

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### NATURAL OCTANAL 50% ENRICHED ORANGE OIL FRACTION

Revision date: 21.07.2023

Product code: 279700

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#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

NATURAL OCTANAL 50% ENRICHED ORANGE OIL FRACTION

CAS No: 68606-94-0  
 EC No: -  
 UFI: EHYM-GSQG-R001-3SP7

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

###### Use of the substance/mixture

Manufacturing of: - Air care products - Perfumes, fragrances - Pharmaceuticals - Cosmetics, personal care products - Flavouring Substances - Other

##### 1.3. Details of the supplier of the safety data sheet

Company name:	Axxence Aromatic GmbH	
Street:	Tackenweide 28	
Place:	D-46446 Emmerich am Rhein	
Telephone:	+ 49 2822 68561 0	Telefax: + 49 2822 68561 39
e-mail:	info@axxence.com	
Contact person:	Andreas Goertz	Telephone: + 49 2822 68561 37
e-mail:	andreas.goertz@axxence.com	
Internet:	www.axxence.de	
Responsible Department:	QM - Regulatory Affairs	

##### 1.4. Emergency telephone number:

+49 2822 68561 99

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

Flam. Liq. 3; H226  
 Skin Irrit. 2; H315  
 Eye Irrit. 2; H319  
 Skin Sens. 1; H317  
 Aquatic Acute 1; H400  
 Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

###### Hazard components for labelling

(R)-p-mentha-1,8-diene, d-limonene  
 NATURAL ALPHA-PINENE  
 NATURAL BETA-PINENE  
 NATURAL TRANS-2-HEXENAL

**Signal word:** Warning

###### Pictograms:



###### Hazard statements

H226 Flammable liquid and vapour.

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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use Foam / Carbon dioxide (CO2) / Extinguishing powder to extinguish.
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to .

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)			25 - 55 %
	204-683-8			
	Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2; H226 H315 H319			
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene			25 - 55 %
	227-813-5	601-029-00-7		
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410			
123-35-3	NATURAL MYRCENE			2,5 - 10 %
	204-622-5			
	Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H319 H304 H400 H410			
80-56-8	NATURAL ALPHA-PINENE			1,0 - 2,5 %
	201-291-9		01-2119979519-16	
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410			
127-91-3	NATURAL BETA-PINENE			0,1 - 1,0 %
	204-872-5		01-2119519230-54	
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410			
6728-26-3	NATURAL TRANS-2-HEXENAL			0,1 - 1,0 %
	229-778-1			
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1B, Aquatic Chronic 2; H226 H311 H302 H319 H317 H411			
78-70-6	NATURAL LINALOOL			0,0 - 0,1 %
	201-134-4	603-235-00-2		
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1B; H315 H319 H317			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
124-13-0	204-683-8	NATURAL ALDEHYDE C-8 (OCTANAL)	25 - 55 %
		dermal: LD50 = 5207 mg/kg; oral: LD50 = 4617 mg/kg	
5989-27-5	227-813-5	(R)-p-mentha-1,8-diene, d-limonene	25 - 55 %
		dermal: LD50 = >5000 mg/kg; oral: LD50 = 5300 mg/kg	
123-35-3	204-622-5	NATURAL MYRCENE	2,5 - 10 %
		dermal: LD50 = >5000 mg/kg; oral: LD50 = >11390 mg/kg	
80-56-8	201-291-9	NATURAL ALPHA-PINENE	1,0 - 2,5 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 3700 mg/kg	
127-91-3	204-872-5	NATURAL BETA-PINENE	0,1 - 1,0 %
		dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg	
6728-26-3	229-778-1	NATURAL TRANS-2-HEXENAL	0,1 - 1,0 %
		dermal: LD50 = 600 mg/kg; oral: LD50 = 780 mg/kg	
78-70-6	201-134-4	NATURAL LINALOOL	0,0 - 0,1 %
		dermal: LD50 = 5610 mg/kg; oral: LD50 = 2790 mg/kg	

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**SECTION 4: First aid measures****4.1. Description of first aid measures****After inhalation**

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**After ingestion**

Rinse mouth immediately and drink 1 glass of water.

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

No information available.

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

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

**Unsuitable extinguishing media**

Water.

**5.2. Special hazards arising from the substance or mixture**

Flammable. Vapours can form explosive mixtures with air.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

**6.3. Methods and material for containment and cleaning up****For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

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#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### **Advice on safe handling**

No special measures are necessary.

##### **Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Vapours can form explosive mixtures with air.

##### **Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary.

When using do not eat, drink, smoke, sniff.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### **Requirements for storage rooms and vessels**

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

##### **Hints on joint storage**

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

#### 7.3. Specific end use(s)

Manufacturing of: - Air care products - Perfumes, fragrances - Pharmaceuticals - Cosmetics, personal care products - Flavouring Substances - Other

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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#### DNEL/DMEL values

CAS No	Name of agent		
DNEL type	Exposure route	Effect	Value
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)		
Worker DNEL, long-term	inhalation	systemic	1,3 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	0,37 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,32 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	0,19 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,19 mg/kg bw/day
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene		
Worker DNEL, long-term	inhalation	systemic	66,7 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	9,5 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	16,6 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	local	4,8 mg/cm <sup>2</sup>
Consumer DNEL, long-term	oral	systemic	4,8 mg/kg bw/day
123-35-3	NATURAL MYRCENE		
Worker DNEL, long-term	inhalation	systemic	5,83 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	0,83 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	1,25 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	0,42 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,42 mg/kg bw/day
80-56-8	NATURAL ALPHA-PINENE		
Worker DNEL, long-term	inhalation	systemic	3,8 mg/m <sup>3</sup>
Worker DNEL, acute	dermal	local	0,542 mg/cm <sup>2</sup>
Consumer DNEL, long-term	inhalation	systemic	0,674 mg/m <sup>3</sup>
Consumer DNEL, long-term	oral	systemic	0,225 mg/kg bw/day
Consumer DNEL, long-term	dermal	systemic	0,225 mg/kg bw/day
127-91-3	NATURAL BETA-PINENE		
Worker DNEL, long-term	inhalation	systemic	142 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	142 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	50,6 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	102 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	102 mg/kg bw/day
78-70-6	NATURAL LINALOOL		
Worker DNEL, long-term	inhalation	systemic	24,58 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	3,5 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	5 mg/kg bw/day
Worker DNEL, long-term	dermal	local	3 mg/cm <sup>2</sup>

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Worker DNEL, acute	dermal	local	3 mg/cm <sup>2</sup>
Consumer DNEL, long-term	inhalation	systemic	4,33 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	1,25 mg/kg bw/day
Consumer DNEL, long-term	dermal	local	1,5 mg/cm <sup>2</sup>
Consumer DNEL, acute	dermal	local	1,5 mg/cm <sup>2</sup>
Consumer DNEL, long-term	oral	systemic	2,49 mg/kg bw/day

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#### PNEC values

CAS No	Name of agent	
Environmental compartment		Value
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	
Freshwater		0,002 mg/l
Marine water		0,0002 mg/l
Freshwater sediment		0,071 mg/kg
Marine sediment		0,0071 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,16 mg/l
Soil		0,013 mg/kg
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	
Freshwater		0,014 mg/l
Marine water		0,0014 mg/l
Freshwater sediment		3,85 mg/kg
Marine sediment		0,385 mg/kg
Secondary poisoning		133 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,8 mg/l
Soil		0,763 mg/l
123-35-3	NATURAL MYRCENE	
Freshwater		0,008 mg/l
Marine water		0,0008 mg/l
Freshwater sediment		5,022 mg/kg
Marine sediment		0,502 mg/kg
Secondary poisoning		2,78 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,2 mg/l
Soil		1,015 mg/kg
80-56-8	NATURAL ALPHA-PINENE	
Freshwater		0,0006 mg/l
Freshwater (intermittent releases)		0,003 mg/l
Marine water		0,00006 mg/l
Freshwater sediment		0,157 mg/kg
Marine sediment		0,0157 mg/kg
Secondary poisoning		8,76 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,2 mg/l
Soil		0,0317 mg/kg
127-91-3	NATURAL BETA-PINENE	
Freshwater		0,001 mg/l
Marine water		0,0001 mg/l
Freshwater sediment		0,337 mg/kg
Marine sediment		0,034 mg/kg
Secondary poisoning		13,1 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,26 mg/l
Soil		0,067 mg/kg



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78-70-6	NATURAL LINALOOL
Freshwater	0,2 mg/l
Freshwater (intermittent releases)	2 mg/l
Marine water	0,02 mg/l
Freshwater sediment	2,22 mg/kg
Marine sediment	0,222 mg/kg
Secondary poisoning	7,8 mg/kg
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Soil	0,327 mg/kg

#### 8.2. Exposure controls



Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

Suitable gloves type: Disposable gloves + NBR (Nitrile rubber)

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Skin protection

Use of protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		167 °C
Flammability:		not determined
Lower explosion limits:		0,7 vol. %
Upper explosion limits:		6,5 vol. %
Flash point:		39 °C
Auto-ignition temperature:		196 °C
Decomposition temperature:		not determined
pH-Value:		not determined
Water solubility:		No
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined

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Vapour pressure: (at 20 °C)	2,78 hPa
Vapour pressure: (at 50 °C)	12,4 hPa
Density:	0,83 g/cm <sup>3</sup>
Relative vapour density:	not determined

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. not explosive according to EU A.14

Oxidizing properties

The product is not: oxidising.

##### Other safety characteristics

Evaporation rate: not determined

Solvent content: 0%

Solid content: 0%

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable.

#### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

#### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

#### 10.5. Incompatible materials

No information available.

#### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

### SECTION 11: Toxicological information

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

##### Acute toxicity

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

##### ATEmix calculated

ATE (dermal) 120000,0 mg/kg

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)				
	oral	LD50 mg/kg	4617	Rat	REACH Dossier
	dermal	LD50 mg/kg	5207	Rabbit	REACH Dossier
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene				
	oral	LD50 mg/kg	5300	Rat	IFA GESTIS
	dermal	LD50 mg/kg	>5000	Rabbit	REACH registration OECD 402
123-35-3	NATURAL MYRCENE				
	oral	LD50 mg/kg	>11390	Rat	REACH registration
	dermal	LD50 mg/kg	>5000	Rabbit	REACH registration OECD 402
80-56-8	NATURAL ALPHA-PINENE				
	oral	LD50 mg/kg	3700	Rat	GESTIS
	dermal	LD50 mg/kg	>2000	Rat	REACH registration OECD 402
127-91-3	NATURAL BETA-PINENE				
	oral	LD50 mg/kg	>5000	Rat	REACH Dossier
	dermal	LD50 mg/kg	>5000	Rabbit	REACH Dossier
6728-26-3	NATURAL TRANS-2-HEXENAL				
	oral	LD50 mg/kg	780	Rat	REACH Dossier
	dermal	LD50 mg/kg	600	Rabbit	
78-70-6	NATURAL LINALOOL				
	oral	LD50 mg/kg	2790	Rat	REACH registration OECD 401
	dermal	LD50 mg/kg	5610	Rabbit	REACH registration OECD 402

#### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

#### Sensitising effects

May cause an allergic skin reaction. ((R)-p-mentha-1,8-diene, d-limonene; NATURAL ALPHA-PINENE; NATURAL BETA-PINENE; NATURAL TRANS-2-HEXENAL; NATURAL LINALOOL)

#### Carcinogenic/mutagenic/toxic effects for reproduction

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

#### STOT-single exposure

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

#### STOT-repeated exposure

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

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**Aspiration hazard**

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

**11.2. Information on other hazards****Endocrine disrupting properties**

No information available.

**Further information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information****12.1. Toxicity**

Very toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)					
	Acute algae toxicity	ErC50 mg/l	1,79	72 h	Pseudokirchneriella subcapitata	REACH Dossier OECD 201
	Acute crustacea toxicity	EC50 mg/l	1,54	48 h	Daphnia magna (Big water flea)	REACH Dossier OECD 202
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene					
	Acute fish toxicity	LC50 mg/l	0,72	96 h	Pimephales promelas (fathead minnow)	REACH registration OECD 203
	Acute algae toxicity	ErC50 mg/l	0,32	72 h	Pseudokirchneriella subcapitata	REACH registration OECD 201
	Acute crustacea toxicity	EC50 mg/l	0,307	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
	Fish toxicity	NOEC mg/l	0,37	8 d	Pimephales promelas (fathead minnow)	REACH Registration OECD 212
	Acute bacteria toxicity	(EC50 mg/l)	209	3 h	Activated sludge	REACH registration OECD 209
123-35-3	NATURAL MYRCENE					
	Acute fish toxicity	LC50	1,3 mg/l	96 h	Danio rerio (zebrafish)	REACH registration OECD 203
	Acute algae toxicity	ErC50 mg/l	0,34	72 h	Pseudokirchneriella subcapitata	REACH Registration OECD 201
	Acute crustacea toxicity	EC50 mg/l	1,47	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
80-56-8	NATURAL ALPHA-PINENE					
	Acute fish toxicity	LC50 mg/l	0,27	96 h	Cyprinus carpio (Common Carp)	REACH registration OECD 203
	Acute crustacea toxicity	EC50 mg/l	0,475	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202
127-91-3	NATURAL BETA-PINENE					
	Acute fish toxicity	LC50 mg/l	0,502	96 h	Pimephales promelas (fathead minnow)	REACH Dossier OECD 203
	Acute algae toxicity	ErC50 mg/l	0,826	72 h	Pseudokirchneriella subcapitata	REACH Dossier OECD 201
	Acute crustacea toxicity	EC50	1,2 mg/l	48 h	Daphnia magna (Big water flea)	REACH Dossier OECD 202
	Acute bacteria toxicity	(EC50 mg/l)	326		Activated sludge	REACH Dossier OECD 209
6728-26-3	NATURAL TRANS-2-HEXENAL					
	Acute algae toxicity	ErC50 mg/l	8,16	72 h	Pseudokirchneriella subcapitata	REACH registration QSAR Predictions
	Acute crustacea toxicity	EC50 mg/l	22,8	48 h	Daphnia magna (Big water flea)	REACH registration OECD Toolbox software
78-70-6	NATURAL LINALOOL					
	Acute fish toxicity	LC50 mg/l	27,8	96 h	Oncorhynchus mykiss (Rainbow trout)	REACH registration OECD 203
	Acute algae toxicity	ErC50 mg/l	88,3	96 h	Desmodesmus subspicatus	REACH registration DIN 38412 L9
	Acute crustacea toxicity	EC50	59 mg/l	48 h	Daphnia magna (Big water flea)	REACH registration OECD 202

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	Acute bacteria toxicity	(EC50 >100 mg/l)	0,5 h	Activated sludge	REACH registration	OECD 209
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#### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name	Value	d	Source
	Method			
	Evaluation			
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)			
	OECD 301F	57%	7	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301F	70%	14	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301F	75%	28	REACH Registration
	Readily biodegradable (according to OECD criteria).			
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene			
	OECD 301D	80%	28	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	71%	14	REACH Registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	41%	7	REACH Registration
	Readily biodegradable (according to OECD criteria).			
123-35-3	NATURAL MYRCENE			
	OECD 301D	76%	28	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	65%	14	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	42%	7	REACH registration
	Readily biodegradable (according to OECD criteria).			
80-56-8	NATURAL ALPHA-PINENE			
	OECD 301D	68%	28	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	66%	7	REACH registration
	Readily biodegradable (according to OECD criteria).			
127-91-3	NATURAL BETA-PINENE			
	OECD 301D	76%	28	REACH Dossier
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	65%	14	REACH Dossier
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	33%	7	REACH Dossier
	Readily biodegradable (according to OECD criteria).			
78-70-6	NATURAL LINALOOL			
	OECD 301D	64,2%	28	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	60,5%	15	REACH registration
	Readily biodegradable (according to OECD criteria).			
	OECD 301D	40,9%	5	REACH registration
	Readily biodegradable (according to OECD criteria).			

#### 12.3. Bioaccumulative potential

The product has not been tested.

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#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	3,5
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	4,5
123-35-3	NATURAL MYRCENE	4,82
80-56-8	NATURAL ALPHA-PINENE	4,83
127-91-3	NATURAL BETA-PINENE	4,4
6728-26-3	NATURAL TRANS-2-HEXENAL	1,58
78-70-6	NATURAL LINALOOL	2,97

#### BCF

CAS No	Chemical name	BCF	Species	Source
124-13-0	NATURAL ALDEHYDE C-8 (OCTANAL)	94,69		REACH Registration
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	690,1	aquatic species	REACH registration
80-56-8	NATURAL ALPHA-PINENE	1248		REACH registration
127-91-3	NATURAL BETA-PINENE	838		REACH Dossier

#### 12.4. Mobility in soil

The product has not been tested.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The product has not been tested.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. Other adverse effects

No information available.

#### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

##### List of Wastes Code - residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

##### List of Wastes Code - used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

##### List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

##### Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

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#### SECTION 14: Transport information

##### Land transport (ADR/RID)

**14.1. UN number or ID number:** UN 1989  
**14.2. UN proper shipping name:** ALDEHYDES, N.O.S.  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 274  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 Transport category: 3  
 Hazard No: 30  
 Tunnel restriction code: D/E

##### Other applicable information (land transport)

E1

##### Inland waterways transport (ADN)

**14.1. UN number or ID number:** UN 1989  
**14.2. UN proper shipping name:** ALDEHYDES, N.O.S.  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 274  
 Limited quantity: 5 L  
 Excepted quantity: E1

##### Other applicable information (inland waterways transport)

E1

##### Marine transport (IMDG)

**14.1. UN number or ID number:** UN 1989  
**14.2. UN proper shipping name:** ALDEHYDES, N.O.S.  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Special Provisions: 223 274  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 EmS: F-E, S-D

##### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** UN 1989  
**14.2. UN proper shipping name:** ALDEHYDES, N.O.S.



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**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** III

Hazard label: 3



Special Provisions:	A3	
Limited quantity Passenger:	10 L	
Passenger LQ:	Y344	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		355
IATA-max. quantity - Passenger:		60 L
IATA-packing instructions - Cargo:		366
IATA-max. quantity - Cargo:		220 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: NATURAL OCTANAL  
NATURAL D-LIMONENE

**14.6. Special precautions for user**

Warning: Combustible liquid.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

## SECTION 15: Regulatory information

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

2010/75/EU (VOC): 100 % (830 g/l)

2004/42/EC (VOC): 100 % (830 g/l)

Information according to 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

Additional information: P5c

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

**Changes**

This data sheet contains changes from the previous version in section(s):

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

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#### Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

#### Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.

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H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*