

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

Duftstoff Orange**1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified uses of the substance or mixture**

Fragrances

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet**Address**

Koch-Chemie GmbH

Einsteinstr. 42

D-59423 Unna

Telephone no. +49-2303-9 86 70-0

Fax no. +49-2303-9 86 70-26

Advice on Safety Data Sheet

sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

For information in the event of an emergency during transport:

+44 1865 407333

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Acute Tox. 4; H332

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Asp. Tox. 1; H304

Eye Irrit. 2; H319

Flam. Liq. 3; H226

Skin Irrit. 2; H315

Skin Sens. 1; H317

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Hazard pictograms**

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GHS02 GHS07 GHS08 GHS09

Signal word

Danger

Hazardous component(s) to be indicated on label:

2-butoxyethanol

Orange, sweet, ext.

3,7,7-trimethylbicyclo[4.1.0]hept-3-ene

geraniol

linalyl acetate

alpha-hexylcinnamaldehyde

nerol

2-(4-tert-butylbenzyl) propionaldehyde

Hazard statement(s)

H226

Flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261

Avoid breathing vapours/spray.

P273

Avoid release to the environment.

P280

Wear protective gloves/eye protection/face protection.

P301+P310

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P312

Call a POISON CENTER/doctor if you feel unwell.

P331

Do NOT induce vomiting.

2.3 Other hazards

PBT assessment

One or more components of this product are classified as PBT.

vPvB assessment

One or more components of this product are classified as vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable. The product is not a substance.

3.2 Mixtures**Hazardous ingredients**

No	Substance name	Classification (EC) 1272/2008 (CLP)	Additional information	
	CAS / EC / Index / REACH no		Concentration	%
1	2-butoxyethanol			
	111-76-2	Acute Tox. 4; H302	>= 50.00 - < 70.00	wt%
	203-905-0	Acute Tox. 4; H312		
	603-014-00-0	Acute Tox. 4; H332		
	01-2119475108-36	Eye Irrit. 2; H319		
		Skin Irrit. 2; H315		
2	Orange, sweet, ext.			

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	8028-48-6 232-433-8 - 01-2119493353-35	Asp. Tox. 1; H304 Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 1; H410 Aquatic Acute 1; H400	>= 25.00 - < 50.00	wt%
3	benzyl alcohol			
	100-51-6 202-859-9 603-057-00-5 01-2119492630-38	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319	>= 5.00 - < 10.00	wt%
4	linalool			
	78-70-6 201-134-4 603-235-00-2 01-2119474016-42	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1B; H317	< 5.00	wt%
5	citral			
	5392-40-5 226-394-6 605-019-00-3 01-2119462829-23	Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1B; H317	< 5.00	wt%
6	3,7,7-trimethylbicyclo[4.1.0]hept-3-ene			
	13466-78-9 236-719-3 - -	Asp. Tox. 1; H304 Flam. Liq. 3; H226 Skin Sens. 1; H317 Skin Irrit. 2; H315	< 2.50	wt%
7	geraniol			
	106-24-1 203-377-1 603-241-00-5 01-2119552430-49	Eye Dam. 1; H318 Skin Irrit. 2; H315 Skin Sens. 1; H317	< 2.50	wt%
8	linalyl acetate			
	115-95-7 204-116-4 - 01-2119454789-19	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317	< 2.50	wt%
9	alpha-hexylcinnamaldehyde			
	101-86-0 202-983-3 - 01-2119533092-50	Aquatic Acute 1; H400 Aquatic Chronic 2; H411 Skin Sens. 1B; H317	< 0.50	wt%
10	2,6-di-tert-butyl-p-cresol			
	128-37-0 204-881-4 - -	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	< 0.50	wt%
11	nerol			
	106-25-2 203-378-7 - 01-2119983244-33	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1B; H317	< 0.50	wt%
12	2-(4-tert-butylbenzyl) propionaldehyde			
	80-54-6 201-289-8 605-041-00-3 01-2119485965-18	Acute Tox. 4; H302 Aquatic Chronic 2; H411 Repr. 2; H361f Skin Irrit. 2; H315 Skin Sens. 1B; H317	< 0.50	wt%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

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(2) According to the latest state of knowledge and applying the criteria set out in annex I to Regulation (EC) No 1272/2008, the aforementioned classification is required. This classification goes beyond the classification set out in table 3, Annex VI to Regulation (CE) No 1272/2008.

Acute toxicity estimate (ATE) values			
No	oral	dermal	inhalative
1	1746 mg/kg bodyweight		
3	1620 mg/kg bodyweight		

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of persisting adverse effects, consult a physician. In case of allergic symptoms, especially respiratory tract related, seek medical help immediately.

After inhalation

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air. If unconscious place in recovery position and seek medical advice. Irregular breathing/no breathing: artificial respiration.

After skin contact

In case of contact with skin wash off with water. Consult a doctor if skin irritation persists.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

After ingestion

Rinse the mouth thoroughly with water. Do not induce vomiting - aspiration hazard. Never give anything by mouth to an unconscious person. Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Effects

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet; Alcohol-resistant foam; Carbon dioxide; Dry chemical extinguisher

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO₂); Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back.

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Containers close to fire should be transferred to a safe place. Cool closed containers exposed to fire with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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Refer to protective measures listed in sections 7 and 8. Keep away from ignition sources. Do not inhale vapours.

For emergency responders

Personal protective equipment (PPE) - see section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. In case of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Do not inhale vapours. Avoid contact with eyes and skin. Wash hands before breaks and after work. Remove contaminated clothing and shoes and launder thoroughly before reusing. Provide eye wash fountain in work area. Have emergency shower available.

Advice on protection against fire and explosion

Vapours can form an explosive mixture with air. Isolate from sources of heat, sparks and open flame. Take precautionary measures against electrostatic loading (earthing necessary during loading operations). Use explosion-proof equipment/fittings and non-sparking tools.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Keep container tightly closed. Store in a dry place. Protect from heat and direct sunlight.

Recommended storage temperature

Value

Room temperature

Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original.

Incompatible products

Substances to be avoided, see section 10.

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
	2000/39/EC		
	2-Butoxyethanol		
	WEL short-term (15 min reference period)	246	mg/m ³ 50 ppm

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	WEL long-term (8-hr TWA reference period)	98	mg/m ³	20	ppm
	Skin resorption / sensibilisation	Skin			
List of approved workplace exposure limits (WELs) / EH40					
2-Butoxyethanol					
	WEL short-term (15 min reference period)	246	mg/m ³	50	ppm
	WEL long-term (8-hr TWA reference period)	123	mg/m ³	25	ppm
	Comments	Sk, BMGV			
2	2,6-di-tert-butyl-p-cresol	128-37-0		204-881-4	
List of approved workplace exposure limits (WELs) / EH40					
2,6-Ditertiary-butyl-para-cresol					
	WEL long-term (8-hr TWA reference period)	10	mg/m ³		

DNEL, DMEL and PNEC values**DNEL values (worker)**

No	Substance name	Route of exposure	Exposure time	Effect	CAS / EC no	Value
1	2-butoxyethanol				111-76-2 203-905-0	
	inhalative	Long term (chronic)	systemic		98.00	mg/m ³
	inhalative	Short term (acute)	systemic		1091.00	mg/m ³
	inhalative	Long term (chronic)	local		246.00	mg/m ³
2	Orange, sweet, ext.				8028-48-6 232-433-8	
	dermal	Long term (chronic)			8.89	mg/kg/day
	dermal	Short term (acute)			185.8	µg/cm ²
	inhalative				31.1	mg/m ³
3	benzyl alcohol				100-51-6 202-859-9	
	dermal	Long term (chronic)	systemic		8	mg/kg/day
	dermal	Short term (acute)	systemic		40	mg/kg/day
	inhalative	Long term (chronic)	systemic		22	mg/m ³
	inhalative	Short term (acute)	systemic		110	mg/m ³
4	linalool				78-70-6 201-134-4	
	dermal	Long term (chronic)	systemic		3.5	mg/kg/day
	dermal	Long term (chronic)	local		3	mg/cm ²
	dermal	Short term (acute)	local		3	mg/cm ²
	inhalative	Long term (chronic)	systemic		24.58	mg/m ³
5	citral				5392-40-5 226-394-6	
	dermal	Long term (chronic)	systemic		1.7	mg/kg/day
	dermal	Long term (chronic)	local		140	µg/cm ²
	inhalative	Long term (chronic)	systemic		9	mg/m ³
6	alpha-hexylcinnamaldehyde				101-86-0 202-983-3	
	dermal	Long term (chronic)	systemic		18.2	mg/kg/day
	dermal	Long term (chronic)	local		525	µg/cm ²
	dermal	Short term (acute)	local		525	µg/cm ²
	inhalative	Long term (chronic)	systemic		0.078	mg/m ³
	inhalative	Short term (acute)	local		6.28	mg/m ³
7	2-(4-tert-butylbenzyl) propionaldehyde				80-54-6 201-289-8	
	dermal	Long term (chronic)	systemic		2.075	mg/kg/day
	dermal	Long term (chronic)	local		410	µg/cm ²
	inhalative	Long term (chronic)	systemic		0.44	mg/m ³

DNEL value (consumer)

No	Substance name	CAS / EC no
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	Route of exposure	Exposure time	Effect	Value	
1	2-butoxyethanol			111-76-2 203-905-0	
	oral	Long term (chronic)	systemic	6.30	mg/kg/day
	oral	Short term (acut)	systemic	26.70	mg/kg/day
	inhalative	Long term (chronic)	systemic	59.00	mg/m ³
	inhalative	Short term (acut)	systemic	426.00	mg/m ³
	inhalative	Long term (chronic)	local	147.00	mg/m ³
2	Orange, sweet, ext.			8028-48-6 232-433-8	
	oral	Long term (chronic)		4.44	mg/kg/day
	dermal	Long term (chronic)		4.44	mg/kg/day
	dermal	Short term (acut)		92.9	µg/cm ²
	inhalative	Long term (chronic)		7.78	mg/m ³
3	benzyl alcohol			100-51-6 202-859-9	
	oral	Long term (chronic)	systemic	4	mg/kg/day
	oral	Short term (acut)	systemic	20	mg/kg/day
	dermal	Long term (chronic)	systemic	4	mg/kg/day
	dermal	Long term (chronic)	systemic	20	mg/kg/day
	inhalative	Long term (chronic)	systemic	5.4	mg/m ³
	inhalative	Short term (acut)	systemic	4	mg/m ³
4	linalool			78-70-6 201-134-4	
	oral	Short term (acut)	systemic	1.2	mg/kg/day
	dermal	Short term (acut)	systemic	2.5	mg/kg/day
	dermal	Long term (chronic)	local	1.5	mg/cm ²
	dermal	Short term (acut)	local	1.5	mg/cm ²
	inhalative	Long term (chronic)	systemic	4.33	mg/m ³
5	citral			5392-40-5 226-394-6	
	oral	Long term (chronic)	systemic	0.6	mg/kg/day
	dermal	Long term (chronic)	systemic	1	mg/kg/day
	dermal	Long term (chronic)	local	140	µg/cm ²
	inhalative	Long term (chronic)	systemic	2.7	mg/m ³
6	alpha-hexylcinnamaldehyde			101-86-0 202-983-3	
	oral	Long term (chronic)	systemic	0.056	mg/kg/day
	dermal	Long term (chronic)	systemic	9.11	mg/kg/day
	dermal	Long term (chronic)	local	78.7	µg/cm ²
	inhalative	Long term (chronic)	systemic	0.019	mg/m ³
	inhalative	Short term (acut)	local	4.71	mg/m ³
7	2-(4-tert-butylbenzyl) propionaldehyde			80-54-6 201-289-8	
	oral	Long term (chronic)	systemic	0.062	mg/kg/day
	dermal	Long term (chronic)	systemic	1.038	mg/kg/day
	dermal	Long term (chronic)	local	410	µg/cm ²
	dermal	Short term (acut)	local	410	µg/cm ²
	inhalative	Long term (chronic)	systemic	0.11	mg/m ³

PNEC values

No	Substance name	CAS / EC no	
	ecological compartment	Type	Value
1	2-butoxyethanol		111-76-2 203-905-0
	water	fresh water	8.80 mg/L
	water	marine water	0.88 mg/L
	water	fresh water sediment	34.60 mg/kg

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	with reference to: dry weight			
	water	marine water sediment	3.46	mg/kg
	water	Aqua intermittent	26.4	mg/L
	soil	-	2.33	mg/kg dry weight
	sewage treatment plant	-	463.00	mg/L
	secondary poisoning	-	0.02	mg/kg food
2	Orange, sweet, ext.		8028-48-6 232-433-8	
	water	fresh water	5.4	mg/L
	water	marine water	0.54	mg/L
	water	fresh water sediment	1.3	mg/kg dry weight
	water	marine water sediment	0.13	mg/kg dry weight
	water	Aqua intermittent	5.77	mg/L
	soil	-	0.261	mg/kg dry weight
	sewage treatment plant	-	2.1	mg/L
	secondary poisoning	-	13.3	mg/kg
	with reference to: food			
3	benzyl alcohol		100-51-6 202-859-9	
	water	fresh water	1	mg/L
	water	marine water	0.1	mg/L
	water	Aqua intermittent	2.3	mg/L
	water	fresh water sediment	5.27	mg/kg
	with reference to: dry weight			
	water	marine water sediment	0.527	mg/kg
	with reference to: dry weight			
	soil	-	0.456	mg/kg
	with reference to: dry weight			
	sewage treatment plant	-	39	mg/L
4	linalool		78-70-6 201-134-4	
	water	fresh water	0.2	mg/L
	water	marine water	0.02	mg/L
	water	Aqua intermittent	2	mg/L
	water	fresh water sediment	2.22	mg/kg dry weight
	water	marine water sediment	0.222	mg/kg dry weight
	soil	-	0.327	mg/kg dry weight
	sewage treatment plant	-	10	mg/L
	secondary poisoning	-	7.8	mg/kg food
5	citral		5392-40-5 226-394-6	
	water	fresh water	0.007	mg/L
	water	marine water	0.001	mg/L
	water	Aqua intermittent	0.068	mg/L
	water	fresh water sediment	0.125	mg/kg dry weight
	water	marine water sediment	0.013	mg/kg dry weight
	soil	-	0.021	mg/kg dry weight
	sewage treatment plant	-	1.6	mg/L

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6	alpha-hexylcinnamaldehyde		101-86-0 202-983-3
	water	fresh water	0.001 mg/L
	water	marine water	0 mg/L
	water	fresh water sediment	3.2 mg/kg dry weight
	water	marine water sediment	0.064 mg/kg dry weight
	soil	-	0.398 mg/kg dry weight
	sewage treatment plant	-	10 mg/L
	secondary poisoning	-	6.6 mg/kg food
7	2-(4-tert-butylbenzyl) propionaldehyde		80-54-6 201-289-8
	water	fresh water	0.002 mg/L
	water	marine water	0 mg/L
	water	Aqua intermittent	0.024 mg/L
	water	fresh water sediment	0.269 mg/kg dry weight
	water	marine water sediment	0.027 mg/kg dry weight
	soil	-	0.052 mg/kg dry weight
	sewage treatment plant	-	10 mg/L

8.2 Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified. Filter A or environment-independent breathing apparatus.

Eye / face protection

Safety glasses with side protection shield (EN 166)

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material butyl rubber

Material thickness >= 0.5 mm

Breakthrough time > 120 min

Other

Chemical-resistant work clothes.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State of aggregation

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liquid			
Form/Colour			
liquid			
orange			
Odour			
fruity			
pH value			
Not applicable			
Boiling point / boiling range			
No data available			
Melting point/freezing point			
No data available			
Decomposition temperature			
No data available			
Flash point			
Value	>	55	°C
Ignition temperature			
No data available			
Explosive properties			
The product is not explosive. Formation of explosive/highly flammable air-vapour mixtures is possible during/after use.			
Flammability			
No data available			
Lower explosion limit			
No data available			
Upper explosion limit			
No data available			
Vapour pressure			
Value	<	106	hPa
Reference temperature		50	°C
Relative vapour density			
No data available			
Relative density			
No data available			
Density			
Value		0.89	g/cm ³
Reference temperature		20	°C
Solubility in water			
Comments	miscible		
Solubility			
No data available			
Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
log Pow		0.81	
Reference temperature		20	°C
Method	calculated		
Source	ECHA		

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2	Orange, sweet, ext.	8028-48-6	232-433-8
log Pow	>=	4	
3	benzyl alcohol	100-51-6	202-859-9
log Pow		1.05	
Reference temperature		20	°C
Source	ECHA		
4	linalool	78-70-6	201-134-4
log Pow		2.84	
Reference temperature		20	°C
Method	OECD 107		
Source	ECHA		
5	citral	5392-40-5	226-394-6
log Pow		2.76	
Reference temperature		25	°C
Method	OECD 107		
Source	ECHA		
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
log Pow	appr.	5.3	
Reference temperature		24	°C
Method	OECD 117		
Source	ECHA		
7	2,6-di-tert-butyl-p-cresol	128-37-0	204-881-4
log Pow		4.362	

Kinematic viscosity			
Value	<	7	mm ² /s
Reference temperature		40	°C
Type	kinematic		

Particle characteristics			
No data available			

9.2 Other information

Other information			
No data available.			

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

Dangerous reactions are not to be expected when handling product according to its intended use.

10.4 Conditions to avoid

Heat, naked flames and other ignition sources. Static discharges.

10.5 Incompatible materials

strong oxidizing agents; light metals

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity (result of the ATE calculation for the mixture)
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Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

No	Product Name
1	Duftstoff Orange
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE oral > 2000 mg/kg).

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
LD50		1746	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
2	Orange, sweet, ext.	8028-48-6	232-433-8
LD50		5000	mg/kg bodyweight
Species	rat		
3	benzyl alcohol	100-51-6	202-859-9
LD50		1620	mg/kg bodyweight
Species	= rat		
Source	ECHA		
4	linalool	78-70-6	201-134-4
LD50		2790	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
5	citral	5392-40-5	226-394-6
LD50		6800	mg/kg bodyweight
Species	appr. rat		
Method	BASF-Test		
Source	ECHA		

Acute dermal toxicity (result of the ATE calculation for the mixture)	
No	Product Name
1	Duftstoff Orange
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE dermal > 2000 mg/kg).

Acute dermal toxicity			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
LD50		2000	mg/kg bodyweight
Species	guinea pig		
Method	OECD 402		
Source	ECHA		
2	Orange, sweet, ext.	8028-48-6	232-433-8
LD50		5000	mg/kg bodyweight
Species	rabbit		
3	linalool	78-70-6	201-134-4
LD50		5610	mg/kg bodyweight
Species	rabbit		
Method	OECD 402		
Source	ECHA		
4	citral	5392-40-5	226-394-6
LD50		2000	mg/kg bodyweight
Species	rabbit		

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

Method	BASF-Test
Source	ECHA

Acute inhalational toxicity (result of the ATE calculation for the mixture)	
No	Product Name
1	Duftstoff Orange
ATE (Mixture)	2.8351 mg/l
Route of exposure / physical form	Dust/mist
Method	Calculation method according Regulation (EC) No 1272/2008, (CLP), annex I, part 3, section 3.1.3.6.

Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
ATE		1.5	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
2	benzyl alcohol	100-51-6	202-859-9
LC50	>	4.178	mg/l
Duration of exposure		4	h
State of aggregation	mist		
Species	rat		
Method	OECD 403		
Source	ECHA		

Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Duration of exposure		4	h
Species	rabbit		
Method	EU B.4		
Source	ECHA		
Evaluation	irritant		
2	benzyl alcohol	100-51-6	202-859-9
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
3	linalool	78-70-6	201-134-4
Species	rabbit		
Method	OECD 404		
Source	ECHA		

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Duration of exposure		24	h
Species	rabbit		
Method	OECD 405		
Source	ECHA		
Evaluation	Irritating to eyes		
2	Orange, sweet, ext.	8028-48-6	232-433-8
Species	rabbit		
Method	OECD 405		
Evaluation	non-irritant		
3	benzyl alcohol	100-51-6	202-859-9
Species	rabbit		
Method	OECD 405		
Source	ECHA		
Evaluation	irritant		

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

4	linalool	78-70-6	201-134-4
Species	rabbit		
Method	OECD 405		
Source	ECHA		
5	citral	5392-40-5	226-394-6
Species	rabbit		
Method	OECD 405		
Source	ECHA		
Evaluation	irritant		

Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Route of exposure		Skin	
Species	guinea pig		
Method	OECD 406		
Source	ECHA		
Evaluation	non-sensitizing		
2	linalool	78-70-6	201-134-4
Route of exposure		Skin	
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are met.		
3	citral	5392-40-5	226-394-6
Route of exposure		Skin	
Species	guinea pig		
Method	OECD 406		
Source	ECHA		
Evaluation	non-sensitizing		
4	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
Route of exposure		Skin	
Species	mouse		
Method	OECD 429		
Source	ECHA		
Evaluation	strongly sensitizing		

Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Method	OECD 471		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	linalool	78-70-6	201-134-4
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	citral	5392-40-5	226-394-6
Method	OECD 471		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	citral	5392-40-5	226-394-6
Method	OECD 414		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Species	rat		

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

Method	OECD 451
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
2	benzyl alcohol 100-51-6 202-859-9
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
3	linalool 78-70-6 201-134-4
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
4	citral 5392-40-5 226-394-6
Method	OECD 453
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

STOT - single exposure

No data available

STOT - repeated exposure

No	Substance name	CAS no.	EC no.
1	linalool	78-70-6	201-134-4
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Aspiration hazard

No data available

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

No data available.

Other information

No data available.

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
LC50	>	1474	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203		
Source	ECHA		
2	Orange, sweet, ext.	8028-48-6	232-433-8
LC50		0.7	mg/l
Duration of exposure		96	h
Species	Pimephales promelas		
Method	OECD 203		
3	benzyl alcohol	100-51-6	202-859-9
LC50		460	mg/l
Duration of exposure		96	h
Species	Pimephales promelas		
Method	EPA OPP 72-1		
Source	ECHA		
4	linalool	78-70-6	201-134-4
LC50		27.8	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203		

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

Source		ECHA	
5	citral	5392-40-5	226-394-6
LC50		6.78	mg/l
Duration of exposure		96	h
Species	Leuciscus idus		
Method	DIN 38412		
Source	ECHA		
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
LC50		1.7	mg/l
Duration of exposure		96	h
Species	Pimephales promelas		
Method	OECD 203		
Source	ECHA		

Toxicity to fish (chronic)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
NOEC		>	100 mg/l
Duration of exposure		21	day(s)
Species	Danio rerio		
Method	OECD 204		
Source	ECHA		

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
EC50		690	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
2	Orange, sweet, ext.	8028-48-6	232-433-8
EC50		0.67	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
3	benzyl alcohol	100-51-6	202-859-9
EC50		230	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
4	linalool	78-70-6	201-134-4
EC50		59	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
5	citral	5392-40-5	226-394-6
EC50		6.8	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	79/831/EEC		
Source	ECHA		
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
EC50	0.36	- 0.59	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

Toxicity to Daphnia (chronic)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
	NOEC	100	mg/l
	Duration of exposure	21	day(s)
	Species	Daphnia magna	
	Method	OECD 211	
	Source	ECHA	
2	benzyl alcohol	100-51-6	202-859-9
	NOEC	51	mg/l
	Duration of exposure	21	day(s)
	Species	Daphnia magna	
	Method	OECD 211	
	Source	ECHA	
3	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
	NOEC	63	µg/l
	Duration of exposure	21	day(s)
	Species	Daphnia magna	
	Method	OECD 211	
	Source	ECHA	

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
	EC50	623	mg/l
	Duration of exposure	72	h
	Species	Pseudokirchneriella subcapitata	
	Method	OECD 201	
	Source	ECHA	
2	Orange, sweet, ext.	8028-48-6	232-433-8
	ErC50	150	mg/l
	Duration of exposure	72	h
	Species	Desmodesmus subspicatus	
	Method	OECD 201	
3	benzyl alcohol	100-51-6	202-859-9
	EC50	500	mg/l
	Duration of exposure	72	h
	Species	Pseudokirchneriella subcapitata	
	Method	OECD 201	
	Source	ECHA	
4	linalool	78-70-6	201-134-4
	ErC50	156.7	mg/l
	Duration of exposure	96	h
	Species	Desmodesmus subspicatus	
	Method	DIN 38412	
	Source	ECHA	
5	citral	5392-40-5	226-394-6
	EC50	103.8	mg/l
	Duration of exposure	72	h
	Species	Desmodesmus subspicatus	
	Method	DIN 38412	
	Source	ECHA	
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
	EC50	>	0.065
	Duration of exposure	72	h
	Species	Desmodesmus subspicatus	
	Method	OECD 201	
	Source	ECHA	

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

Toxicity to algae (chronic)			
No	Substance name	CAS no.	EC no.
1	benzyl alcohol	100-51-6	202-859-9
NOEC		31072	mg/l
Duration of exposure		72	
Species		Pseudokirchneriella subcapitata	
Method		OECD 201	
Source		ECDIN	

Bacteria toxicity	
No data available	

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	2-butoxyethanol	111-76-2	203-905-0
Type		aerobic biodegradation	
Value		90.4	%
Duration		28	day(s)
Method		OECD 301 B	
Source		ECHA	
Evaluation		readily biodegradable	
2	Orange, sweet, ext.	8028-48-6	232-433-8
Value		72 - 83.4	%
Duration		28	day(s)
Method		OECD 301 B	
Evaluation		readily biodegradable	
3	benzyl alcohol	100-51-6	202-859-9
Type		BOD of the ThOD	
Value		92 - 96	%
Duration		14	day(s)
Method		OECD 301 C	
Source		ECHA	
Evaluation		readily biodegradable	
4	linalool	78-70-6	201-134-4
Value		> 64	%
Duration		28	day(s)
Method		OECD 301 D	
Source		ECHA	
Evaluation		readily biodegradable	
5	citral	5392-40-5	226-394-6
Type		BSB	
Value		> 90	%
Duration		28	day(s)
Method		92/69/EEC, C.4-C	
Source		ECHA	
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
Value		appr. 97	%
Duration		28	day(s)
Method		OECD 301 F	
Source		ECHA	

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)			
No	Substance name	CAS no.	EC no.
1	Orange, sweet, ext.	8028-48-6	232-433-8
BCF		32 - 156	

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

1	2-butoxyethanol	111-76-2	203-905-0
	log Pow		0.81
	Reference temperature		20 °C
	Method	calculated	
	Source	ECHA	
2	Orange, sweet, ext.	8028-48-6	232-433-8
	log Pow	>=	4
3	benzyl alcohol	100-51-6	202-859-9
	log Pow		1.05
	Reference temperature		20 °C
	Source	ECHA	
4	linalool	78-70-6	201-134-4
	log Pow		2.84
	Reference temperature		20 °C
	Method	OECD 107	
	Source	ECHA	
5	citral	5392-40-5	226-394-6
	log Pow		2.76
	Reference temperature		25 °C
	Method	OECD 107	
	Source	ECHA	
6	alpha-hexylcinnamaldehyde	101-86-0	202-983-3
	log Pow	appr.	5.3
	Reference temperature		24 °C
	Method	OECD 117	
	Source	ECHA	
7	2,6-di-tert-butyl-p-cresol	128-37-0	204-881-4
	log Pow		4.362

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	One or more components of this product are classified as PBT.
vPvB assessment	One or more components of this product are classified as vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

Other information
Do not let enter the product into drains or waterways and do not store on public depositories.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Disposal of the product should be carried out in accordance with all applicable regulations following consultation with the responsible local authority and the disposal company in an authorised and suitable disposal facility. Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB**SECTION 14: Transport information****14.1 Transport ADR/RID/ADN**

Class	3
Classification code	F1
Packing group	III
UN number	UN1266
Proper shipping name	PERFUMERY PRODUCTS
Tunnel restriction code	E
Label	3
Environmentally hazardous substance mark	Symbol "fish and tree"

14.2 Transport IMDG

Class	3
Packing group	III
UN number	UN1266
Proper shipping name	PERFUMERY PRODUCTS
Technical name	Orange, sweet, ext.
EmS	F-E, S-D
Label	3
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	3
Packing group	III
UN number	UN1266
Proper shipping name	Perfumery products
Label	3

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

The product contains following substance(s) meeting the criteria in Article 57 in association with Article 59 of the REACH regulation ((EC) 1907/2006) that are placed on the list of candidates considered for inclusion in annex XIV (substances subject to Authorisation).

No	Substance name	CAS no.	EC no.
1	2-(4-tert-butylbenzyl) propionaldehyde	80-54-6	201-289-8

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

Trade name: Duftstoff Orange**Product no.:** 166999**Current version :** 1.0.0, issued: 27.04.2022**Replaced version:** 1.0.0, issued: 26.11.2020**Region:** GB

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				No 3, 40
The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				
No	Substance name	CAS no.	EC no.	No
1	2-(4-tert-butylbenzyl) propionaldehyde	80-54-6	201-289-8	75
2	2-butoxyethanol	111-76-2	203-905-0	75
3	citral	5392-40-5	226-394-6	75
4	geraniol	106-24-1	203-377-1	75
5	linalool	78-70-6	201-134-4	75

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category:

E1, P5c

If the properties of the substance/product give rise to more than one classification, for the purposes of 2012/18/UE, the lowest qualifying quantities set out in Part 1 and Part 2 of Annex I shall apply.

Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

Employment restrictions, according to the regulations for protection of expectant and nursing mothers and the youth health and safety regulations, serving to protect against hazardous materials, should be observed.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information**Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H318	Causes serious eye damage.
H361f	Suspected of damaging fertility.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Creation of the safety data sheet

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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