

SAFETY DATA SHEET

Lyreco Office Wet Wipes

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Lyreco Office Wet Wipes
Product number 3.338.917, ZP
Internal identification AOWW070LYR_EU

Recommended use of the chemical and restrictions on use

Application Cleaning wipes.
Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier LYRECO
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Marly,
France
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Emergency telephone number

Emergency telephone +1 202 464 2554 (USA only)
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2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Aquatic Acute 3 - H402

Label elements

Hazard statements H402 Harmful to aquatic life.
Precautionary statements P273 Avoid release to the environment.
P501 Dispose of contents/ container in accordance with national regulations.
P102 Keep out of reach of children.

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

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2-Butoxyethanol <1% CAS number: 111-76-2
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319
1-Methoxy-2-propanol <1% CAS number: 107-98-2
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336
Benzyl-C12-14-alkyldimethylammonium chlorides <1% CAS number: — M factor (Acute) = 10 M factor (Chronic) = 1
Classification Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410
Pin-2(3)-ene <1% CAS number: 80-56-8
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1B - H317 Asp. Tox. 1 - H304
Citral <1% CAS number: 5392-40-5
Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1B - H317

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Ethanol CAS number: 64-17-5	<1%
Classification Flam. Liq. 2 - H225	
2,6-Di-tert-butyl-p-cresol CAS number: 128-37-0 M factor (Acute) = 1	<1%
M factor (Chronic) = 1	
Classification Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	
Pin-2(10)-ene CAS number: 127-91-3 M factor (Acute) = 1	<1%
M factor (Chronic) = 1	
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1B - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The full text for all hazard statements is displayed in Section 16.

Composition comments None of the ingredients are required to be listed.

4. First-aid measures

Description of first aid measures

General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if any discomfort continues.
Ingestion	No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues.
Skin Contact	No specific recommendations. Rinse with water. Get medical attention if any discomfort continues.
Eye contact	Rinse with water. Get medical attention if any discomfort continues.
Protection of first aiders	Use protective equipment appropriate for surrounding materials.

Most important symptoms and effects, both acute and delayed

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
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Inhalation	No specific symptoms known. Spray/mists may cause respiratory tract irritation.
Ingestion	No specific symptoms known. May cause discomfort if swallowed.
Skin contact	No specific symptoms known. May cause discomfort.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
Specific treatments	No special treatment required.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	No specific recommendations. For personal protection, see Section 8.
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Environmental precautions

Environmental precautions	Avoid discharge to the aquatic environment.
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Methods and material for containment and cleaning up

Methods for cleaning up	Reuse or recycle products wherever possible. Absorb spillage to prevent material damage. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.
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Reference to other sections	For personal protection, see Section 8.
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7. Handling and storage

Precautions for safe handling

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Usage precautions	Keep out of the reach of children. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment.
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.
<u>Conditions for safe storage, including any incompatibilities</u>	
Storage precautions	No specific recommendations.
Storage class	Unspecified storage.
<u>Specific end uses(s)</u>	
Specific end use(s)	The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

2-Butoxyethanol

Long-term exposure limit (8-hour TWA): OSHA 50 ppm 240 mg/m³

Sk

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 97 mg/m³

A3

1-Methoxy-2-propanol

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 184 mg/m³

Short-term exposure limit (15-minute): ACGIH 100 ppm 369 mg/m³

A4

Pin-2(3)-ene

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 112 mg/m³

A4, DSens

Citral

Long-term exposure limit (8-hour TWA): ACGIH 5 ppm 32 mg/m³ inhalable fraction and vapor

A4, DSens, Sk

Ethanol

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m³

Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m³

A3

2,6-Di-tert-butyl-p-cresol

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ inhalable fraction and vapor

A4

Pin-2(10)-ene

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 112 mg/m³

A4, DSens

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.

A4 = Not Classifiable as a Human Carcinogen.

DSens = Dermal sensitizer.

A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

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2-Butoxyethanol (CAS: 111-76-2)

Immediate danger to life and health 700 ppm

Ethanol (CAS: 64-17-5)

Immediate danger to life and health 3300 ppm

Exposure controls

Appropriate engineering controls	No specific ventilation requirements.
Eye/face protection	No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.
Hand protection	No specific hand protection recommended.
Hygiene measures	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.
Respiratory protection	No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.
Environmental exposure controls	Not regarded as dangerous for the environment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid-impregnated wipe.
Odor	Characteristic.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.

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Viscosity	Not available.
Explosive properties	Not considered to be explosive.
Oxidizing properties	Does not meet the criteria for classification as oxidizing.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects

Toxicological effects	Not regarded as a health hazard under current legislation.
<u>Acute toxicity - oral</u> Notes (oral LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - dermal</u> Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u> Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u> Animal data	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u> Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitization</u> Respiratory sensitization	Based on available data the classification criteria are not met.
<u>Skin sensitization</u> Skin sensitization	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u> Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u> Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	Contains a substance/a group of substances which may cause cancer. IARC Group 1 Carcinogenic to humans.

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Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information

No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

No specific symptoms known. Spray/mists may cause respiratory tract irritation.

Ingestion

No specific symptoms known. May cause discomfort if swallowed.

Skin Contact

No specific symptoms known. May cause discomfort.

Eye contact

No specific symptoms known. May be slightly irritating to eyes.

Route of entry

Ingestion Inhalation Skin and/or eye contact

Target Organs

No specific target organs known.

Toxicological information on ingredients.

2-Butoxyethanol

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,746.0

Species Rat

Notes (oral LD₅₀) REACH dossier information. Harmful if swallowed.

ATE oral (mg/kg) 1,746.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Harmful in contact with skin.

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Harmful if inhaled.

ATE inhalation (vapours mg/l) 11.0

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: No oedema (0). REACH dossier information. Irritating.

Serious eye damage/irritation

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Serious eye damage/irritation	Dose: 0.1 mL, 24 hours, Rabbit Causes serious eye irritation.
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	NOAEC 125 ppm, Inhalation, Mouse REACH dossier information. Based on available data the classification criteria are not met.
IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Two-generation study - NOAEL 720 mg/kg/day, Oral, Mouse P REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Maternal toxicity: - NOAEL: 50 ppm, Inhalation, Rabbit REACH dossier information. Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL <69 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

1-Methoxy-2-propanol

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,739.0
Species	Rat
Notes (oral LD₅₀)	LD ₅₀ 3739 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
ATE oral (mg/kg)	3,739.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Animal data	Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	

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Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	NOEL 3000 ppm, Inhalation, Mouse REACH dossier information. Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Two-generation study - NOEL 1000 ppm, Inhalation, Rat F1 REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Teratogenicity: - NOEL: 1500 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	STOT SE 3 - H336 May cause drowsiness or dizziness. REACH dossier information.
Target organs	Central nervous system Brain
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 919 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Sodium N-lauroylsarcosinate

<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	LD ₅₀ >5000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ dust/mist mg/l)	0.051
Species	Rat
Notes (inhalation LC₅₀)	Supplier's information. Fatal if inhaled.
ATE inhalation (dusts/mists mg/l)	0.051
<u>Skin corrosion/irritation</u>	
Animal data	Irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye damage.
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	

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Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - development Developmental toxicity: - NOAEL: >250 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 30 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

Benzyl-C12-14-alkyldimethylammonium chlorides

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 795.0

Species Rat

Notes (oral LD₅₀) REACH dossier information. Based on available data the classification criteria are not met.

ATE oral (mg/kg) 795.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 3412.5 mg/kg, Dermal, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit REACH dossier information. Corrosive.

Serious eye damage/irritation

Serious eye damage/irritation Corrosive to skin. Corrosivity to eyes is assumed.

Skin sensitization

Skin sensitization Buehler test - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL >2000 ppm, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 61 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

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Fatty alcohol ethoxylate

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 384.0

Species Guinea pig

Notes (oral LD₅₀) Harmful if swallowed.

ATE oral (mg/kg) 384.0

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

d-Limonene

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 mL, 7 days, Rabbit REACH dossier information. Not irritating.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo DNA damage and/or repair: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 1650 mg/kg/day, Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard 1.003 cSt @ 25°C/77°F REACH dossier information. Aspiration hazard if swallowed.

Pin-2(3)-ene

Skin corrosion/irritation

Human skin model test Cell Viability 39.6% 15 minutes REACH dossier information. Irritating.

Serious eye damage/irritation

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Serious eye damage/irritation	Dose: 0.1 mL, 8 days, Rabbit Based on available data the classification criteria are not met.
<u>Skin sensitization</u>	
Skin sensitization	Local Lymph Node Assay (LLNA) - Mouse: Sensitizing. REACH dossier information.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Aspiration hazard if swallowed.
<u>Linalool</u>	
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	LD ₅₀ >2000 mg/kg, Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ 5610 mg/kg, Dermal, Rabbit REACH dossier information. Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	LC ₅₀ >3.2 mg/l, Inhalation, Mouse REACH dossier information. Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Animal data	Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). REACH dossier information. Irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Dose: 0.1 mL, 24 hours, Rabbit Causes serious eye irritation.
<u>Skin sensitization</u>	
Skin sensitization	Sensitizing.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL 365 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 1000 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

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p-Menth-1-en-8-ol

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 4300 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Slight oedema - edges of area well defined by definite raising (2). REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 mL, 24 hours, Rabbit Causes serious eye irritation.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Rat: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL >750 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity:, Maternal toxicity: - NOAEL: >250 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Linalyl acetate

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >9000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >5000 mg/kg, Dermal, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Slight oedema - edges of area well defined by definite raising (2). REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.05 mL, 8 days, Rabbit Causes serious eye irritation.

Germ cell mutagenicity

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Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL 500 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Developmental toxicity: - LD ₅₀ : 1000 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Citral

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 6800 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 15 minutes, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Slight oedema - edges of area well defined by definite raising (2). REACH dossier information. Highly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 mL, 8 days, Rabbit Causes serious eye irritation.

Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Sensitizing. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL 100 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL 1000 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 200 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Ethanol

Toxicological effects Not regarded as a health hazard under current legislation.

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Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 10470 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 124.7 mg/l, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.2 mL, 24 hours, Rabbit Primary dermal irritation index: 0 REACH dossier information. Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

IARC carcinogenicity IARC Group 1 Carcinogenic to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOEL 15% , Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Maternal toxicity: - NOEL: 16000 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure LOAEL ~4000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 64.0

Species Rat

ATE oral (mg/kg) 64.0

Acute toxicity - dermal

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 0.33

Species Rat

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ATE inhalation 0.33
(dusts/mists mg/l)

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin., Causes burns.

Serious eye damage/irritation

Serious eye damage/irritation Corrosivity to eyes is assumed.

Skin sensitization

Skin sensitization Epidemiological studies have shown evidence of skin sensitization.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

2,6-Di-tert-butyl-p-cresol

Toxicological effects Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2930 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 24 hours, Rabbit Erythema/eschar score: Very slight erythema - barely perceptible (1). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 100 mg, 72 hours, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL 25 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

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IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 500 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 100 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 25 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Pin-2(10)-ene

Skin corrosion/irritation

Human skin model test Cell Viability 38.5% 15 minutes REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 mL, 8 days, Rabbit Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - development Fetotoxicity: - NOAEL: 250 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Aspiration hazard if swallowed.

Octanal

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 4617 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 5207 mg/kg, Dermal, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ >830 mg/m³, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

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Animal data Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 mL, 14 days, Rabbit Causes serious eye irritation.

Skin sensitization

Skin sensitization Freund's complete adjuvant test - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo DNA damage and/or repair: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility One-generation study - NOAEL 300 mg/kg, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 1500 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Geraniol

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 3600 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >5000 mg/kg, Dermal, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). Primary dermal irritation index: 3.3 REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

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Carcinogenicity NOAEL 2000 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL 300 mg/kg/day, Dermal, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 300 mg/kg/day, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.

p-Mentha-1,3-diene

Toxicological effects No data recorded.

Acute toxicity - oral

Notes (oral LD₅₀) Harmful if swallowed.

ATE oral (mg/kg) 500.0

Aspiration hazard

Aspiration hazard Aspiration hazard if swallowed.

Caryophyllene

Toxicological effects No data recorded.

Aspiration hazard

Aspiration hazard Aspiration hazard if swallowed.

12. Ecological Information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Toxicity

Toxicity Based on available data the classification criteria are not met.

Ecological information on ingredients.

2-Butoxyethanol

Toxicity Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: 1474 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 1550 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 911 mg/l, Pseudokirchneriella subcapitata

Chronic toxicity - fish early life stage NOEL, 21 days: >100 mg/l, Brachydanio rerio (Zebra Fish)

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 100 mg/l, Daphnia magna

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1-Methoxy-2-propanol

Acute toxicity - fish	LC ₅₀ , 96 hours: 20800 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 21100 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC ₅₀ , 7 days: >1000 mg/l, Selenastrum capricornutum REACH dossier information.

Sodium N-lauroylsarcosinate

Toxicity	Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.
Acute toxicity - fish	LC ₅₀ , 96 hours: 107 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 29.7 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 39 mg/l, Desmodesmus subspicatus

Benzyl-C12-14-alkyldimethylammonium chlorides

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<u>Acute aquatic toxicity</u>	
LE(C)₅₀	0.01 < L(E)C ₅₀ ≤ 0.1
M factor (Acute)	10
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.85 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 0.32 mg/l, Acartia tonsa
Acute toxicity - aquatic plants	EC ₅₀ , 96 hours: 0.03 mg/l, Selenastrum capricornutum
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1
Short term toxicity - embryo and sac fry stages	NOEC, 28 days: 0.032 mg/l, Pimephales promelas (Fat-head Minnow)
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.0045 mg/l, Daphnia magna

Fatty alcohol ethoxylate

Toxicity	Based on available data the classification criteria are not met.
Acute toxicity - fish	LC ₅₀ , 96 hours: 7.5 mg/l, Lepomis macrochirus (Bluegill)

d-Limonene

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Toxicity Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 0.72 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.36 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 150 mg/l, Desmodesmus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: 209 mg/l, Activated sludge

Chronic aquatic toxicity

M factor (Chronic) 1

Pin-2(3)-ene

Toxicity Aquatic toxicity is unlikely to occur.

Linalool

Toxicity Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: 27.8 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 59 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 88.3 mg/l, Scenedesmus subspicatus

p-Menth-1-en-8-ol

Toxicity Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: 70 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 73 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 17 mg/l, Pseudokirchneriella subcapitata

Linalyl acetate

Toxicity Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: 11 mg/l, Cyprinus carpio (Common carp)

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Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 15 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 62 mg/l, Scenedesmus subspicatus

Citral

Toxicity	Based on available data the classification criteria are not met.
Acute toxicity - fish	LC ₅₀ , 96 hours: 6.78 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 6.8 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 103.8 mg/l, Scenedesmus subspicatus

Ethanol

Toxicity	Based on available data the classification criteria are not met.
Acute toxicity - fish	LC ₅₀ , 96 hours: 14200 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 5012 mg/l, Ceriodaphnia dubia
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 11.5 mg/l, Chlorella vulgaris
Chronic toxicity - aquatic invertebrates	NOEC, 9 days: 9.6 mg/l, Daphnia magna

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Acute aquatic toxicity

LE(C)₅₀	0.01 < L(E)C ₅₀ ≤ 0.1
M factor (Acute)	10
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.19 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.16 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 0.027 mg/l, Selenastrum capricornutum

Chronic aquatic toxicity

M factor (Chronic)	1
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2,6-Di-tert-butyl-p-cresol

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<u>Acute aquatic toxicity</u>	

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LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.48 mg/l, Daphnia magna
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

Pin-2(10)-ene

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<u>Acute aquatic toxicity</u>	
LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.557 mg/l, Cyprinus carpio (Common carp)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1.25 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 48 hours: 0.826 mg/l, Pseudokirchneriella subcapitata
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

Octanal

Toxicity	Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.
Acute toxicity - fish	LC ₅₀ , 14 days: 7.9 mg/l, Poecilia reticulata (Guppy)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 3.48 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 1.79 mg/l, Pseudokirchneriella subcapitata

Geraniol

Toxicity	Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.
Acute toxicity - fish	LC ₅₀ , 96 hours: 22 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 10.8 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 13.1 mg/l, Desmodemus subspicatus

p-Mentha-1,3-diene

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Toxicity	Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.
Acute toxicity - fish	LC ₅₀ , 96 hours: 7.7 mg/l, Pimephales promelas (Fat-head Minnow), Estimated value.
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 25.5 mg/l, Daphnia magna, Estimated value.

Caryophyllene

Toxicity	Based on available data the classification criteria are not met.
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Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

2-Butoxyethanol

Persistence and degradability	The substance is readily biodegradable.
Biodegradation	Water - Degradation 90.4%: 28 days

1-Methoxy-2-propanol

Persistence and degradability	The substance is readily biodegradable.
Phototransformation	Water - DT ₅₀ : 3.1 hours REACH dossier information.
Biodegradation	Water - Degradation 96%: 28 days REACH dossier information.

1-(2-Butoxy-1-methylethoxy)propan-2-ol

Persistence and degradability	The product is readily biodegradable.
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Sodium N-lauroylsarcosinate

Persistence and degradability	The substance is readily biodegradable.
Biodegradation	Water - Degradation 82%: 28 days

Benzyl-C12-14-alkyldimethylammonium chlorides

Persistence and degradability	The substance is readily biodegradable.
Phototransformation	Water - DT ₅₀ : 0.26 days
Stability (hydrolysis)	pH4 - Recovery 94.6%: 30 days @ 25°C pH7 - Recovery 94.4%: 30 days @ 25°C pH9 - Recovery 99.5%: 30 days @ 25°C
Biodegradation	Water - Degradation 95.5%: 28 days

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Fatty alcohol ethoxylate

Persistence and degradability The substance is readily biodegradable.

d-Limonene

Persistence and degradability The substance is readily biodegradable.

Phototransformation Water - Half-life : 0.365 hours
Estimated value.

Biodegradation Water - Degradation 80%: 28 days

Pin-2(3)-ene

Persistence and degradability The product is biodegradable.

Phototransformation Water - DT₅₀ : 0.44-1.41 hours

Linalool

Persistence and degradability The substance is readily biodegradable.

Biodegradation Water - Degradation 64.2%: 28 days

p-Menth-1-en-8-ol

Persistence and degradability The substance is readily biodegradable.

Biodegradation Water - Degradation 80%: 28 days

Linalyl acetate

Persistence and degradability The substance is readily biodegradable.

Phototransformation Water - DT₅₀ : 3.31 hours

Stability (hydrolysis) pH4 - Recovery 2%: 2.4 hours @ 25°C
pH7 - Recovery 3%: 2.4 hours @ 25°C
pH9 - Recovery 4%: 2.4 hours @ 25°C

Biodegradation Water - Degradation 70-80%: 28 days

Citral

Persistence and degradability The substance is readily biodegradable.

Phototransformation Water - DT₅₀ : 37.35 minutes

Biodegradation Water - Degradation 85-95%: 28 days

Ethanol

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Persistence and degradability The substance is readily biodegradable.

Biodegradation Water - Degradation 74%: 10 days

Chemical oxygen demand 1.99 g O₂/g substance

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Biodegradation Water - DT₅₀ : 0.2 - 1.3 days

2,6-Di-tert-butyl-p-cresol

Persistence and degradability Not readily biodegradable.

Phototransformation Water - DT₅₀ : 7 hours
Estimated value.

Biodegradation Water - Degradation 4.5%: 28 days

Pin-2(10)-ene

Persistence and degradability The substance is readily biodegradable.

Biodegradation Water - Degradation 76%: 28 days

Octanal

Persistence and degradability Moderately biodegradable.

Biodegradation Water - Degradation 46%: 28 days

Geraniol

Persistence and degradability The substance is readily biodegradable.

Biodegradation Water - Degradation 90-100%: 3 days

p-Mentha-1,3-diene

Persistence and degradability The product is expected to be biodegradable.

Biodegradation - Half-life : 15 days
Estimated value.

Caryophyllene

Persistence and degradability Not expected to be readily biodegradable.

Biodegradation - Half-life : 37.5 days
Estimated value.

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Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not available.

Ecological information on ingredients.

2-Butoxyethanol

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Kow: 0.81

1-Methoxy-2-propanol

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient log Pow: <1 REACH dossier information.

Sodium N-lauroylsarcosinate

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 0.37

Benzyl-C12-14-alkyldimethylammonium chlorides

Bio-Accumulative Potential BCF: 67.62, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.75

Fatty alcohol ethoxylate

Bio-Accumulative Potential Bioaccumulation is unlikely.

d-Limonene

Bio-Accumulative Potential BCF: 1022, Estimated value.

Partition coefficient log Pow: 4.38

Pin-2(3)-ene

Bio-Accumulative Potential BCF: 1845, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Pow: 4.487

Linalool

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.84

p-Menth-1-en-8-ol

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.6

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Linalyl acetate

Bio-Accumulative Potential BCF: 173.9, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.9

Citral

Bio-Accumulative Potential BCF: 89.72, Estimated value. The product is not bioaccumulating.

Partition coefficient log Pow: 2.76

Ethanol

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: -0.35

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 0.401

2,6-Di-tert-butyl-p-cresol

Bio-Accumulative Potential BCF: 330, Cyprinus carpio (Common carp)

Partition coefficient log Pow: 5.1

Pin-2(10)-ene

Bio-Accumulative Potential BCF: 383.1, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Pow: 4.425

Octanal

Bio-Accumulative Potential BCF: 95, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Pow: 3.5

Geraniol

Bio-Accumulative Potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 2.6

p-Mentha-1,3-diene

Bio-Accumulative Potential log BCF: 4, Estimated value. Bioaccumulation is unlikely.

Partition coefficient log Kow: 4.25

Caryophyllene

Bio-Accumulative Potential log BCF: 4.8, Estimated value. Potentially bioaccumulating.

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Partition coefficient log Kow: 6.3 Estimated value.

Mobility in soil

Mobility No data available.

Ecological information on ingredients.

2-Butoxyethanol

Mobility The product is miscible with water and may spread in water systems.

Surface tension 29.53 mN/m @ 20°C

1-Methoxy-2-propanol

Mobility Mobile.

Surface tension 70.7 mN/m @ 20°C

Sodium N-lauroylsarcosinate

Mobility The product is partly soluble in water and may spread in the aquatic environment.

Surface tension 40.5 mN/m @ 20°C

Benzyl-C12-14-alkyldimethylammonium chlorides

Mobility The product is soluble in water.

Henry's law constant 0.00000104 Pa m³/mol @ 25°C Estimated value.

Surface tension 28.27 mN/m @ 19.7°C

Fatty alcohol ethoxylate

Mobility The product is soluble in water.

d-Limonene

Mobility The product is partly soluble in water and may spread in the aquatic environment.

Adsorption/desorption coefficient Water - Koc: 1984 @ 25°C

Pin-2(3)-ene

Mobility The product is insoluble in water.

Adsorption/desorption coefficient Water - Koc: 2184 @ 25°C Estimated value.

Linalool

Mobility The product is soluble in water.

p-Menth-1-en-8-ol

Mobility The product is soluble in water.

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Linalyl acetate

Mobility	The product is partly soluble in water and may spread in the aquatic environment.
Adsorption/desorption coefficient	Water - Log Koc: 2.71 @ 25°C Estimated value.
Henry's law constant	176.31 Pa m ³ /mol @ 25°C Estimated value.

Citral

Mobility	The product is partly soluble in water and may spread in the aquatic environment.
Adsorption/desorption coefficient	Water - Log Koc: 2.169 @ 25°C Estimated value.
Henry's law constant	0.000376 atm m ³ /mol @ 25°C

Ethanol

Mobility	The product is soluble in water.
Surface tension	24.5 mN/m @ 20°C/68°F

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Mobility	No data available.
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2,6-Di-tert-butyl-p-cresol

Mobility	The product is partly soluble in water and may spread in the aquatic environment.
Henry's law constant	0.342 Pa m ³ /mol @ 25°C

Pin-2(10)-ene

Mobility	The product is partly soluble in water and may spread in the aquatic environment.
Adsorption/desorption coefficient	Water - Koc: 2080 @ 25°C Estimated value.

Octanal

Mobility	The product is partly soluble in water and may spread in the aquatic environment.
Adsorption/desorption coefficient	Estimated value. Water - Log Koc: 2.63 @ 25°C
Surface tension	27.9 mN/m @ 20°C

Geraniol

Mobility	The product is soluble in water.
Adsorption/desorption coefficient	Water - Log Koc: 1.85 @ 25°C Estimated value.

p-Mentha-1,3-diene

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Mobility No data available.

Caryophyllene

Mobility The product has poor water-solubility.

Results of PBT and vPvB assessment Ecological information on ingredients.

2-Butoxyethanol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

1-Methoxy-2-propanol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Sodium N-lauroylsarcosinate

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Benzyl-C12-14-alkyldimethylammonium chlorides

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Fatty alcohol ethoxylate

Results of PBT and vPvB assessment No data available.

d-Limonene

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.
Estimated value.

Pin-2(3)-ene

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Linalool

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

p-Menth-1-en-8-ol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Linalyl acetate

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Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Citral

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ethanol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

2,6-Di-tert-butyl-p-cresol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Pin-2(10)-ene

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Octanal

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Geraniol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

p-Mentha-1,3-diene

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Caryophyllene

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

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General information	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

UN Number

Not applicable.

UN proper shipping name

Not applicable.

Transport hazard class(es)

No transport warning sign required.

Transport labels

DOT transport labels

No transport warning sign required.

Packing group

Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

DOT TIH Zone

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

International Regulations

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

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SARA 313 Emission Reporting

The following ingredients are listed or exempt:

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

The following ingredients are listed or exempt:

California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed or exempt:

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

Inventories

US - TSCA

The following ingredients are listed or exempt:

US - TSCA 12(b) Export Notification

The following ingredients are listed or exempt:

16. Other information

Training advice

Read and follow manufacturer's recommendations.

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Issued by	Bethan Massey
Revision date	11/24/2016
Revision	0
SDS No.	627
Hazard statements in full	H225 Highly flammable liquid and vapor. H226 Flammable liquid and vapor. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H336 May cause drowsiness or dizziness. H400 Very toxic to aquatic life. H402 Harmful to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.