepiece air-purifying respirator; **Task: Mixing**; **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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