



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

Industrial Cleaner Bulk

REACH registration number	CASRN	EC Number	Ingredient Name
01-2119529223-47-0015	5989-27-5	227-813-5	(R)-p-mentha-1,8-diene

Product Identification Numbers

UU-0094-7280-2

7100180981

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

Identified uses

Hard Surface Cleaner

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

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

CLASSIFICATION:

Flammable Liquid, Category 3 - Flam. Liq. 3; H226
 Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
 Skin Sensitization, Category 1 - Skin Sens. 1; H317
 Aspiration Hazard, Category 1 - Asp. Tox. 1; H304
 Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
 Hazardous to the Aquatic Environment (Chronic), Category 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) | GHS08 (Health Hazard) | GHS09 (Environment) |

Pictograms**Ingredients:**

Ingredient	CAS Nbr	EC No.	% by Wt
(R)-p-mentha-1,8-diene	5989-27-5	227-813-5	95 - 100

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.
H400	Very toxic to aquatic life.
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.
P273	Avoid release to the environment.
P280E	Wear protective gloves.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P331	Do NOT induce vomiting.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Notes on labelling

Updated per Regulation (EC) No. 648/2004 on detergents.

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

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
(R)-p-mentha-1,8-diene	(CAS-No.) 5989-27-5 (EC-No.) 227-813-5	95 - 100	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400,M=1 Aquatic Chronic 3, H412 Nota C
7-methyl-3-methyleneocta-1,6-diene	(CAS-No.) 123-35-3 (EC-No.) 204-622-5	< 5	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400,M=1 Aquatic Chronic 3, H412

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

3.2. Mixtures

Not applicable

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

If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

If swallowed

Do not induce vomiting. Get immediate medical attention.

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

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

Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing).

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

<u>Substance</u>	<u>Condition</u>
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 that is resistant to polar solvents. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static

or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

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
(R)-p-mentha-1,8-diene		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	9.5 mg/kg bw/d
(R)-p-mentha-1,8-diene		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	66.7 mg/m ³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
(R)-p-mentha-1,8-diene		Agricultural soil	0.763 mg/kg d.w.
(R)-p-mentha-1,8-diene		Concentration in marine fish for secondary poisoning	133 mg/kg w.w.
(R)-p-mentha-1,8-diene		Freshwater	0.014 mg/l
(R)-p-mentha-1,8-diene		Freshwater sediments	3.85 mg/kg d.w.
(R)-p-mentha-1,8-diene		Intermittent releases to water	mg/l
(R)-p-mentha-1,8-diene		Marine water	0.0014 mg/l
(R)-p-mentha-1,8-diene		Marine water sediments	0.385 mg/kg d.w.
(R)-p-mentha-1,8-diene		Sewage Treatment Plant	1.8 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 explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

None required.

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	>0.30	4-8 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

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

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

Half facepiece or full facepiece supplied-air respirator

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

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136

Use a respirator conforming to EN 140 or EN 136: filter type A

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:	Clear Yellow to Amber Liquid
Colour	Amber, Yellow
Odor	Citrus
Odour threshold	No data available.
Melting point/freezing point	No data available.

Boiling point/boiling range	154 °C
Flammability	Flammable liquid: Category 3.
Flammable Limits(LEL)	0.7 % volume
Flammable Limits(UEL)	6.1 % volume
Flash point	46 °C [<i>Test Method: Pensky-Martens Closed Cup</i>]
Autoignition temperature	237 °C
Decomposition temperature	<i>No data available.</i>
pH	<i>substance/mixture is non-polar/aprotic</i>
Kinematic Viscosity	<i>No data available.</i>
Water solubility	<i>No data available.</i>
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	4.57 [<i>Details: Log Pow</i>]
Vapour pressure	0.27 kPa [<i>@ 20 °C</i>]
Density	0.85 g/ml
Relative density	0.85 [<i>Ref Std: WATER=1</i>]
Relative Vapour Density	>=1
Particle Characteristics	<i>Not applicable.</i>

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No data available.

Evaporation rate

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.

10.5 Incompatible materials

Strong acids.

Strong bases.

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.

Skin contact

Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

Ingestion

May be harmful if swallowed.

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

Additional Health Effects:

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
(R)-p-mentha-1,8-diene	Inhalation-Vapour (4 hours)	Mouse	LC50 > 3.14 mg/l
(R)-p-mentha-1,8-diene	Dermal	Rabbit	LD50 > 5,000 mg/kg
(R)-p-mentha-1,8-diene	Ingestion	Rat	LD50 4,400 mg/kg
7-methyl-3-methylenoocta-1,6-diene	Dermal	Rabbit	LD50 > 5,000 mg/kg
7-methyl-3-methylenoocta-1,6-diene	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
(R)-p-mentha-1,8-diene	Rabbit	Irritant
7-methyl-3-methylenoocta-1,6-diene	In vitro data	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
(R)-p-mentha-1,8-diene	Rabbit	Mild irritant
7-methyl-3-methyleneocta-1,6-diene	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
(R)-p-mentha-1,8-diene	Mouse	Sensitising
7-methyl-3-methyleneocta-1,6-diene	Mouse	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
(R)-p-mentha-1,8-diene	In Vitro	Not mutagenic
(R)-p-mentha-1,8-diene	In vivo	Not mutagenic
7-methyl-3-methyleneocta-1,6-diene	In Vitro	Not mutagenic
7-methyl-3-methyleneocta-1,6-diene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
(R)-p-mentha-1,8-diene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
7-methyl-3-methyleneocta-1,6-diene	Ingestion	Multiple animal species	Carcinogenic.

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
(R)-p-mentha-1,8-diene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
(R)-p-mentha-1,8-diene	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
7-methyl-3-methyleneocta-1,6-diene	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	90 days
7-methyl-3-methyleneocta-1,6-diene	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
7-methyl-3-methyleneocta-1,6-diene	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
(R)-p-mentha-1,8-diene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
(R)-p-mentha-1,8-diene	Ingestion	nervous system	Not classified		NOAEL Not available	
7-methyl-3-methyleneocta-1,6-diene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
(R)-p-mentha-1,8-diene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
(R)-p-mentha-1,8-diene	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
(R)-p-mentha-1,8-diene	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
7-methyl-3-methylenoocta-1,6-diene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	14 weeks
7-methyl-3-methylenoocta-1,6-diene	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 250 mg/kg/day	14 weeks
7-methyl-3-methylenoocta-1,6-diene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	14 weeks
7-methyl-3-methylenoocta-1,6-diene	Ingestion	gastrointestinal tract liver respiratory system heart skin endocrine system bone, teeth, nails, and/or hair nervous system eyes	Not classified	Rat	NOAEL 2,000 mg/kg/day	14 weeks

Aspiration Hazard

Name	Value
(R)-p-mentha-1,8-diene	Aspiration hazard
7-methyl-3-methylenoocta-1,6-diene	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
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	96 hours	LC50	0.702 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC50	0.32 mg/l

(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	48 hours	EC50	0.307 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	8 days	EC10	0.32 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC10	0.174 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	21 days	NOEC	0.153 mg/l
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Green algae	Experimental	72 hours	ErC50	0.342 mg/l
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Medaka	Experimental	96 hours	LC50	0.92 mg/l
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Water flea	Experimental	48 hours	EC50	0.45 mg/l
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Green algae	Experimental	72 hours	NOEC	0.23 mg/l
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Water flea	Experimental	21 days	NOEC	0.12 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	BOD	98 %BOD/ThOD	OECD 301C - MITI test (I)
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	Dissolv. Organic Carbon Deplet	>93.8 %removal of DOC	OECD 303A - Simulated Aerobic
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Experimental Biodegradation	28 days	BOD	76 %BOD/ThOD	OECD 301D - Closed bottle test
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Experimental Photolysis		Photolytic half-life (in air)	1.8 hours (t _{1/2})	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
(R)-p-mentha-1,8-diene	5989-27-5	Modeled Bioconcentration		Bioaccumulation factor	2100	Catalogic™
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Bioconcentration		Log Kow	4.57	
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Modeled Bioconcentration		Bioaccumulation factor	324	Catalogic™
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Experimental Bioconcentration		Log Kow	4.82	EC A.8 Partition Coefficient

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
(R)-p-mentha-1,8-diene	5989-27-5	Modeled Mobility in Soil	Koc	9,245 l/kg	Episuite™
7-methyl-3-methyleneocta-1,6-diene	123-35-3	Modeled Mobility in Soil	Koc	1,100 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)

070704* Other organic solvents, washing liquids and mother liquors

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN2319	UN2319	UN2319
14.2 UN proper shipping name	TERPENE HYDROCARBONS, N.O.S.(D-LIMONENE)	TERPENE HYDROCARBONS, N.O.S.(D-LIMONENE)	TERPENE HYDROCARBONS, N.O.S.(D-LIMONENE)
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.

Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	F1	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

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

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
(R)-p-mentha-1,8-diene	5989-27-5	Gr. 3: Not classifiable	International Agency for Research on Cancer
7-methyl-3-methylenoocta-1,6-diene	123-35-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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 material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. 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.

DIRECTIVE 2012/18/EU

Seveso hazard categories, Annex 1, Part 1

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

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

Seveso named dangerous substances, Annex 1, Part 2

None

Regulation (EU) No 649/2012

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information**List of relevant H statements**

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

No revision information

Annex

1. Title	
Substance identification	(R)-p-mentha-1,8-diene; EC No. 227-813-5; CAS Nbr 5989-27-5;
Exposure Scenario Name	Formulation
Lifecycle Stage	Formulation or re-packing
Contributing activities	PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) ERC 02 -Formulation into mixture
Processes, tasks and activities covered	Open sampling. Transfer of substance/mixture with dedicated engineering controls.
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]: 4 hours/day; Duration of use: > 4 hours task; Emission days per year: 220 days/year; Indoor use; 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: Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.; Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour);

	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.

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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