Tork Constant Air Freshener Blossom

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SECTION 1: IDENTIFICATION

Product name : Tork Constant Air Freshener Blossom

Manufacturer or supplier's details

Company : Importer
Essity Australasia

Address : 30-32 Westall Road
SPRINGVALE VIC, Australia 3171

Telephone : +61 1800 643 634

Emergency telephone number : Australia: 000

E-mail address : customerservice.anz@essity.com

Recommended use of the chemical and restrictions on use

Recommended use : Fragrances

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Skin corrosion/irritation : Category 2

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H227 Combustible liquid.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing mist or vapours.

P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Vapours may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Benzyl acetate	140-11-4	>= 10 -< 30
2,2-Dimethyl 7-octen-2-ol	18479-58-8	< 10
3,7-dimethyloct-6-en-3-ol	18479-51-1	< 10
Cineole	470-82-6	>= 1 -< 10
3,7-Dimethyl 2,6-octadienal	5392-40-5	>= 1 -< 10
Methyl benzoate	93-58-3	< 3
Reaction mass of Benzenepropanal, 4-ethyl-α, α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal	67634-14-4	< 1
Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde	68039-49-6	< 1
2,6-Dimethylhept-5-enal	106-72-9	< 1
l-p-Mentha-1(6),8-dien-2-one	6485-40-1	< 1
Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol	1655500-83-6	< 1
4-Allyl-2- methoxyphenol	97-53-0	< 1
Undec-10-enal	112-45-8	< 1
Dodecanal	112-54-9	< 1

SECTION 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. May cause an allergic skin reaction.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Avoid breathing mist or vapours.
Do not swallow.

Avoid contact with eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.

Conditions for safe storage : Keep in properly labelled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

Recommended storage temperature : 10 - 30 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Benzyl acetate	140-11-4	TWA	10 ppm	ACGIH
3,7-Dimethyl 2,6-octadienal	5392-40-5	TWA (Inhalable fraction and vapor)	5 ppm	ACGIH

Engineering measures : Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type	:	Organic vapour type
Hand protection		
Material	:	Chemical-resistant gloves
Break through time	:	> 10 min
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Eye protection	:	Wear the following personal protective equipment: Safety glasses
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	red, dark red
Odour	:	fruity, floral
Odour Threshold	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	70 °C Method: closed cup
Evaporation rate	:	No data available

Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	0.3169 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.9892 g/cm³ (20 °C)
Solubility(ies)		
Water solubility	:	practically insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Combustible liquid. Vapours may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents

Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Not classified based on available information.

Components:

Benzyl acetate:

Acute oral toxicity	:	LD50 (Rat): 2,490 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 0.766 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

2,2-Dimethyl 7-octen-2-ol:

Acute oral toxicity	:	LD50 (Rat): 3,020 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

3,7-dimethyloct-6-en-3-ol:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

Cineole:

Acute oral toxicity	:	LD50 (Rat, female): 4,300 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

3,7-Dimethyl 2,6-octadienal:

Acute oral toxicity	:	LD50 (Rat, female): 4,895 mg/kg

Acute inhalation toxicity	:	LC50 (Rat): > 0.68 mg/l Exposure time: 7 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rabbit): 2,250 mg/kg

Methyl benzoate:

Acute oral toxicity	:	LD50 (Rat): 1,625 mg/kg Method: OECD Test Guideline 401

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Acute oral toxicity	:	LD50 (Rat, male): > 5,000 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Acute oral toxicity	:	LD50 (Rat): > 2,000 - 5,000 mg/kg Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials

2,6-Dimethylhept-5-enal:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

l-p-Mentha-1(6),8-dien-2-one:

Acute oral toxicity	:	LD50 (Rat, female): 4,900 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Remarks: Based on data from similar materials

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity	:	LD50 (Rat, female): > 1,000 - 2,000 mg/kg Method: OECD Test Guideline 402

4-Allyl-2- methoxyphenol:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg LD50 (Mouse): > 1,500 - 3,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.6 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Undec-10-enal:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 423
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Dodecanal:

Acute oral toxicity	:	LD50 (Rat): 23,100 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Components:

Benzyl acetate:

Species	:	Rabbit
Method	:	Directive 67/548/EEC, Annex V, B.4.
Result	:	No skin irritation

2,2-Dimethyl 7-octen-2-ol:

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 439

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 431

Result	:	Skin irritation

3,7-dimethyloct-6-en-3-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404

Result : Skin irritation

Cineole:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result : No skin irritation

3,7-Dimethyl 2,6-octadienal:

Species : Rabbit
Result : Skin irritation

Methyl benzoate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result : Skin irritation

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Based on data from similar materials

2,6-Dimethylhept-5-enal:

Species : Rabbit
Result : No skin irritation

l-p-Mentha-1(6),8-dien-2-one:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 431

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result	:	Skin irritation

4-Allyl-2- methoxyphenol:

Species	:	Rabbit
Result	:	Mild skin irritation

Undec-10-enal:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation

Dodecanal:

Species	:	Rabbit
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Benzyl acetate:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	Directive 67/548/EEC, Annex V, B.5.

2,2-Dimethyl 7-octen-2-ol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

Cineole:

Species	:	Bovine cornea
Method	:	OECD Test Guideline 437
Result	:	No eye irritation

3,7-Dimethyl 2,6-octadienal:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

Methyl benzoate:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Species	:	Chicken eye
Method	:	OECD Test Guideline 438
Result	:	No eye irritation

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	Draize Test
Remarks	:	Based on data from similar materials

l-p-Mentha-1(6),8-dien-2-one:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Species	:	Bovine cornea
Method	:	OECD Test Guideline 437
Species	:	Tissue Culture
Method	:	OECD Test Guideline 491
Result	:	Irritation to eyes, reversing within 21 days

4-Allyl-2- methoxyphenol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	Draize Test

Undec-10-enal:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Benzyl acetate:

Test Type	:	Magnusson-Kligman-Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

2,2-Dimethyl 7-octen-2-ol:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

3,7-dimethyloct-6-en-3-ol:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative

Cineole:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

3,7-Dimethyl 2,6-octadienal:

Test Type	:	Human repeat insult patch test (HRIPT)
Exposure routes	:	Skin contact
Result	:	positive
Assessment	:	Probability or evidence of skin sensitisation in humans

Methyl benzoate:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact

Species	:	Mouse
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

2,6-Dimethylhept-5-enal:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive

Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

l-p-Mentha-1(6),8-dien-2-one:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive

Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive

Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

4-Allyl-2- methoxyphenol:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Undec-10-enal:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Dodecanal:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive
Remarks	:	Based on data from similar materials
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

Benzyl acetate:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	:	Test Type: unscheduled DNA synthesis assay Species: Rat Application Route: Ingestion Result: negative

2,2-Dimethyl 7-octen-2-ol:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

3,7-dimethyloct-6-en-3-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Cineole:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

3,7-Dimethyl 2,6-octadienal:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Methyl benzoate:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476

Result: negative

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 490
Result: negative

Test Type: in vitro micronucleus test
Method: OECD Test Guideline 487
Result: negative

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

2,6-Dimethylhept-5-enal:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

l-p-Mentha-1(6),8-dien-2-one:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471

		Result: negative Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: positive Remarks: Based on data from similar materials Test Type: In vitro sister chromatid exchange assay in mammalian cells Method: OECD Test Guideline 479 Result: positive Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Method: OECD Test Guideline 486 Result: negative Remarks: Based on data from similar materials

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative

4-Allyl-2- methoxyphenol:

Genotoxicity in vitro	:	Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: positive Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)

		Species: Mouse Application Route: Intraperitoneal injection Result: negative Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Result: negative
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Undec-10-enal:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative

Dodecanal:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials Test Type: in vitro micronucleus test Method: OECD Test Guideline 487 Result: negative Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

Benzyl acetate:

Species	:	Mouse
Application Route	:	Ingestion
Exposure time	:	103 weeks
Result	:	negative

3,7-Dimethyl 2,6-octadienal:

Species	:	Mouse
Application Route	:	Ingestion
Exposure time	:	104 - 105 weeks
Result	:	negative

l-p-Mentha-1(6),8-dien-2-one:

Species	:	Mouse
Application Route	:	Ingestion
Exposure time	:	103 weeks
Result	:	negative
Remarks	:	Based on data from similar materials

4-Allyl-2- methoxyphenol:

Species	:	Mouse
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:

Benzyl acetate:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

2,2-Dimethyl 7-octen-2-ol:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials

Cineole:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion

Method: OECD Test Guideline 421
Result: negative

3,7-Dimethyl 2,6-octadienal:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 443 Result: negative
Effects on foetal development	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 443 Result: negative

Methyl benzoate:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: positive Remarks: The test was conducted according to guideline
Reproductive toxicity - Assessment	:	Some evidence of adverse effects on development, based on animal experiments.

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative
Effects on foetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative

l-p-Mentha-1(6),8-dien-2-one:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative
Effects on foetal develop-	:	Test Type: Embryo-foetal development

ment		Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: negative
Effects on foetal development	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: negative

4-Allyl-2- methoxyphenol:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials

Undec-10-enal:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative

Dodecanal:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test

		Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Components:

2,2-Dimethyl 7-octen-2-ol:

Assessment	:	May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Benzyl acetate:

Species	:	Rat
NOAEL	:	500 mg/kg
Application Route	:	Ingestion
Exposure time	:	14 Days

2,2-Dimethyl 7-octen-2-ol:

Species	:	Rat
LOAEL	:	> 100 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408
Remarks	:	Based on data from similar materials

Cineole:

Species	:	Rat
NOAEL	:	600 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407

3,7-Dimethyl 2,6-octadienal:

Species	:	Rat, female
LOAEL	:	335 mg/kg

Application Route	:	Ingestion
Exposure time	:	14 Weeks

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Species	:	Rat
NOAEL	:	>= 300 mg/kg
Application Route	:	Ingestion
Exposure time	:	42 - 56 Days
Method	:	OECD Test Guideline 422

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Species	:	Rat
NOAEL	:	> 100 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Remarks	:	Based on data from similar materials

2,6-Dimethylhept-5-enal:

Species	:	Rat
NOAEL	:	> 300 mg/kg
Application Route	:	Ingestion
Exposure time	:	29 Days

l-p-Mentha-1(6),8-dien-2-one:

Species	:	Mouse
NOAEL	:	> 100 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Species	:	Rat, male
NOAEL	:	296 mg/kg
LOAEL	:	1,011 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407

4-Allyl-2- methoxyphenol:

Species	:	Mouse
NOAEL	:	450 mg/kg
LOAEL	:	900 mg/kg
Application Route	:	Ingestion
Exposure time	:	2 yr

Undec-10-enal:

Species	:	Rat
NOAEL	:	138.6 mg/kg
LOAEL	:	382.3 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408

Dodecanal:

Species	:	Rat
NOAEL	:	1,409.7 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Benzyl acetate:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): 4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 110 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 52 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Oryzias latipes (Orange-red killifish)): 0.92 mg/l Exposure time: 28 d
Toxicity to microorganisms	:	EC50: 855 mg/l Exposure time: 3 h

2,2-Dimethyl 7-octen-2-ol:

Toxicity to fish	:	LC50 : > 10 - 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 38 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 80 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 25 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

3,7-dimethyloct-6-en-3-ol:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 42 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 32 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 4.6 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 ErC50 (Pseudokirchneriella subcapitata (green algae)): 78 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Cineole:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 57 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 74 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 37 mg/l Exposure time: 96 h

		Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

3,7-Dimethyl 2,6-octadienal:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 6.78 mg/l Exposure time: 96 h Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 6.8 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 103.8 mg/l Exposure time: 72 h EC10 (Desmodesmus subspicatus (green algae)): 3 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (activated sludge): 160 mg/l Exposure time: 30 min Method: OECD Test Guideline 209

Methyl benzoate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 23 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1. Remarks: The test was conducted according to guideline
Toxicity to algae/aquatic plants	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 111.9 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3. Remarks: The test was conducted according to guideline EC10 (Selenastrum capricornutum (fresh water algae)): 62.4 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3. Remarks: The test was conducted according to guideline
Toxicity to microorganisms	:	EC50 (activated sludge): 815 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: The test was conducted according to guideline

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.7 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.87 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 1.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC10 (activated sludge): > 10 - 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 1 - 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l Exposure time: 48 h Method: Directive 67/548/EEC, Annex V, C.2. Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

2,6-Dimethylhept-5-enal:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other	:	EL50 (Daphnia magna (Water flea)): 2.4 mg/l

aquatic invertebrates		Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials EC10 (Desmodesmus subspicatus (green algae)): > 1 - 10 mg/l Exposure time: 72 h Remarks: Based on data from similar materials

l-p-Mentha-1(6),8-dien-2-one:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 6.1 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 38 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 19 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 4.3 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.4 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 8.6 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 EC10 (Raphidocelis subcapitata (freshwater green alga)): 2.4

		mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

4-Allyl-2- methoxyphenol:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): 13 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.05 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 24 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 EC10 (Desmodesmus subspicatus (green algae)): 23 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Undec-10-enal:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 1.77 - 2.66 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 5.2 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.18 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 1.64 mg/l Exposure time: 30 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Toxicity to microorganisms	:	EC50 (activated sludge): 60 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Dodecanal:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.27 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 0.048 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 EC10 (Raphidocelis subcapitata (freshwater green alga)): > 0.048 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): >= 16 mg/l Exposure time: 16 h Method: DIN 38 412 Part 8

Persistence and degradability

Components:

Benzyl acetate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d

2,2-Dimethyl 7-octen-2-ol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 72 % Exposure time: 28 d Method: OECD Test Guideline 301B

3,7-dimethyloct-6-en-3-ol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 64 % Exposure time: 28 d Method: OECD Test Guideline 301D

Cineole:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 82 % Exposure time: 28 d Method: OECD Test Guideline 301F

3,7-Dimethyl 2,6-octadienal:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 90 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.D.

Methyl benzoate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 62 % Exposure time: 29 d Method: Directive 67/548/EEC Annex V, C.4.C.

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 2 % Exposure time: 28 d Method: OECD Test Guideline 301D

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 3 % Exposure time: 28 d Method: OECD Test Guideline 301F

2,6-Dimethylhept-5-enal:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 75 % Exposure time: 28 d Method: OECD Test Guideline 301F

l-p-Mentha-1(6),8-dien-2-one:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301F

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Biodegradability	:	Result: Not readily biodegradable.

		Biodegradation: 22 % Exposure time: 28 d Method: OECD Test Guideline 301F

4-Allyl-2- methoxyphenol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 82 % Exposure time: 28 d Method: Regulation (EC) No. 440/2008, Annex, C.4-E

Undec-10-enal:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 82 % Exposure time: 28 d Method: OECD Test Guideline 301F

Dodecanal:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 73 % Exposure time: 28 d Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

Benzyl acetate:

Partition coefficient: n-octanol/water	:	log Pow: 1.96

2,2-Dimethyl 7-octen-2-ol:

Partition coefficient: n-octanol/water	:	log Pow: 3.25 Method: OECD Test Guideline 117

3,7-dimethyloct-6-en-3-ol:

Partition coefficient: n-octanol/water	:	log Pow: 2.9

Cineole:

Partition coefficient: n-octanol/water	:	log Pow: 3.4

3,7-Dimethyl 2,6-octadienal:

Partition coefficient: n-octanol/water	:	log Pow: 2.76

Methyl benzoate:

Partition coefficient: n-	:	log Pow: 2.12

octanol/water

Reaction mass of Benzenepropanal, 4-ethyl-α,α-dimethyl- and 3-(2-ethylphenyl)-2,2-dimethylpropanal:

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): < 132
Partition coefficient: n-octanol/water	:	log Pow: 4.1

Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde:

Partition coefficient: n-octanol/water	:	log Pow: 2.85 Remarks: Calculation

2,6-Dimethylhept-5-enal:

Partition coefficient: n-octanol/water	:	log Pow: 3.4 Method: OECD Test Guideline 117

l-p-Mentha-1(6),8-dien-2-one:

Partition coefficient: n-octanol/water	:	log Pow: 2.71 - 2.74

Reaction mass of rel-{(1R,2S)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol and rel-{(1S,2R)-1-methyl-2-[(2R)-5-methylhex-4-en-2-yl]cyclopropyl}methanol**:**

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 33 Method: OECD Test Guideline 305
Partition coefficient: n-octanol/water	:	log Pow: 3.5 Method: OECD Test Guideline 117

4-Allyl-2- methoxyphenol:

Partition coefficient: n-octanol/water	:	log Pow: 1.83

Undec-10-enal:

Partition coefficient: n-octanol/water	:	log Pow: 4.672 Method: OECD Test Guideline 117

Dodecanal:

Partition coefficient: n-octanol/water	:	log Pow: 4.9 Method: OECD Test Guideline 117

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Environmentally hazardous	:	no

IATA-DGR

Not regulated as a dangerous good

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

Not regulated as a dangerous good

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable

EmS Code : Not applicable
Marine pollutant : Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

Not regulated as a dangerous good

UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
Hazchem Code : Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

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

Therapeutic Goods (Poisons Standard) Instrument : Schedule 6 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

AIIC : All ingredients listed or exempt.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Further information

Revision Date : 14.10.2025

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

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