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SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** 6179 - Kielo
- Other means of identification:**
Not applicable (N/A)
- 1.2 Recommended use of the chemical and restrictions on use:**
Relevant uses: Miscellaneous. For professional users/industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name of distributor or other responsible party:**
Porter Candle Supply

SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
29 CFR 1910.1200:
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.
Eye Irrit. 2A: Eye irritation, Category 2A, H319
Repr. 2: Reproductive toxicity, Category 2, H361
Skin Sens. 1A: Sensitisation, skin, Category 1A, H317
- 2.2 Label elements:**
29 CFR 1910.1200:
Warning
- 
- Hazard statements:**
Eye Irrit. 2A: H319 - Causes serious eye irritation.
Repr. 2: H361 - Suspected of damaging fertility or the unborn child.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
- Precautionary statements:**
P201: Obtain special instructions before use.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash thoroughly after use.
P280: Wear protective gloves/protective clothing/respiratory protection/eye protection/protective footwear.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively.
- Substances that contribute to the classification**
a-methyl-1,3-benzodioxole-5-propionaldehyde; p-mentha-1,4-diene; 3-(4-tert-butylphenyl)propionaldehyde; Damasconone
- 2.3 Hazards not otherwise classified (HNOC):**
Not applicable (N/A)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances:**
Non-applicable

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

3.2 Mixtures:

Chemical description: Aromatising mixture based on natural and/or synthetic ingredients

Components:

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 101-86-0	Hexyl cinnam-aldehyde Skin Sens. 1B: H317 - Warning	2.5 - <10 %
CAS: 78-70-6	Linalool Eye Irrit. 2A: H319; Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning	2.5 - <10 %
CAS: 118-58-1	Benzyl salicylate Eye Irrit. 2A: H319; Eye Irrit. 2B: H320; Skin Sens. 1: H317 - Warning	2.5 - <10 %
CAS: 63500-71-0	Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) Eye Irrit. 2A: H319 - Warning	2.5 - <10 %
CAS: 8008-57-9	CITRUS AURANTIUM DULCIS OIL Asp. Tox. 1: H304; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Danger	2.5 - <10 %
CAS: 115-95-7	Linalyl acetate Eye Irrit. 2A: H319; Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning	1 - <2.5 %
CAS: 1205-17-0	a-methyl-1,3-benzodioxole-5-propionaldehyde Repr. 2: H361; Skin Sens. 1B: H317 - Warning	1 - <2.5 %
CAS: 106-22-9	Citronellol Eye Irrit. 2A: H319; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning	<1 %
CAS: 107-75-5	Hydroxy-citronellal Eye Irrit. 2A: H319; Skin Sens. 1B: H317 - Warning	<1 %
CAS: 99-85-4	p-mentha-1,4-diene Flam. Liq. 3: H226; Repr. 2: H361 - Warning	<1 %
CAS: 105-87-3	Geranyl acetate Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning	<1 %
CAS: 23696-85-7	Damascenone Skin Sens. 1A: H317 - Warning	<1 %
CAS: 106-24-1	Geraniol Eye Dam. 1: H318; Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Danger	<1 %
CAS: 18127-01-0	3-(4-tert-butylphenyl)propionaldehyde Repr. 2: H361; Skin Irrit. 2: H315; Skin Sens. 1B: H317; STOT RE 2: H373 - Warning	<1 %
CAS: 5392-40-5	Citral Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning	<1 %
CAS: 68039-49-6	2,4-dimethylcyclohex-3-ene-1-carbaldehyde Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning	<1 %
CAS: 67633-96-9	Cis-hex-3-en-1-yl methyl carbonate Eye Irrit. 2B: H320; Flam. Liq. 4: H227; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning	<1 %
CAS: 4707-47-5	Methyl 2,4-dihydroxy-3,6-dimethylbenzoate Skin Sens. 1B: H317 - Warning	<1 %
CAS: 97-54-1	Isoeugenol Acute Tox. 4: H302+H312; Eye Irrit. 2A: H319; Skin Irrit. 2: H315; Skin Sens. 1A: H317 - Warning	<1 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:



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SECTION 4: FIRST-AID MEASURES (continued)

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

By skin contact:

May cause an allergic skin reaction. In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of changes on the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety Data Sheet

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms/ effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not applicable (N/A)

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use, but the product contains flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media:

IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilled product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

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SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

6.3 Methods and materials for containment and cleaning up:

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

PREGNANT WOMEN SHOULD NOT BE EXPOSED TO THIS PRODUCT. Transfer in fixed places that comply with the necessary security conditions (emergency showers and eyewash stations in close proximity), using personal protection equipment, especially on the hands and face (See section 8). Limit manual transfers to containers of small amounts. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Maximum time: 12 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace:

There are no applicable occupational exposure limits for the substances contained in the product

8.2 Appropriate engineering controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Butyl, Breakthrough time: > 480 min, Thickness: 0.3 mm)	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

40 CFR Part 59 (VOC):

V.O.C.(weight-percent):	12.93 % weight
V.O.C. at 77 °F:	119.47 kg/m ³ (119.47 g/L)
Components:	Not applicable (N/A)

California Air Resources Board (CARB) - VOC Regulatory:

V.O.C.(weight-percent):	12.93 % weight
V.O.C. at 77 °F:	119.47 kg/m ³ (119.47 g/L)

South Coast Air Quality Management District (AQMD) - VOC Regulatory:

V.O.C.(weight-percent):	12.93 % weight
V.O.C. at 77 °F:	119.47 kg/m ³ (119.47 g/L)

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Ozone Transport Commission (OTC) Rules - VOC Regulatory:

V.O.C.(weight-percent):	12.93 % weight
V.O.C. at 77 °F:	119.47 kg/m ³ (119.47 g/L)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 68 °F:	Liquid
Appearance:	Translucent
Color:	Yellowish
Odor:	Characteristic
Odour threshold:	Not applicable (N/A) *

Volatility:

Boiling point at atmospheric pressure:	563 °F
Vapour pressure at 77 °F:	6 Pa
Vapour pressure at 122 °F:	35.61 Pa (0.04 kPa)
Evaporation rate at 77 °F:	Not applicable (N/A) *

Product description:

Density at 77 °F:	924 kg/m ³
Relative density at 77 °F:	0.924
Dynamic viscosity at 77 °F:	0 cP
Kinematic viscosity at 77 °F:	0 mm ² /s
Kinematic viscosity at 104 °F:	Not applicable (N/A) *
Concentration:	Not applicable (N/A) *
pH:	Not applicable (N/A) *
Vapour density at 77 °F:	Not applicable (N/A) *
Partition coefficient n-octanol/water 77 °F:	Not applicable (N/A) *
Solubility in water at 77 °F:	Not applicable (N/A) *
Solubility properties:	Not applicable (N/A) *
Decomposition temperature:	Not applicable (N/A) *
Melting point/freezing point:	Not applicable (N/A) *

Flammability:

Flash Point:	270 °F
Flammability (solid, gas):	Not applicable (N/A) *
Autoignition temperature:	437 °F
Lower flammability limit:	Not applicable (N/A) *
Upper flammability limit:	Not applicable (N/A) *

Particle characteristics:

Median equivalent diameter:	Non-applicable
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9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Not applicable (N/A) *
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*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Oxidising properties:	Not applicable (N/A) *
Corrosive to metals:	Not applicable (N/A) *
Heat of combustion:	Not applicable (N/A) *
Aerosols-total percentage (by mass) of flammable components:	Not applicable (N/A) *
Other safety characteristics:	
Surface tension at 77 °F:	Not applicable (N/A) *
Refraction index:	Not applicable (N/A) *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Precaution	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

Contains substances which require external energy for spontaneous decomposition. Form explosive peroxides when distilled, evaporated or otherwise concentrated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
- Contact with the eyes: Produces eye damage after contact.
- D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):
 - Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.
IARC: Benzyl acetate (3)
 - Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
 - Reproductive toxicity: Suspected of damaging fertility or the unborn child
- E- Sensitizing effects:
 - Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
 - Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.
- F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- G- Specific target organ toxicity (STOT)-repeated exposure:
 - Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
 - Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Not applicable (N/A)

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	Route	Toxicity	
Linalyl acetate CAS: 115-95-7	LD50 oral	14500 mg/kg	Rat
	LD50 dermal	5610 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
Hexyl cinnam-aldehyde CAS: 101-86-0	LD50 oral	3100 mg/kg	Rat
	LD50 dermal	3000 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
a-methyl-1,3-benzodioxole-5-propionaldehyde CAS: 1205-17-0	LD50 oral	3550 mg/kg	Rat
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Linalool CAS: 78-70-6	LD50 oral	3000 mg/kg	Rat
	LD50 dermal	5610 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
CITRUS AURANTIUM DULCIS OIL CAS: 8008-57-9	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Benzyl salicylate CAS: 118-58-1	LD50 oral	2200 mg/kg	Rat
	LD50 dermal	14150 mg/kg	Rabbit
	LC50 inhalation	>5 mg/L	
Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) CAS: 63500-71-0	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Citronellol CAS: 106-22-9	LD50 oral	3450 mg/kg	Rat
	LD50 dermal	2650 mg/kg	
	LC50 inhalation	>20 mg/L	

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
Hydroxy-citronellal CAS: 107-75-5	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
p-mentha-1,4-diene CAS: 99-85-4	LD50 oral	3850 mg/kg	Rat
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Geranyl acetate CAS: 105-87-3	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Damascenone CAS: 23696-85-7	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Geraniol CAS: 106-24-1	LD50 oral	4200 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
3-(4-tert-butylphenyl)propionaldehyde CAS: 18127-01-0	LD50 oral	>5000 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Citral CAS: 5392-40-5	LD50 oral	4950 mg/kg	Rat
	LD50 dermal	2250 mg/kg	Rabbit
	LC50 inhalation	>20 mg/L	
2,4-dimethylcyclohex-3-ene-1-carbaldehyde CAS: 68039-49-6	LD50 oral	2500 mg/kg	
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Cis-hex-3-en-1-yl methyl carbonate CAS: 67633-96-9	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	>5000 mg/kg	
	LC50 inhalation	>20 mg/L	
Methyl 2,4-dihydroxy-3,6-dimethylbenzoate CAS: 4707-47-5	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	>5000 mg/kg	Rat
	LC50 inhalation	>5 mg/L	
Isoeugenol CAS: 97-54-1	LD50 oral	1500 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation	>20 mg/L	

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Acute toxicity:

Identification	Concentration	Species	Genus
Benzyl salicylate CAS: 118-58-1	LC50 1.03 mg/L (96 h)	Brachydanio rerio	Fish
	EC50 1.2 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 1.3 mg/L (72 h)	Selenastrum capricornutum	Algae
Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) CAS: 63500-71-0	LC50 Not applicable (N/A)		
	EC50 320 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Not applicable (N/A)		
Linalyl acetate CAS: 115-95-7	LC50 11 mg/L (96 h)	Cyprinus carpio	Fish
	EC50 15 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 62 mg/L (72 h)	Desmodesmus subspicatus	Algae

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Concentration	Species	Genus
a-methyl-1,3-benzodioxole-5-propionaldehyde CAS: 1205-17-0	LC50 5.3 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50 8 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 28 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
p-mentha-1,4-diene CAS: 99-85-4	LC50 2.8 mg/L (96 h)	N/A	Fish
	EC50 10.2 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Not applicable (N/A)		
Citral CAS: 5392-40-5	LC50 6.1 mg/L (24 h)	Oryzias latipes	Fish
	EC50 11 mg/L (24 h)	Daphnia magna	Crustacean
	EC50 16 mg/L (72 h)	Scenedesmus subspicatus	Algae

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Linalool CAS: 78-70-6	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	90 %
Benzyl salicylate CAS: 118-58-1	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	93 %
Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) CAS: 63500-71-0	BOD5	Not applicable (N/A)	Concentration	10 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	10 %
Linalyl acetate CAS: 115-95-7	BOD5	Not applicable (N/A)	Concentration	81 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	80 %
a-methyl-1,3-benzodioxole-5-propionaldehyde CAS: 1205-17-0	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	65 %
p-mentha-1,4-diene CAS: 99-85-4	BOD5	Not applicable (N/A)	Concentration	Not applicable (N/A)
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	27 %
Geraniol CAS: 106-24-1	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	21 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	70 %
Citral CAS: 5392-40-5	BOD5	0.56 g O2/g	Concentration	100 mg/L
	COD	1.99 g O2/g	Period	28 days
	BOD5/COD	0.28	% Biodegradable	92 %



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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
	Parameter	Value	Parameter	Value
Cis-hex-3-en-1-yl methyl carbonate CAS: 67633-96-9	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	99 %
Methyl 2,4-dihydroxy-3,6-dimethylbenzoate CAS: 4707-47-5	BOD5	Not applicable (N/A)	Concentration	100 mg/L
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	59 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
	Parameter	Value
Hexyl cinnam-aldehyde CAS: 101-86-0	BCF	17
	Pow Log	
	Potential	Low
Linalool CAS: 78-70-6	BCF	
	Pow Log	2.97
	Potential	
Benzyl salicylate CAS: 118-58-1	BCF	311
	Pow Log	4
	Potential	High
Linalyl acetate CAS: 115-95-7	BCF	174
	Pow Log	3.9
	Potential	High
a-methyl-1,3-benzodioxole-5-propionaldehyde CAS: 1205-17-0	BCF	
	Pow Log	2.4
	Potential	
Geraniol CAS: 106-24-1	BCF	110
	Pow Log	3.56
	Potential	High
Citral CAS: 5392-40-5	BCF	10
	Pow Log	3.45
	Potential	Low
Methyl 2,4-dihydroxy-3,6-dimethylbenzoate CAS: 4707-47-5	BCF	232
	Pow Log	
	Potential	High

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
	Parameter	Value	Parameter	Value
Benzyl salicylate CAS: 118-58-1	Koc	5600	Henry	Not applicable (N/A)
	Conclusion	Immobile	Dry soil	Not applicable (N/A)
	Surface tension	Not applicable (N/A)	Moist soil	Not applicable (N/A)
Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) CAS: 63500-71-0	Koc	42	Henry	1.71E-3 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	Not applicable (N/A)	Moist soil	No
Linalyl acetate CAS: 115-95-7	Koc	518	Henry	177 Pa·m ³ /mol
	Conclusion	Low	Dry soil	Yes
	Surface tension	Not applicable (N/A)	Moist soil	Yes
a-methyl-1,3-benzodioxole-5-propionaldehyde CAS: 1205-17-0	Koc	71	Henry	Not applicable (N/A)
	Conclusion	Very High	Dry soil	Not applicable (N/A)
	Surface tension	Not applicable (N/A)	Moist soil	Not applicable (N/A)

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
p-mentha-1,4-diene CAS: 99-85-4	Koc	8038	Henry	Not applicable (N/A)
	Conclusion	Immobile	Dry soil	Not applicable (N/A)
	Surface tension	2.991E-2 N/m (77 °F)	Moist soil	Not applicable (N/A)
Methyl 2,4-dihydroxy-3,6-dimethylbenzoate CAS: 4707-47-5	Koc	235	Henry	1.1E-2 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Not applicable (N/A)
	Surface tension	Not applicable (N/A)	Moist soil	Not applicable (N/A)

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

Waste management (disposal and evaluation):

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

Regulations related to waste management:

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to 49 CFR on the Transport of Dangerous Goods:



- 14.1 UN number: UN3082
- 14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran)
- 14.3 Transport hazard class(es): 9
Labels: 9
- 14.4 Packing group, if applicable: III
- 14.5 Marine pollutant: Yes
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises
- Physico-Chemical properties: see section 9
Limited quantities: 5 L
Under 49 CFR 171.4, Except when transporting aboard a vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars, and aircraft
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable (N/A)

Transport of dangerous goods by sea:

With regard to IMDG 40-20:

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SECTION 14: TRANSPORT INFORMATION (continued)



- 14.1 UN number:** UN3082
- 14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran)
- 14.3 Transport hazard class(es):** 9
Labels: 9
- 14.4 Packing group, if applicable:** III
- 14.5 Marine pollutant:** Yes
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**
Special regulations: 335, 969, 274
EmS Codes: F-A, S-F
Physico-Chemical properties: see section 9
Limited quantities: 5 L
Segregation group: Not applicable (N/A)
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable (N/A)

Transport of dangerous goods by air:

With regard to IATA/ICAO 2023:



- 14.1 UN number:** UN3082
- 14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran)
- 14.3 Transport hazard class(es):** 9
Labels: 9
- 14.4 Packing group, if applicable:** III
- 14.5 Marine pollutant:** Yes
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**
Physico-Chemical properties: see section 9
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable (N/A)

SECTION 15: REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations specific for the product in question:**



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SECTION 15: REGULATORY INFORMATION (continued)

- CALIFORNIA LABOR CODE - The Hazardous Substances List: Not applicable (N/A)
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Not applicable (N/A)
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: Not applicable (N/A)
- CANADA-Domestic Substances List (DSL): *Hexyl cinnam-aldehyde (101-86-0)*; *Linalool (78-70-6)*; *Benzyl salicylate (118-58-1)*; *Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) (63500-71-0)*; *CITRUS AURANTIUM DULCIS OIL (8008-57-9)*; *Linalyl acetate (115-95-7)*; *a-methyl-1,3-benzodioxole-5-propionaldehyde (1205-17-0)*; *Citronellol (106-22-9)*; *Hydroxy-citronellal (107-75-5)*; *p-mentha-1,4-diene (99-85-4)*; *Geranyl acetate (105-87-3)*; *Damascenone (23696-85-7)*; *Geraniol (106-24-1)*; *3-(4-tert-butylphenyl)propionaldehyde (18127-01-0)*; *Citral (5392-40-5)*; *2,4-dimethylcyclohex-3-ene-1-carbaldehyde (68039-49-6)*; *Cis-hex-3-en-1-yl methyl carbonate (67633-96-9)*; *Methyl 2,4-dihydroxy-3,6-dimethylbenzoate (4707-47-5)*; *Isoeugenol (97-54-1)*
- CANADA-Non-Domestic Substances List (NDSL): Not applicable (N/A)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: Not applicable (N/A)
- Hazardous Air Pollutants (Clean Air Act): Not applicable (N/A)
- Massachusetts RTK - Substance List: Not applicable (N/A)
- Minnesota - Hazardous substances ERTK: Not applicable (N/A)
- New Jersey Worker and Community Right-to-Know Act: Not applicable (N/A)
- New York RTK - Substance list: Not applicable (N/A)
- NTP (National Toxicology Program): Not applicable (N/A)
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Not applicable (N/A)
- Pennsylvania Worker and Community Right-to-Know Law: Not applicable (N/A)
- Rhode Island - Hazardous substances RTK: Not applicable (N/A)
- The Toxic Substances Control Act (TSCA) : *Hexyl cinnam-aldehyde (101-86-0)*; *Linalool (78-70-6)*; *Benzyl salicylate (118-58-1)*; *Tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans) (63500-71-0)*; *CITRUS AURANTIUM DULCIS OIL (8008-57-9)*; *Linalyl acetate (115-95-7)*; *a-methyl-1,3-benzodioxole-5-propionaldehyde (1205-17-0)*; *Citronellol (106-22-9)*; *Hydroxy-citronellal (107-75-5)*; *p-mentha-1,4-diene (99-85-4)*; *Geranyl acetate (105-87-3)*; *Damascenone (23696-85-7)*; *Geraniol (106-24-1)*; *3-(4-tert-butylphenyl)propionaldehyde (18127-01-0)*; *Citral (5392-40-5)*; *2,4-dimethylcyclohex-3-ene-1-carbaldehyde (68039-49-6)*; *Cis-hex-3-en-1-yl methyl carbonate (67633-96-9)*; *Methyl 2,4-dihydroxy-3,6-dimethylbenzoate (4707-47-5)*; *Isoeugenol (97-54-1)*
- Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): Not applicable (N/A)

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

Texts of the legislative phrases mentioned in section 2:

H317: May cause an allergic skin reaction.

H361: Suspected of damaging fertility or the unborn child.

H319: Causes serious eye irritation.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

29 CFR 1910.1200:

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SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 4: H302+H312 - Harmful if swallowed or in contact with skin.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2A: H319 - Causes serious eye irritation.
Eye Irrit. 2B: H320 - Causes eye irritation.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Flam. Liq. 4: H227 - Combustible liquid.
Repr. 2: H361 - Suspected of damaging fertility or the unborn child.
Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
Skin Sens. 1B: H317 - May cause an allergic skin reaction.
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral).

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

IARC: International Agency for Research on Cancer

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