

SAFETY DATA SHEET

According to Commission Regulation (EU) 2020/878 as amended

Version No 1.

Date of creation: 30/07/2024

Date of revision: 30/07/2024

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: Oil mixture Santa Sita ID Proactive MastitCare

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

Identified uses: Oil mixture for animal care.

Not recommended uses: Do not use outside the specified uses.

1.3. Details of the supplier of the safety data sheet

Manufacturer: UAB "Takatas"
Mackeviciaus str. 50, Kaunas
LT-44258, Lithuania
Tel.: +370 620 80717

Email address of the competent person responsible for the safety data sheet: admin@ollo.lt

1.4. Emergency telephone number

Pharmacovigilance and Poisons Information Unit: +370 5 2362052 (24/7)

General emergency telephone number (Europe): 112 (national, 24/7)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification of the substance or mixture according to Regulation (EC) No 1272/2008:

The mixture does not meet the classification criteria under Regulation (EC) No 1272/2008.

The full text of each classification and H statement can be found in Section 16.

2.2. Label elements

Labelling in accordance with Regulation (EC) No 1272/2008:

Hazard pictogram(s):

Signal Word:

Hazard Statement:

Precautionary Statement – General:

Precautionary Statement –

Prevention:

Precautionary Statement – Response:

Precautionary Statement – Storage:

Precautionary Statement – Disposal:

Additional hazard information:

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-
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-
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Specific requirements for packaging:

The packaging must have a child-resistant fastening: Not applicable.

Tactile warnings of danger (Δ): Not applicable.

2.3. Other hazards

Results of PBT, vPvB and ED assessment:

The mixture does not contain substances that:

- meet the PBT or vPvB criteria set out in Annex XIII to Regulation (EC) No 1907/2006;
- listed in accordance with Article 59(1) because of their endocrine disrupting properties;
- identified as having endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1% by weight.

Health risks:

No other hazards have been identified.

Environmental hazards:

No other hazards have been identified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances Not applicable.

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3.2. Mixtures

Chemical name	Identification numbers	Mass fraction, %	Classification according to Regulation (EC) No 1272/2008	Type	Specific concentration limit, M-factor and acute toxicity
Pin-2(3)-ene	CAS No 80-56-8 EC No 201-291-9 REACH reg. No*	≤0,0001	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318	[1], [2]	-
Bornan-2-one	CAS No 76-22-2 EC No 200-945-0 REACH reg. No*	≤0,0001	Flam. Sol. 2, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 STOT SE 2, H371	[1], [2]	-
Pin-2(10)-ene	CAS No 127-91-3 EC No 204-872-5 REACH reg. No*	≤0,00005	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1], [2]	M=1 M(chronic)=1
1-isopropyl-4-methylbenzene; p-cymene	CAS No 99-87-6 EC No 202-796-7 Index No 601-094-00-1 REACH reg. No*	≤0,00002	Flam. Liq. 3, H226 Acute Tox. 3, H331 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1], [2]	Inhalation: ATE = 3 mg/L (Vapours)
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	CAS No 13466-78-9 EC No 236-719-3 REACH reg. No*	≤0,000002	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1, H317	[1], [2]	-
Hydrocarbons, terpene processing by-products	CAS No 68956-56-9 EC No 273-309-3 REACH reg. No*	≤0,0000002	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Eye Irrit. 2, H319 Aquatic Chronic 2, H411	[1], [2]	-
Benzaldehyde	CAS No 100-52-7 EC No 202-860-4 Index No 605-012-00-5 REACH reg. No*	≤0,00000001	Acute Tox. 4, H302	[1], [2]	-
2-furaldehyde	CAS No 98-01-1 EC No 202-627-7 Index No 605-010-00-4 REACH reg. No*	≤0,00000001	Acute Tox. 3, H301 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 3, H331 STOT SE 3, H335 Carc. 2, H351	[1], [2]	-

Note: no registration number is available for these substances because the substances or its use are exempted from registration, the annual quantity does not require registration, or registration is scheduled for a later date due to the expiry of the registration obligation.

There are no additional ingredients in the formulation which, to the best of the suppliers' knowledge and taking into account the actual concentrations, would be classified as hazardous to health or the environment and should therefore be listed in this section.

The full text of the above H statements can be found in Section 16.

Occupational limit values, if established, are specified in Section 8.

Type:

[1] The substance is classified as hazardous to health or the environment.

[2] Substance subject to restrictions on workplace exposure.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General comments:

If you feel unwell, call the Pharmacovigilance and Poisons Information Unit or see a doctor.

Inhalation:

Take the victim outside into fresh air and ensure they are in a comfortable position to breathe freely.

If you feel unwell, seek medical attention.

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In case of contact with skin:	Wash abundantly with water as a safety precaution. If you experience skin irritation or chafing, seek medical attention.
In case of eye contact:	If you get the product in your eyes, rinse them thoroughly with water, making sure to lift both the upper and lower eyelids. If you wear contact lenses, remove them before rinsing your eyes. If irritation persists, seek medical attention.
After ingestion:	Do not induce vomiting. Rinse mouth thoroughly with water. If you feel unwell, call the Pharmacovigilance and Poisons Information Unit or consult a doctor.
First aider protective equipment:	The use of personal protective equipment is recommended.

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

Inhalation: No specific data.

In case of contact with skin: No specific data.

In case of eye contact: No specific data.

After ingestion: No specific data.

4.3. Indication of any immediate medical attention and special treatment needed

Special treatment: Treatment is symptomatic.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: CO₂, foam, dry extinguishing powder, water. The choice of extinguishing media should be based on the nature and circumstances of the fire.

Unsuitable extinguishing media: Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Incombustible product.

When product is heated, splashes with hot oil can cause severe burns.

5.3. Advice for firefighters

Unavailable data. The product is non hazardous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency workers: Do not take any action that poses any personal risk, unless properly trained. Evacuate people from adjacent areas. Keep out unauthorised persons and persons without protective equipment. Do not touch or walk over spilled material. Ensure adequate ventilation. If ventilation is inadequate, use suitable respirators. Use appropriate personal protective equipment.

6.1.2. For emergency responders: If special clothing is required for work at the scene of the emergency, refer to Section 8 for information on suitable and unsuitable materials. Also familiarise yourself with the information on hygiene measures in Section 8.

6.2. Environmental precautions

Avoid spillage and leakage of spilled material into watercourses, soil, drainage and sewage systems. In the event of environmental contamination, notify the responsible authorities.

6.3. Methods and material for containment and cleaning up

Small spills: stop the leak if it is not dangerous. Recover packages from the scene. Collect using dry inert material and place in suitable waste containers. Absorb the spilled liquid to avoid damage to the material. The collected waste may be handed over to a licensed waste management company.

Large spillages: Stop the leak if it is not dangerous. Recover packaging from the site. Absorb the spillage to avoid damage to the material. Manage the spill from the upwind side. Prevent access to drains, watercourses, cellars and enclosed spaces. Stop the spill, collect the leaked product using non-combustible, absorbent materials, e.g. sand, soil, vermiculite, diatomaceous earth, and place in waste containers for disposal in accordance with local requirements. Transfer the waste to a licensed waste management company.

6.4. Reference to other sections

For information on personal protective equipment, see section 8. For information on waste management, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Recommendations for safe use: Use in well ventilated area. Use appropriate personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Do not swallow. Store in the original manufacturer's packaging or other approved container made of compatible material. Keep tightly closed when not in use.

General occupational hygiene measures: Eating, drinking and smoking are prohibited on the premises where this material is used, stored or produced. Employees must wash their hands before eating, drinking and smoking. Remove contaminated protective clothing and protective equipment before entering eating areas. Familiarise yourself with the additional information on hygiene measures in Section 8.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Storage according to local requirements. Store in the original manufacturer's packaging, out of direct sunlight; store in a dry, cool and well-ventilated place away from incompatible materials (see section 10), food and drink. Keep away from sources of heat and ignition. Keep packages tightly closed before

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use. Carefully seal packages that have been opened and store upright to prevent spillage. Do not store in unlabelled containers.

Requirements for storage rooms and containers No specific recommendations.

7.3. Specific end use(s)

Recommendations: Oil mixture for animal care.

Industry-specific solutions. None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limit values: Although the limit values apply throughout the EU, each EU country also sets its own national occupational exposure limit values, often adopting stricter requirements than those laid down in EU legislation. Occupational exposure limit values are set by the competent national authorities or other relevant bodies.

Lithuania (HN 23:2011):

Chemical name	Long-term exposure limit		Short-term exposure limit	
	mg/m ³	ppm	mg/m ³	ppm
Pin-2(3)-ene ⁽¹⁾	150	25	300	50
Bornan-2-one	3	-	-	-
Pin-2(10)-ene ⁽¹⁾	150	25	300	50
p-cymene	140	25	190	35
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	150	25	300	50
Hydrocarbons, terpene processing by-products ⁽¹⁾	150	25	300	50
Benzaldehyde	5	-	-	-
2-furaldehyde ⁽²⁾	8	2	20	5

Note:

- (1) Conifer resin is a skin sensitiser. The sensitising effects of individual terpenes other than 3-carene have not been studied.
- (2) Carcinogenic effect; the substance may enter the body through intact skins; acute exposure.

Recommended monitoring procedures:

The following monitoring standards shall be taken into account: European and Lithuanian standard LST EN 689:2001 (Workplace air. Guidance and measurement strategy for the assessment of exposure to inhaled chemicals compared to limit values); European and Lithuanian standard LST EN 14042:2004 (Workplace air. Guidance on the application and use of methodologies for the assessment of exposure to chemical and biological agents); European and Lithuanian standard LST EN 482:2012/2013 (Exposure at work. General requirements for the characteristics of measurement procedures for chemical agents). National legislation defining methods for the identification of hazardous substances must also be taken into account.

Derived no-effect limit value (DNEL):

Chemical name	User	Type of exposure	Potential health effects	Value
Pin-2(3)-ene	Workers	inhalation	Long-term, systemic	3,8 mg/m ³
		dermal		542 µg/kg bw/day
	Users	inhalation		674 µg/m ³
		dermal		225 µg/kg bw/day
		oral		225 µg/kg bw/day
Bornan-2-one	Workers	inhalation	Long-term, systemic	17,632 mg/m ³
		dermal		10 mg/kg bw/day
	Users	inhalation		4,348 mg/m ³
		dermal		5 mg/kg bw/day
		oral		5 mg/kg bw/day
Pin-2(10)-ene	Workers	inhalation	Long-term/short-term, systemic; Long-term/short-term local	Not tested/no data
		dermal		
	Users	inhalation		
		dermal		
p-cymene	Workers	inhalation	Long-term, systemic	880 µg/m ³

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		dermal		250 µg/kg bw/day		
	Users	inhalation		220 µg/m ³		
		dermal		125 µg/kg bw/day		
		oral		125 µg/kg bw/day		
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Workers	inhalation	Long-term/short-term, systemic; Long-term/short-term local	Not tested/no data		
		dermal				
	Users	inhalation				
		dermal				
oral						
Hydrocarbons, terpene processing by-products	Workers	inhalation			Long-term, systemic	2,9 mg/m ³
		dermal				800 µg/kg bw/day
	Users	inhalation				700 µg/kg bw/day
		dermal	300 µg/kg bw/day			
oral		300 µg/kg bw/day				
Benzaldehyde	Workers	inhalation	Long-term, systemic	9,8 mg/m ³		
			Long-term, local	9,8 mg/m ³		
		dermal	Long-term, systemic	1,14 mg/kg bw/day		
	Users	inhalation	Long-term, systemic	4,9 mg/m ³		
			Long-term, local	4,9 mg/m ³		
		dermal	Long-term, systemic	670 µg/kg bw/day		
		oral	Long-term, systemic	670 µg/kg bw/day		
2-furaldehyde	Workers	inhalation	Long-term, systemic	4,26 mg/m ³		
			Short-term, systemic	36,48 mg/m ³		
			Long-term, local	8 mg/m ³		
			Short-term, local	24 mg/m ³		
		dermal	Long-term, systemic	1,66 mg/kg bw/day		
		Users	inhalation	Long-term, systemic	1,067 mg/m ³	
	Short-term, systemic			27,22 mg/m ³		
	Long-term, local			8 mg/m ³		
	Short-term, local			24 mg/m ³		
	dermal		Long-term, systemic	830 µg/kg bw/day		
	oral		Long-term, systemic	470 µg/kg bw/day		
			Short-term, systemic	470 µg/kg bw/day		

Predicted no-effect concentration (PNEC):

Chemical name	Hazard for aquatic organisms/air/terrestrial organisms/predators	Value
Pin-2(3)-ene	Fresh water	606 ng/L
	Fresh water (intermittent releases)	3,03 µg/L
	Marine water	60,6 ng/L
	Marine water (intermittent releases)	303 ng/L
	Sewage treatment plant (STP)	200 µg/L
	Sediment (fresh water)	157 µg/kg sediment dw
	Sediment (marine water)	15,7 µg/kg sediment dw
	Air	No data
	Soil	31,7 µg/kg soil dw
	Secondary poisoning	8,76 mg/kg food
Bornan-2-one	Fresh water	1,71 µg/L
	Fresh water (intermittent releases)	17,1 µg/L
	Marine water	171 ng/L
	Marine water (intermittent releases)	1,71 µg/L
	Sewage treatment plant (STP)	1 mg/L
	Sediment (fresh water)	139 µg/kg sediment/dw
	Sediment (marine water)	17,4 µg/kg sediment/dw
	Air	No hazard identified.
	Soil	13,26 µg/kg soil dw
	Secondary poisoning	No data available.
Pin-2(10)-ene	Fresh water	Not tested/no data
	Fresh water (intermittent releases)	
	Marine water	
	Marine water (intermittent releases)	
	Sewage treatment plant (STP)	

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	Sediment (fresh water)	
	Sediment (marine water)	
	Air	
	Soil	
	Secondary poisoning	
p-cymene	Fresh water	0,004 mg/L
	Fresh water (intermittent releases)	0,037 mg/L
	Marine water	0 mg/L
	Marine water (intermittent releases)	0,004 mg/L
	Sewage treatment plant (STP)	10 mg/L
	Sediment (fresh water)	1,52 mg/kg sediment dw
	Sediment (marine water)	0,152 mg/kg sediment dw
	Air	No hazard identified
	Soil	0,302 mg/kg soil dw
	Secondary poisoning	No potential for bioaccumulation
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Fresh water	
	Fresh water (intermittent releases)	
	Marine water	
	Marine water (intermittent releases)	
	Sewage treatment plant (STP)	
	Sediment (fresh water)	Not tested/no data
	Sediment (marine water)	
	Air	
	Soil	
	Secondary poisoning	
Hydrocarbons, terpene processing by-products	Fresh water	2,1 µg/L
	Fresh water (intermittent releases)	21 µg/L
	Marine water	210 ng/L
	Marine water (intermittent releases)	Not tested/no data
	Sewage treatment plant (STP)	6,4 mg/L
	Sediment (fresh water)	542 µg/kg sediment dw
	Sediment (marine water)	54,2 µg/kg sediment dw
	Air	No hazard identified
	Soil	110 µg/kg soil dw
	Secondary poisoning	13,1 mg/kg food
Benzaldehyde	Fresh water	410 ng/L
	Fresh water (intermittent releases)	10,7 ng/L
	Marine water	41 ng/L
	Marine water (intermittent releases)	Not tested/no data
	Sewage treatment plant (STP)	7,59 mg/L
	Sediment (fresh water)	4 µg/kg sediment dw
	Sediment (marine water)	400 ng/kg sediment dw
	Air	No hazard identified
	Soil	500 ng/kg soil dw
	Secondary poisoning	No potential for bioaccumulation
2-furaldehyde	Fresh water	33 µg/L
	Fresh water (intermittent releases)	27 µg/L
	Marine water	3,3 µg/L
	Marine water (intermittent releases)	Not tested/no data
	Sewage treatment plant (STP)	7,6 mg/L
	Sediment (fresh water)	175 µg/kg sediment dw
	Sediment (marine water)	17,5 µg/kg sediment dw
	Air	No hazard identified
	Soil	2,6 mg/kg soil dw
	Secondary poisoning	No potential for bioaccumulation

8.2. Exposure controls

Appropriate technical management measures:

Ensure adequate ventilation.

Personal protective equipment:

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Hygiene products:	Wash hands, forearms and face well after using chemicals, before eating, smoking, using the toilet and after a work shift. Ensure that eyewash stations and safety showers are located close to work areas.
Eye/face protection:	Where the risk assessment indicates that it is necessary, eye protection conforming to approved standards must be used to avoid contact with liquid. Use a protection equipment of eyes, tested and approved according to EN 166.
Hand protection:	Hand protection is not required during normal use of this product. If the risk assessment indicates that it is necessary, gloves that are resistant to chemicals, impermeable and conform to approved standards (according to LST EN 420, LST EN SO 21420, LST EN 388) must be worn when using chemical products.
Body protection measures	Full body covering work clothing is not necessary.
Other skin protection products:	Work boots are not necessary.
Respiratory protection:	Respiratory protection is not required during normal use of this product.
Environmental exposure controls	Emissions from ventilation systems and work process equipment must be monitored to ensure compliance with the requirements of environmental legislation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Liquid.
Colour:	Light yellow.
Odour:	Specific to essential oils.
Melting point/freezing point:	Not identified.
Boiling point or initial boiling point and boiling range:	Not identified.
Flammability:	Not identified.
Lower and upper explosion limit:	Not identified.
Flash point:	Not identified.
Auto-ignition temperature:	Not identified.
Decomposition temperature:	Not identified.
pH:	Not applicable.
Kinematic viscosity:	Not identified.
Solubility:	Not identified.
Partition coefficient n-octanol/water (log value):	Not identified.
Vapour pressure:	Not identified.
Density and/or relative density:	Not identified.
Relative vapour density:	Not identified.
Particle properties	Not identified.

9.2. Other information

No data.

Information on physical hazard classes

No data.

Other safety characteristics

No data.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity	The product is stable under recommended storage conditions.
10.2. Chemical stability	The product is stable under recommended storage conditions.
10.3. Possibility of hazardous reactions	Under normal conditions of storage, transport and use, no dangerous reactions occur.
10.4. Conditions to avoid	No data.
10.5. Incompatible materials	No data.
10.6. Hazardous decomposition products	No data.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity: According to the available data, the classification criteria are not met.

Acute toxicity of the ingredients:

Chemical name	Dose	Species	Result	Note
Pin-2(3)-ene	LD50 (oral)	rat	500 mg/kg bw	-

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	LD50 (dermal)	rat	2000 mg/kg bw	-
Bornan-2-one	LD50 (oral)	mouse	1310 mg/kg bw	-
	LC50 (inhal.)	rat	>10000 mg/m ³	-
	LD50 (dermal)	rat	>2000 mg/kg bw	-
Pin-2(10)-ene	No data			
p-cymene	LD50 (oral)	rat	4750 mg/kg bw	-
	LD50 (dermal)	rabbit	5000 mg/ kg bw	-
	LC50 (inhalation)	rat	>9,7 mg/m ³ (aerosol, 5 h)	-
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	No data			
Hydrocarbons, terpene processing by-products	LD50 (oral)	rat	2000 mg/kg bw	-
	LD50 (dermal)	rat	2000 mg/kg bw	-
Benzaldehyde	LD50 (oral)	rat	1300-1430 mg/kg bw	-
	LC50 (inhal.)	rat	1-5 mg/L (air, 4 h)	-
	LD50 (dermal)	rabbit	2000 mg/kg bw	-
2-furaldehyde	LD50 (oral)	rat	100-108 mg/kg bw	-
	LC50 (inhal.)	rat	540-1630 mg/m ³ (air, 4 h)	-
	LD50 (dermal)	rat	2000 mg/kg bw	-

Skin corrosion/irritation: According to the available data, the classification criteria are not met.

Serious eye damage/irritation: According to the available data, the classification criteria are not met.

Respiratory or skin sensitisation: According to the available data, the classification criteria are not met.

Germ cell mutagenicity: According to the available data, the classification criteria are not met.

Carcinogenicity: According to the available data, the classification criteria are not met.

Reproductive toxicity: According to the available data, the classification criteria are not met.

STOT-single exposure: According to the available data, the classification criteria are not met.

STOT-repeated exposure: According to the available data, the classification criteria are not met.

Aspiration hazard: According to the available data, the classification criteria are not met.

Information on likely routes of exposure

Inhalation: No specific data.
 In case of contact with skin: No specific data.
 In case of eye contact: No specific data.
 After ingestion: No specific data.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No specific data.
 In case of contact with skin: No specific data.
 In case of eye contact: No specific data.
 After ingestion: No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short-term contact:

Possible acute effects: No data.
 Possible chronic effects: No data.

Long-term contact:

Possible acute effects: No data.
 Possible chronic effects: No data.

Interactive effects

Conclusions/summary:

No data.
 Overall impact: No known significant effects or critical risks.
 Carcinogenicity: No known significant effects or critical risks.
 Mutagenicity: No known significant effects or critical risks.

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Effects on development	No known significant effects or critical risks.
Effects on fertility	No known significant effects or critical risks.
Absence of specific data	No data.
Mixtures	No data.
Mixture versus substance information	No data.

11.2. Information on other hazards No data.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity According to the available data, the classification criteria are not met.

Chemical name	Result
Pin-2(3)-ene	<u>Short-term toxicity to fish:</u> LC50 (96 h) 0,27 mg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (48 h) 0,475 mg/L <u>Toxicity to aquatic algae and cyanobacteria:</u> NOEC (48 h) 131 µg/L
Bornan-2-one	<u>Short-term toxicity to fish:</u> LC50 (48 h) 33,25 mg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (48 h) 4,23 mg/L <u>Toxicity to aquatic algae and cyanobacteria:</u> EC50 (72 h) 1,71 mg/L EC10 (72 h) 0,032 mg/L <u>Toxicity to microorganisms:</u> EC50 (3 h) >100 mg/L
Pin-2(10)-ene	Not tested/no data
p-cymene	<u>Short-term toxicity to fish:</u> LC50 (96 h) 48 mg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (48 h) 3,7 mg/L <u>Toxicity to aquatic algae and cyanobacteria:</u> EC50 (72 h) 4,03 mg/L NOEC (72 h) 1,4 mg/L <u>Toxicity to microorganisms:</u> EC50 (28 days) >100 mg/L
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Not tested/no data
Hydrocarbons, terpene processing by-products	<u>Short-term toxicity to fish:</u> LC50 (48 h) 5,07 mg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (48 h) 2,1 mg/L NOEC (48 h) 1,4–1,6 mg/L EL50 (48 h) 2,7 mg/L <u>Toxicity to microorganisms:</u> EC50 (3 h) 365–579 mg/L
Benzaldehyde	<u>Short-term toxicity to fish:</u> LC50 (48 h) 1,07–13,8 mg/L <u>Long-term toxicity to fish:</u> NOEC (7 days) 120–1800 µg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (48 h) 19,7 mg/L <u>Toxicity to aquatic algae and cyanobacteria:</u> EC50 (72 h) 8,05–33,1 mg/L EC (10 h) 20,5–38,9 µg/L <u>Toxicity to microorganisms:</u> IC50 (3 h) 740–759,3 mg/L
2-furaldehyde	<u>Short-term toxicity to fish:</u> LC50 (48 h) 13,21 mg/L <u>Long-term toxicity to fish:</u> NOEC (12 days) 330–470 µg/L <u>Short-term toxicity to aquatic invertebrates:</u> EC50 (72 h) 13 mg/L <u>Long-term toxicity to aquatic invertebrates:</u>

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	NOEC (21 days) 1,9 mg/L EC50 (21 days) 3,7 mg/L <u>Toxicity to aquatic algae and cyanobacteria:</u> EC50 (4 days) 11,1 mg/L NOEC (8 days) 2,7–31 mg/L <u>Toxicity to microorganisms:</u> EC50 (30 min.) 760 mg/L
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12.2. Persistence and degradability

Chemical name	Result
Pin-2(3)-ene	Readily biodegradable according to the criteria of OECD 301 D guideline. The test item was biodegraded by 68% at day 28. The pass level of 60% was reached after less than 7 days (approximately 5 days) upon achieving 10% biodegradation.
Bornan-2-one	Readily biodegradable according to the OECD criteria.
Pin-2(10)-ene	Not tested/no data.
p-cymene	Readily biodegradable according to OECD criteria.
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Not tested/no data
Hydrocarbons, terpene processing by-products	Readily biodegradable according to OECD criteria.
Benzaldehyde	Readily biodegradable according to OECD criteria.
2-furaldehyde	Readily biodegradable according to OECD criteria.

12.3. Bioaccumulative potential

Chemical name	Result
Pin-2(3)-ene	BCF 855,7 L/kg ww
Bornan-2-one	Bioaccumulation in aquatic species study does not need to be conducted as the substance has a low potential for bioaccumulation.
Pin-2(10)-ene	Not tested/no data.
p-cymene	No data.
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Not tested/no data
Hydrocarbons, terpene processing by-products	BCF 855,7 L/kg ww
Benzaldehyde	The substance has a low potential for bioaccumulation (for instance a log Kow ≤3).
2-furaldehyde	Due to the water high solubility (83 g/L) and the low log Kow (0.41), substance is not expected to bioaccumulate.

12.4. Mobility in soil

Chemical name	Result
Pin-2(3)-ene	Not tested/no data.
Bornan-2-one	Not tested / no data (substance is readily biodegradable).
Pin-2(10)-ene	Not tested/no data.
p-cymene	Not tested / no data (substance is readily biodegradable).
3,7,7-trimethylbicyclo[4.1.0]hept-3-ene	Not tested/no data
Hydrocarbons, terpene processing by-products	Not tested / no data (substance is readily biodegradable).
Benzaldehyde	Not tested / no data (substance is readily biodegradable).
2-furaldehyde	Not tested / no data (substance is readily biodegradable).

12.5. Results of PBT and vPvB assessment

The product and its constituents do not meet the criteria for PBT or vPvB assessment in accordance with the requirements of Annex XIII to Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

The mixture does not contain substances that:
-- listed in accordance with Article 59(1) because of their endocrine disrupting properties;
- identified as having endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1% by weight.

12.7. Other adverse effects

No known significant effects or critical risks.

SECTION 13: DISPOSAL CONSIDERATIONS

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13.1. Waste treatment methods

Product:

Waste management methods: The waste product is not classified as hazardous under Commission Regulation (EU) No 1357/2014. Product waste must be managed in accordance with the Law on Waste Management in Lithuania and in other countries in accordance with national legislation. Untreated waste must not be disposed of in the sewage system, unless this is in full compliance with the requirements of the responsible authorities in the relevant jurisdiction. Waste from the product should be transferred to a licensed waste management company.

Packaging:

Waste management methods: Whenever possible, efforts must be made to avoid or reduce waste. Packaging waste should be recycled. Incineration and landfilling should only be considered when recycling is not feasible.

Special references: Waste and packaging should be disposed of safely. Empty packaging that has not been cleaned or washed should be handled with care. Empty packaging and trays may contain product residues. Avoid spreading and leakage of spillages into watercourses, drainage and sewage systems.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number or ID number

ADR/ADN/RID Not applicable.
IMDG/IMO Not applicable.
ICAO/IATA Not applicable.

14.2. UN proper shipping name

ADR/ADN/RID Not applicable.
IMDG/IMO Not applicable.
ICAO/IATA Not applicable.

14.3. Transport hazard class(es)

ADR/ADN/RID Not applicable.
IMDG/IMO Not applicable.
ICAO/IATA Not applicable.

14.4. Packing group

ADR/ADN/RID Not applicable.
IMDG/IMO Not applicable.
ICAO/IATA Not applicable.

14.5. Environmental hazards

-

14.6. Special precautions for user

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14.7. Maritime transport in bulk according to IMO instruments

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SECTION 15: REGULATORY INFORMATION

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

- REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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- REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.
- REGULATION (EU) 2019/1021 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on persistent organic pollutants.
- REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents.
- REGULATION (EC) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.
- REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.
- COMMISSION REGULATION (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives.
- DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.
- COMMISSION DECISION of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.
- COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).
- COUNCIL DIRECTIVE 94/33/EC of 22 June 1994 on the protection of young people at work.
- DIRECTIVE 2004/37/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (Sixth individual Directive within the meaning of Article 16(1) of Council Directive 89/391/EEC).
- COUNCIL DIRECTIVE 92/85/EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding (tenth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC).
- DIRECTIVE 2008/68/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 September 2008 on the inland transport of dangerous goods.
- The Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
- Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).
- The international Maritime Dangerous Goods (IMDG) Code.

Chemical Weapons Convention (CWC), Lists of Toxic Substances and Precursors:

Not applicable.

REACH Article 59 - List of highly hazardous substances subject to authorisation:

Not applicable.

The product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH Annex XIV - List of substances subject to authorisation:

Not applicable.

REGULATION (EC) No 1005/2009 on substances that deplete the ozone layer:

Not applicable.

REGULATION (EC) No 2019/1021 on persistent organic pollutants:

Not applicable.

REGULATION (EC) No 649/2012 on the export and import of dangerous chemicals:

Not applicable.

REACH Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:

The conditions for restricting the following entries must be taken into account:

Not applicable.

Seveso III Directive: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: *thymol*; *linalool*; *2-furaldehyde*.

National legislation (Lithuania)

- Order No V-824/A1-389 of the Minister of Health of the Republic of Lithuania and of the Minister of Social Security and Labour of the Republic of Lithuania of 1 September 2011 "On the application of the Lithuanian Hygienic Standard HN 23:2011 "Occupational Exposure Limits to Chemicals. General requirements for measurement and exposure assessment".
- 24 July 2001. Order No 97/406 of the Minister of Social Security and Labour of the Republic of Lithuania and of the Minister of Health of the Republic of Lithuania on the Provisions on the Protection of Workers against Chemical Agents at Work and on the Provisions on the Protection of Workers against Exposure to Carcinogens and Mutagens at Work.
- 14 July 1999. Order No 217 of the Minister of the Environment of the Republic of Lithuania on the approval of waste management rules.
- 6 February 2013. Order of the Minister of the Environment of the Republic of Lithuania No D1-109 on the approval of the description of the procedure for the submission of data to the information system "Integrated Computer System for Environmental Information Management" (IS "AIVIKS").
- 16 June 2020 Order No D1-362 of the Minister of the Environment of the Republic of Lithuania on the approval of the description of the procedure for the submission of data and information on chemical substances and chemical mixtures.

15.2. Chemical safety assessment No chemical safety assessment has been carried out.

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SECTION 16: OTHER INFORMATION

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Explanation of changes: Version No 1.

Explanations of abbreviations and acronyms:

CLP: Regulation on the classification, labelling and packaging of substances and mixtures (Regulation (EC) No 1272/2008).
ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
IMDG: International Maritime Dangerous Goods Code.
IATA: International Air Transport Association.
CAS: Chemical Abstracts Service registration number of the substance.
EC: Registration number of the substance.
LC50: Lethal concentration in 50 % of the population studied.
LD50: Mean lethal dose.
NOEC: No Observed Effect Concentration.
REACH: Registration, Evaluation and Authorisation of Chemicals.
PBT: Persistent, bioaccumulative, toxic substances.
vPvB: Very Persistent and Very Bioaccumulative.
ED: Endocrine disruptor.
SDS: Safety Data Sheet.
EU: European Union.
DNEL: Derived no-effect level.
PNEC(s): Predicted no-effect concentration(s).
Kow: octanol-water partition coefficient.
OECD: Organisation for Economic Co-operation and Development.
HN: Hygienic standard.
STOT: Specific Target Organ Toxicity.
STOT (RE): repeated exposure.
STOT (SE): single exposure.

Explanatory notes on abbreviations and numerical characters (referred to in Section 3):

Flam. Liq. 3 Flammable liquids, Hazard Category 3.
H226 Flammable liquid and vapour.
Flam. Sol. 2 Flammable solids, Hazard Category 2.
H228 Flammable solid.
Acute Tox. 3 Acute toxicity (oral), Hazard Category 3.
H301 Toxic if swallowed.
Acute Tox. 3 Acute toxicity (inhal.), Hazard Category 3.
H331 Toxic if inhaled.
Acute Tox. 4 Acute toxicity (inhal.), Hazard Category 4.
H332 Harmful if inhaled.
Acute Tox. 4 Acute toxicity (oral), Hazard Category 4.
H302 Harmful if swallowed.
Acute Tox. 3 Acute toxicity (dermal.), Hazard Category 3.
H312 Harmful in contact with skin.
Asp. Tox. 1 Aspiration hazard, Hazard Category 1.
H304 May be fatal if swallowed and enters airways.
Skin Irrit. 2 Skin corrosion/irritation, Hazard Category 2.
H315 Causes skin irritation.
Skin Sens. 1, 1B Sensitisation – Skin, Hazard Category 1, 1B.
H317 May cause an allergic skin reaction.
Eye Dam. 1 Serious eye damage/eye irritation, Hazard Category 1.
H318 Causes serious eye damage.
Eye Irrit. 2 Serious eye damage/eye irritation, Hazard Category 2.
H319 Causes serious eye irritation.
Aquatic Acute 1 Hazardous to the aquatic environment — Acute Hazard, Category 1.
H400 Very toxic to aquatic life.
Aquatic Chronic 1, 2 Hazardous to the aquatic environment – Chronic Hazard, Category 1, 2.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
STOT SE 2 Specific target organ toxicity – Single exposure, Hazard Category 2.
H371 May cause damage to organs.

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STOT SE 3 Specific target organ toxicity – Single exposure, Hazard Category 3, respiratory tract irritation.

H335 May cause respiratory irritation.

Carc. 2 Carcinogenicity, Hazard Category 2.

H351 Suspected of causing cancer.

Classification of the product according to Regulation (EC) No 1272/2008 (CLP):

The mixture does not meet the classification criteria under Regulation (EC) No 1272/2008.

Advice on training:

In addition to occupational health, safety and environmental training, companies must ensure that workers read, understand and are able to apply the requirements of this safety data sheet.

Sources of literature:

Main source of literature:

ECHA (European Chemicals Agency) database.

Other sources:

GESTIS (<https://gestis-database.dguv.de/>);

eChemPortal (<https://echemportal.org/echemportal/>);

IPCS INCHEM (<https://www.inchem.org/#/>).

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END OF SAFETY DATA SHEET