Version	Revision Date:	SDS Number:	Date of last issue: 30.07.2025
2.0	17.10.2025	11439954-00004	Date of first issue: 08.10.2024

SECTION 1: IDENTIFICATION

Product name : Tork Constant Air Freshener Breeze

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 sensitisation : Category 1

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H227 Combustible liquid.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.

Precautionary statements : **Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing mist or vapours.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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)
Methyl benzoate	93-58-3	>= 3 -< 10
2,2-Dimethyl 7-octen-2-ol	18479-58-8	< 10
Allyl (cyclohexyloxy)acetate	68901-15-5	< 10
Ionone, methyl-	1335-46-2	< 10
p-tert-Butylcyclohexyl Acetate	32210-23-4	>= 1 -< 10
Linalyl acetate	115-95-7	< 1
Dimethyl octadienol	78-70-6	< 1
Undec-10-enal	112-45-8	< 1
Reaction mass of 3,5-dimethylcyclohex-3-ene-1-carbaldehyde and 2,4-dimethylcyclohex-3-ene-1-carbaldehyde	68039-49-6	< 1
4-Allyl-2- methoxyphenol	97-53-0	< 1
3,7-Dimethyl 2,6-octadienal	5392-40-5	< 1
2-Methyldecan-1-al	19009-56-4	< 1
Undecenal	Not Assigned	< 1
Cineole	470-82-6	< 1
(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one	24720-09-0	< 1
Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one	56973-85-4	< 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. Remove 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	:	May cause an allergic skin reaction. Suspected of damaging the unborn child.
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 Nitrogen oxides (NOx)

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.
Hazchem Code	:	•3Z

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. 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. Store locked up. 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
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
Odour	:	fruity
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	:	64 °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	:	0.5261 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.9413 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.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

Methyl benzoate:

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

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

Allyl (cyclohexyloxy)acetate:

Acute oral toxicity : LD50 (Rat): 620 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Ionone, methyl-:

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

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

p-tert-Butylcyclohexyl Acetate:

Acute oral toxicity : LD50 (Rat): 3,323 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 4,680 mg/kg

		Assessment: The substance or mixture has no acute dermal toxicity

Linalyl acetate:

Acute oral toxicity	:	LD50 (Rat): > 9,000 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

Dimethyl octadienol:

Acute oral toxicity	:	LD50 (Rat): 2,790 mg/kg Method: OECD Test Guideline 401 Remarks: The test was conducted equivalent or similar to guideline
Acute inhalation toxicity	:	LC50 (Mouse): > 3.2 mg/l Exposure time: 90 min Test atmosphere: vapour Remarks: No test guideline followed
Acute dermal toxicity	:	LD50 (Rabbit): 5,610 mg/kg Method: OECD Test Guideline 402 Remarks: The test was conducted equivalent or similar to guideline

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

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

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

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

2-Methyldecan-1-al:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 420

Undecenal:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 1 - 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Remarks: Based on data from similar materials

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Acute oral toxicity	:	LD50 (Rat, female): 1,500 mg/kg
Acute dermal toxicity	:	LD50 (Rat, female): 2,150 - 2,780 mg/kg

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

Methyl benzoate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
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

Allyl (cyclohexyloxy)acetate:

Species	:	Rabbit
Result	:	No skin irritation

Ionone, methyl-:

Species	:	Rabbit
Result	:	Skin irritation

p-tert-Butylcyclohexyl Acetate:

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 439
Result	:	No skin irritation

Linalyl acetate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Dimethyl octadienol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation
Remarks	:	The test was conducted according to guideline

Undec-10-enal:

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

4-Allyl-2- methoxyphenol:

Species	:	Rabbit
Result	:	Mild skin irritation

3,7-Dimethyl 2,6-octadienal:

Species	:	Rabbit
Result	:	Skin irritation

2-Methyldecan-1-al:

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

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

Result	:	Skin irritation

Undecenal:

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

Cineole:

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

Result	:	No skin irritation

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Species	:	Rabbit
Result	:	No skin irritation

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

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

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Methyl benzoate:

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

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

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

Allyl (cyclohexyloxy)acetate:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Ionone, methyl-:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 7 days
Remarks	:	Based on data from similar materials

p-tert-Butylcyclohexyl Acetate:

Species	:	Rabbit
Result	:	No eye irritation

Linalyl acetate:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Dimethyl octadienol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405
Remarks	:	The test was conducted equivalent or similar to guideline

Undec-10-enal:

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

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

4-Allyl-2- methoxyphenol:

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

3,7-Dimethyl 2,6-octadienal:

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

2-Methyldecan-1-al:

Species : Bovine cornea
Method : OECD Test Guideline 437

Result : No eye irritation

Undecenal:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days
Remarks : Based on data from similar materials

Cineole:

Species : Bovine cornea
Method : OECD Test Guideline 437

Result : No eye irritation

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Species : Rabbit
Result : No eye irritation

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

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:

Methyl benzoate:

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

Allyl (cyclohexyloxy)acetate:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

Ionone, methyl-:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

p-tert-Butylcyclohexyl Acetate:

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

Linalyl acetate:

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

Dimethyl octadienol:

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

Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	positive
Remarks	:	The test was conducted according to guideline
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

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

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

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

2-Methyldecan-1-al:

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

Undecenal:

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

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

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

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-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

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

Methyl benzoate:

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

Allyl (cyclohexyloxy)acetate:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials

Ionone, methyl-:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative

p-tert-Butylcyclohexyl Acetate:

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 Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials

Linalyl acetate:

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 Result: negative Remarks: Based on data from similar materials Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 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 Remarks: Based on data from similar materials

Dimethyl octadienol:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: The test was conducted equivalent or similar to guideline Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: The test was conducted equivalent or similar to guideline Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: The test was conducted equivalent or similar to guideline
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 Remarks: The test was conducted according to guideline

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

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

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.

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

2-Methyldecan-1-al:

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
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

Undecenal:

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: in vitro micronucleus test
Method: OECD Test Guideline 487
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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-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
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-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 490
Result: negative

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

Carcinogenicity

Not classified based on available information.

Components:

4-Allyl-2- methoxyphenol:

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

3,7-Dimethyl 2,6-octadienal:

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

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

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.

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

Allyl (cyclohexyloxy)acetate:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 415 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

Ionone, methyl-:

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

p-tert-Butylcyclohexyl Acetate:

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

Linalyl acetate:

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

Dimethyl octadienol:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative Remarks: No test guideline followed

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

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

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

2-Methyldecan-1-al:

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: 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

Undecenal:

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

Cineole:

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

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

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

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

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.

Components:

Linalyl acetate:

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Remarks : Based on data from similar materials

Repeated dose toxicity

Components:

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

Allyl (cyclohexyloxy)acetate:

Species	:	Rat
NOAEL	:	> 214 mg/kg
Application Route	:	Ingestion
Exposure time	:	1 yr
Remarks	:	Based on data from similar materials

Ionone, methyl-:

Species	:	Rat
NOAEL	:	50 mg/m3
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	90 Days

p-tert-Butylcyclohexyl Acetate:

Species	:	Rat
NOAEL	:	> 300 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407
Remarks	:	Based on data from similar materials

Linalyl acetate:

Species	:	Rat
NOAEL	:	> 30 - 300 mg/kg

Application Route	:	Ingestion
Exposure time	:	28 Days
Remarks	:	Based on data from similar materials

Species	:	Rat
NOAEL	:	> 100 mg/kg
Application Route	:	Skin contact
Exposure time	:	91 Days
Remarks	:	Based on data from similar materials

Dimethyl octadienol:

Species	:	Rat, male
NOAEL	:	>= 497.9 mg/kg
Application Route	:	Ingestion
Exposure time	:	96 Days
Method	:	OECD Test Guideline 408
Remarks	:	The test was conducted according to guideline

Species	:	Rat
NOAEL	:	250 mg/kg
Application Route	:	Skin contact
Exposure time	:	91 Days
Method	:	OECD Test Guideline 411
Remarks	:	The test was conducted equivalent or similar to guideline

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

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

4-Allyl-2- methoxyphenol:

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

3,7-Dimethyl 2,6-octadienal:

Species	:	Rat, female
LOAEL	:	335 mg/kg

Application Route	:	Ingestion
Exposure time	:	14 Weeks

2-Methyldecan-1-al:

Species	:	Rat
	:	>= 1000 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 - 48 Days
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

Undecenal:

Species	:	Rat
NOAEL	:	>= 1,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	63 Days
Method	:	OECD Test Guideline 422

Cineole:

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

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

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

Species	:	Rat
NOAEL	:	42 mg/kg
LOAEL	:	137 mg/kg
Application Route	:	Ingestion
Exposure time	:	> 90 Days

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

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

Allyl (cyclohexyloxy)acetate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 0.205 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 6.09 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 69.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 EC10 (Pseudokirchneriella subcapitata (green algae)): 30.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 3.2 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Ionone, methyl-:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 2.3 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.42 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 9.42 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): > 9.42 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): 10,000 mg/l Exposure time: 16 h

p-tert-Butylcyclohexyl Acetate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 8.6 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 5.3 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 22 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3. EC10 (Desmodesmus subspicatus (green algae)): 11 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3.
Toxicity to microorganisms	:	EC10: 122 mg/l Exposure time: 3 h

Linalyl acetate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 11 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials EC10 (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 30 min Method: ISO 8192

Dimethyl octadienol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 27.8 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: The test was conducted according to guideline
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 59 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: The test was conducted according to guideline
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 156.7 mg/l Exposure time: 96 h EC10 (Desmodesmus subspicatus (green algae)): 54.3 mg/l Exposure time: 96 h
Toxicity to microorganisms	:	EC10 (activated sludge): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Remarks: The test was conducted according to guideline

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

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

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

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

2-Methyldecan-1-al:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 31.8 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC10 (Pseudokirchneriella subcapitata (green algae)): 6.15 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

		ErC50 (Pseudokirchneriella subcapitata (green algae)): 30.5 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC10: 15.9 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Undecenal:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 1 - 10 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.3 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to microorganisms	:	EC10 (activated sludge): 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Toxicity to fish	:	LC50 (Oryzias latipes (Japanese medaka)): 0.628 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.37 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 4.56 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.768 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 5 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)): 4.2 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)): 6.5 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	:	EC10 (activated sludge): 25 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Persistence and degradability

Components:

Methyl benzoate:

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

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

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

Allyl (cyclohexyloxy)acetate:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 27.98 % Exposure time: 28 d Method: OECD Test Guideline 301D

Ionone, methyl-:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 76 % Exposure time: 28 d Method: OECD Test Guideline 301F

p-tert-Butylcyclohexyl Acetate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 75 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.C.

Linalyl acetate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 70 - 80 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: The test was conducted according to guideline

Dimethyl octadienol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 64.2 % Exposure time: 28 d Method: OECD Test Guideline 301D Remarks: The test was conducted according to guideline

Undec-10-enal:

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

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

4-Allyl-2- methoxyphenol:

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

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.

2-Methyldecan-1-al:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 77 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Undecenal:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Cineole:

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 56 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 32.8 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Bioaccumulative potential

Components:

Methyl benzoate:

Partition coefficient: n-octanol/water	:	log Pow: 2.12

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

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

Allyl (cyclohexyloxy)acetate:

Partition coefficient: n-octanol/water	:	log Pow: 2.8 Method: OECD Test Guideline 117

Ionone, methyl-:

Partition coefficient: n-octanol/water	:	log Pow: > 4.5 - < 5

p-tert-Butylcyclohexyl Acetate:

Bioaccumulation	:	Bioconcentration factor (BCF): < 500
Partition coefficient: n-octanol/water	:	log Pow: 4.8

Linalyl acetate:

Partition coefficient: n-octanol/water	:	log Pow: 3.9 Method: OECD Test Guideline 107

Dimethyl octadienol:

Partition coefficient: n-octanol/water	:	log Pow: 2.84 Method: OECD Test Guideline 107 Remarks: The test was conducted equivalent or similar to guideline

Undec-10-enal:

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

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

4-Allyl-2- methoxyphenol:

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

3,7-Dimethyl 2,6-octadienal:

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

2-Methyldecan-1-al:

Partition coefficient: n-octanol/water	:	log Pow: 4.5 Method: OECD Test Guideline 117

Undecenal:

Partition coefficient: n-octanol/water	:	log Pow: > 4 Remarks: Expert judgement

Cineole:

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

(E)-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-2-buten-1-one:

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 8.4 - 20 Method: OECD Test Guideline 305
Partition coefficient: n-octanol/water	:	log Pow: 3.66 Method: OECD Test Guideline 123

Reaction mass of 1-(3,3-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one and 1-(5,5-dimethylcyclohex-1-en-1-yl)pent-4-en-1-one:

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 117
Partition coefficient: n-octanol/water	:	log Pow: 4.5

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

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Allyl (cyclohexyloxy)acetate, Dihexyl fumarate)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Allyl (cyclohexyloxy)acetate, Dihexyl fumarate)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Allyl (cyclohexyloxy)acetate, Dihexyl fumarate)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Allyl (cyclohexyloxy)acetate, Dihexyl fumarate)
Class	:	9
Packing group	:	III
Labels	:	9
Hazchem Code	:	•3Z
Environmentally hazardous	:	yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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	:	17.10.2025
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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