Safety data sheet
according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

VACUFRESH

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
perfumes
Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet
DR.SCHNELL GmbH & Co. KGaA
Taunusstr. 19
80807 München
Tel.: 089/350608-0
Fax: 089/350608-47
Email: info@dr-schnell.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number
Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:
+49 (0) 700 / 24 112 112 (DR.SCHNELL)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Skin Sens.	1	H317-May cause an allergic skin reaction.

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)

Warning

H317-May cause an allergic skin reaction.

P261-Avoid breathing vapours or spray. P280-Wear protective gloves.
P333+P313-If skin irritation or rash occurs: Get medical advice / attention.

Linalyl acetate
cineole
2-methylundecanal
Dodecanal
[1.alpha.(E),2.beta.]-1-(2,6,6-trimethylcyclohex-3-en-1-yl)but-2-en-1-one
3-p-cumenyl-2-methylpropionaldehyde

2.3 Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances
n.a.

3.2 Mixtures

Terpineol	
Registration number (REACH)	01-2119553062-49-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	232-268-1
CAS	8000-41-7
content %	1-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319

2,6-Dimethyloct-7-en-2-ol	
Registration number (REACH)	01-2119457274-37-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	242-362-4
CAS	18479-58-8
content %	1-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319

cineole	
Registration number (REACH)	01-2119967772-24-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	207-431-5
CAS	470-82-6
content %	1-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Skin Sens. 1, H317

1,6-Octadien-3-ol, 3,7-dimethyl-, acid-isomerized	
Registration number (REACH)	---
Index	---

EINECS, ELINCS, NLP, REACH-IT List-No.	277-225-8
CAS	73018-51-6
content %	1-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Diphenyl ether	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	202-981-2
CAS	101-84-8
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412

Linalyl acetate	
Registration number (REACH)	01-2119454789-19-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-116-4
CAS	115-95-7
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317

Allyl hexanoate	
Registration number (REACH)	01-2119983573-26-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-642-4
CAS	123-68-2
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412

2-methylundecanal	
Registration number (REACH)	01-2119969443-29-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-765-0
CAS	110-41-8
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Dodecanal	
Registration number (REACH)	01-2119969441-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-983-6
CAS	112-54-9
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317

3-p-cumenyl-2-methylpropionaldehyde	
Registration number (REACH)	01-2119970582-32-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-161-7
CAS	103-95-7
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412

p-cymene	
Registration number (REACH)	01-2120807345-59-XXXX
Index	601-094-00-1
EINECS, ELINCS, NLP, REACH-IT List-No.	202-796-7
CAS	99-87-6
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Acute Tox. 3, H331 Repr. 2, H361 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Specific Concentration Limits and ATE	ATE (as inhalation, Vapours): 3 mg/l/4h

[1.alpha.(E),2.beta.]-1-(2,6,6-trimethylcyclohex-3-en-1-yl)but-2-en-1-one	
Registration number (REACH)	01-2119535122-53-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	275-156-8
CAS	71048-82-3
content %	<0,1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation

Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.
Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:
Oxides of carbon
Oxides of sulphur
Oxides of nitrogen
Toxic gases

5.3 Advice for firefighters

For personal protective equipment see Section 8.
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.
Ensure sufficient ventilation, remove sources of ignition.
Avoid dust formation with solid or powder products.
Leave the danger zone if possible, use existing emergency plans if necessary.
Avoid build up of dust.
Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Pick up mechanically and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Avoid build up of dust.
Keep away from sources of ignition - Do not smoke.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Protect from direct sunlight and warming.
Store in a well-ventilated place.
Protect from humidity.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB	**Chemical Name**	Diphenyl ether		Content %:0,1-<1
WEL-TWA: 1 ppm (7 mg/m3) (WEL, EU)		WEL-STEL: 2 ppm (14 mg/m3) (WEL, EU)		---
Monitoring procedures:		---		
BMGV: ---			Other information: ---	

GB	**Chemical Name**	Paraffin wax and hydrocarbon wax		Content %:
WEL-TWA: 2 mg/m3 (paraffin wax, fume)		WEL-STEL: 6 mg/m3 (paraffin wax, fume)		---
Monitoring procedures:		---		
BMGV: ---			Other information: ---	

GB	**Chemical Name**	Microcrystalline paraffin wax and hydrocarbon wax		Content %:
WEL-TWA: 2 mg/m3 (paraffin wax, fume)		WEL-STEL: 6 mg/m3 (paraffin wax, fume)		---
Monitoring procedures:		---		
BMGV: ---			Other information: ---	

Terpineol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - sewage treatment plant		PNEC	2,57	mg/l	
	Environment - soil		PNEC	0,052	mg/kg	
	Environment - oral (animal feed)		PNEC	16,6	g/kg feed	
	Environment - freshwater		PNEC	0,062	mg/l	
	Environment - marine		PNEC	0,0062	mg/l	
	Environment - sediment, freshwater		PNEC	0,442	mg/kg	
	Environment - sediment, marine		PNEC	0,044	mg/kg	
Consumer	Human - oral	Short term, systemic effects	DNEL	2,5	mg/kg	
Consumer	Human - dermal	Short term, systemic effects	DNEL	2,5	mg/kg	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	1,25	mg/kg	

Consumer	Human - oral	Long term, systemic effects	DNEL	0,42	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,42	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,25	mg/m3	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	5	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	6,36	mg/kg	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	5,8	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	44,8	mg/m3	

2,6-Dimethyloct-7-en-2-ol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,278	mg/l	
	Environment - marine		PNEC	0,278	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	0,278	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	0,594	mg/kg dw	
	Environment - sediment, marine		PNEC	0,0594	mg/kg dw	
	Environment - soil		PNEC	0,103	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	21,7	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	12,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	73,5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	20,8	mg/kg bw/day	

cineole

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,057	mg/l	
	Environment - marine		PNEC	0,0057	mg/l	
	Environment - sediment, freshwater		PNEC	1,425	mg/kg dw	
	Environment - sediment, marine		PNEC	0,142	mg/kg dw	
	Environment - soil		PNEC	0,25	mg/kg dw	
	Environment - oral (animal feed)		PNEC	40	mg/kg feed	
	Environment - water, sporadic (intermittent) release		PNEC	0,00027	mg/l	

Consumer	Human - oral		DNEL	600	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,74	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	7,05	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2	mg/kg bw/d	

Linalyl acetate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - water		PNEC	0,011	mg/l	
	Environment - marine		PNEC	0,0011	mg/l	
	Environment - sediment, marine		PNEC	0,0609	mg/kg	
	Environment - soil		PNEC	0,115	mg/kg	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - periodic release		PNEC	0,11	mg/l	
	Environment - sediment, freshwater		PNEC	0,609	mg/kg	
	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,68	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,25	mg/kg	
Consumer	Human - dermal	Short term, local effects	DNEL	0,24	mg/m3	
Consumer	Human - dermal	Long term, local effects	DNEL	0,24	mg/cm2	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,2	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,24	mg/cm2	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,75	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg body weight/day	
Workers / employees	Human - dermal	Short term, local effects	DNEL	0,24	mg/cm2	

Allyl hexanoate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,117	µg/l	
	Environment - sediment, freshwater		PNEC	0,00446	mg/kg dw	
	Environment - marine		PNEC	0,012	µg/l	
	Environment - sediment, marine		PNEC	0,000446	mg/kg dw	

	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - soil		PNEC	0,000825	mg/kg dw	
Consumer	Human - oral	Long term, systemic effects	DNEL	2,1	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	2,1	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	3,7	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	4,3	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	15	mg/m3	

2-methylundecanal

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,18	µg/l	
	Environment - marine		PNEC	0,018	µg/l	
	Environment - sporadic (intermittent) release		PNEC	1,8	µg/l	
	Environment - sewage treatment plant		PNEC	10	mg/m3	
	Environment - sediment, freshwater		PNEC	0,072	mg/kg dw	
	Environment - sediment, marine		PNEC	0,00722	mg/kg dw	
	Environment - soil		PNEC	0,014	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	14,5	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	4,2	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	4,2	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	59	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	8,3	mg/kg bw/day	

Dodecanal

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,0035	mg/l	
	Environment - marine		PNEC	0,00035	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	12,3	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	7	mg/kg bw/d	
Consumer	Human - dermal	Long term, local effects	DNEL	0,00028	mg/cm2	
Consumer	Human - oral	Long term, systemic effects	DNEL	7	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	49,7	mg/m3	

Workers / employees	Human - dermal	Long term, systemic effects	DNEL	14,1	mg/kg bw/d	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,00057	mg/cm2	

[1.alpha.(E),2.beta.]-1-(2,6,6-trimethylcyclohex-3-en-1-yl)but-2-en-1-one

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - water		PNEC	0,014	mg/l	
	Environment - sediment, freshwater		PNEC	0,561	mg/kg dry weight	
	Environment - marine		PNEC	0,001	mg/l	
	Environment - sediment, marine		PNEC	0,056	mg/kg dry weight	
	Environment - sewage treatment plant		PNEC	2,7	mg/l	
	Environment - soil		PNEC	0,103	mg/kg dry weight	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,43	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,25	mg/kg body weight/day	
Consumer	Human - dermal	Long term, local effects	DNEL	0,069	mg/cm2	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,25	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,4	mg/kg body weight/day	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,116	mg/cm2	

bis(2-ethylhexyl) adipate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,0032	mg/l	
	Environment - marine		PNEC	0,0032	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,0032	mg/l	
	Environment - sewage treatment plant		PNEC	35	mg/l	
	Environment - sediment, freshwater		PNEC	15,6	mg/kg	
	Environment - soil		PNEC	0,865	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	13	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4,4	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,3	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	25,5	mg/kg bw/day	

Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,8	mg/m3	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

8.2 Exposure controls
8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. EN 14042.
EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
With danger of contact with eyes.
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Protective gloves made of butyl (EN ISO 374).
Minimum layer thickness in mm:
0,5
Permeation time (penetration time) in minutes:
>= 480
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Usual protective working garments

Respiratory protection:
Normally not necessary.
If the general dust-limit is exceeded, breathing masks with fine-dust filters are necessary (EN 143), code colour white.
If applicable, filter P2 (EN 143), code colour white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Solid
Colour:	Cyan
Odour:	Characteristic
Melting point/freezing point:	68-72 °C
Boiling point or initial boiling point and boiling range:	>100 °C
Flammability:	Flammable
Lower explosion limit:	Does not apply to solids.
Upper explosion limit:	Does not apply to solids.
Flash point:	>60 °C (ISO 2719 (Pensky-Martens, closed cup))
Auto-ignition temperature:	Does not apply to solids.
Decomposition temperature:	>230 °C
pH:	There is no information available on this parameter.
Kinematic viscosity:	Does not apply to solids.
Solubility:	There is no information available on this parameter.
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	There is no information available on this parameter.
Relative vapour density:	Does not apply to solids.

9.2 Other information

Explosives:	Product is not explosive.
Oxidizing solids:	No

SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
No dangerous reactions are known.

10.4 Conditions to avoid
None known

10.5 Incompatible materials
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Possibly more information on health effects, see Section 2.1 (classification).

VACUFRESH						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by inhalation:	ATE	>20	mg/l			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l			calculated value, Aerosol
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Terpineol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	> 2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Human being	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Symptoms:						mucous membrane irritation
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	250	mg/kg bw/d	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	2230	mg/m3	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	

2,6-Dimethyloct-7-en-2-ol						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	3600	mg/kg	Rat		Analogous conclusion
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		Analogous conclusion
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit		Eye Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative

cineole						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	2480	mg/kg	Rat		
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1

1,6-Octadien-3-ol, 3,7-dimethyl-, acid-isomerized						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Aspiration hazard:						Yes

Diphenyl ether						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	2830	mg/kg	Rat		calculated value
Acute toxicity, by dermal route:	LD50	>7940	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Eye Irrit. 2

Linalyl acetate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>9000	mg/kg	Rat		BASF test
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative

Reproductive toxicity:	NOAEL	500	mg/kg bw/d	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	
Reproductive toxicity:	NOEL	500	mg/kg bw/d	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	
Aspiration hazard:						No
Symptoms:						ataxia, drowsiness, headaches, stomach pain, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting.
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	160	mg/kg bw/d	Rat	OECD 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)	
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	250	mg/kg bw/d	Rat	OECD 411 (Subchronic Dermal Toxicity - 90-day Study)	

Allyl hexanoate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	218	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	820	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	0,297	ppm/4h	Rat		

2-methylundecanal

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>10000	mg/kg	Rabbit		
Skin corrosion/irritation:				Guinea pig		Skin Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1B

Dodecanal

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>23100	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Eye Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative

Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Reproductive toxicity:	NOAEL	300	mg/kg bw/d	Rat		
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	20000	ppm	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	

3-p-cumenyl-2-methylpropionaldehyde

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1B

p-cymene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	~4750	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	ATE	3	mg/l/4h			Vapours
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	No (skin contact)
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Aspiration hazard:						Yes

[1.alpha.(E),2.beta.]-1-(2,6,6-trimethylcyclohex-3-en-1-yl)but-2-en-1-one

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	1400	mg/kg	Mouse		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:						Irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)

Paraffin wax and hydrocarbon wax

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by oral route:	NOAEL	1,5	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>3600	mg/kg	Rabbit	IUCLID Chem. Data Sheet (ESIS)	
Acute toxicity, by inhalation:	LC50	>5	mg/l/4h	Human being		Dust
Skin corrosion/irritation:					(Patch-Test)	Not irritant

Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						Not sensitizising
Reproductive toxicity (Developmental toxicity):	NOAEL	>1000	mg/kg	Rat		
Symptoms:						diarrhoea

Microcrystalline paraffin wax and hydrocarbon wax						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		

11.2. Information on other hazards

VACUFRESH						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Endocrine disrupting properties:						Does not apply to mixtures.
Other information:						No other relevant information available on adverse effects on health.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

VACUFRESH							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.

Terpineol							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to algae:	NOEC/NOEL	72h	3,9	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to fish:	LC50	96h	62-80	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to daphnia:	EC50	48h	73	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	68	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80	%	activated sludge	OECD 310 (Ready Biodegradability - CO2 in sealed vessels (Headspace Test))	Readily biodegradable
12.2. Persistence and degradability:		28d	80	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		24,13				Low
12.3. Bioaccumulative potential:	Log Pow		2,6-3,1				Low

2,6-Dimethyloct-7-en-2-ol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	4,81	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	96h	<3,5	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	5,7	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	25	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	80	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	72-73	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		3,25			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	No
12.3. Bioaccumulative potential:	BCF		64,8				Low

12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	30min	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

cineole							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	NOEC/NOEL	96h	32	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>74	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	37	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	82	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,74				Low
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Diphenyl ether							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to daphnia:	EC50	48h	1,96	mg/l	Daphnia magna		
12.1. Toxicity to fish:	LC50	96h	4,2	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	NOEC/NOEL	96h	3,2	mg/l	Oncorhynchus mykiss		
12.2. Persistence and degradability:		20d	76	%			Readily biodegradable
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,76	mg/l	Daphnia magna		

12.1. Toxicity to algae:	EC50	72h	0,58	mg/l	Pseudokirchneriella subcapitata		
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,32	mg/l	Pseudokirchneriella subcapitata		
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Linalyl acetate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	11	mg/l	Cyprinus carpio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	15	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.2. Persistence and degradability:		28d	70-80	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.1. Toxicity to algae:	EC50	96h	88,3	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.3. Bioaccumulative potential:	Log Pow		3,9				
12.3. Bioaccumulative potential:	BCF		173,9				Low
Other information:	Koc		517,9				
Other information:	Log Koc		2,71				
Other information:	H (Henry)		176,31				

2-methylundecanal

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,35	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	96h	0,11	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,053	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,21	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

12.1. Toxicity to algae:	EC50	72h	0,18	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,089	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	68	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		4,9			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	High

Dodecanal

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to fish:	LC50	96h	2,6	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>0,27	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,27	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,06	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	0,042	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable

3-p-cumenyl-2-methylpropionaldehyde

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	3,032	mg/l		QSAR	
12.1. Toxicity to daphnia:	EC50	48h	1,4	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	4,3	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	

12.1. Toxicity to algae:	NOEC/NOEL	72h	0,72	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	65,5	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Biodegradable
Toxicity to bacteria:	EC50	3h	~100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

p-cymene							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	48	mg/l	Cyprinodon variegatus		
12.2. Persistence and degradability:		28d	64	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,46	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	3,7	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	4,03	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		14d	88	%	activated sludge	OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable

[1.alpha.(E),2.beta.]-1-(2,6,6-trimethylcyclohex-3-en-1-yl)but-2-en-1-one							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	0,97	mg/l	Oryzias latipes	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	21d	1,76	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,35	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	72h	4,54	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	

Toxicity to bacteria:	EC50	3h	241	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Paraffin wax and hydrocarbon wax							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to daphnia:	NOEC/NOEL		10	mg/l			
12.2. Persistence and degradability:		28d	>50	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to fish:	LL50		>100	mg/l			
12.1. Toxicity to daphnia:	EL50		>10000	mg/l	Daphnia magna		
12.1. Toxicity to algae:	NOEC/NOEL		>100	mg/l			
Water solubility:							Insoluble

Microcrystalline paraffin wax and hydrocarbon wax							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LL50	96h	> 100	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EL50	24h	> 10000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	ErC50	24h	>10000	mg/l			
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
16 03 05 organic wastes containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.
Empty container completely.

Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements

14.1. UN number or ID number: n.a.

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Classification code: n.a.
LQ: n.a.
Transport category:
14.5. Environmental hazards: Not applicable
Tunnel restriction code:

Transport by sea (IMDG-code)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Marine Pollutant: n.a
14.5. Environmental hazards: Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

14.7. Maritime transport in bulk according to IMO instruments

Non-dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

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

Observe restrictions:
Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): ~ 10 %

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 8
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used

Skin Sens. 1, H317	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H361 Suspected of damaging fertility or the unborn child.
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.
H412 Harmful to aquatic life with long lasting effects.

Skin Sens. — Skin sensitization
Skin Irrit. — Skin irritation
Eye Irrit. — Eye irritation
Flam. Liq. — Flammable liquid
Asp. Tox. — Aspiration hazard
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Aquatic Acute — Hazardous to the aquatic environment - acute
Acute Tox. — Acute toxicity - oral
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - inhalation
Repr. — Reproductive toxicity

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
Guidelines for the preparation of safety data sheets as amended (ECHA).
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
Safety data sheets for the constituent substances.
ECHA Homepage - Information about chemicals.
GESTIS Substance Database (Germany).
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
National Lists of Occupational Exposure Limits for each country as amended.
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
ATE Acute Toxicity Estimate
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BSEF The International Bromine Council
bw body weight

CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
EC European Community
ECHA European Chemicals Agency
ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ErCx, EμCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
Koc Adsorption coefficient of organic carbon in the soil
Kow octanol-water partition coefficient
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow Logarithm of octanol-water partition coefficient
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute for Occupational Safety and Health (USA)
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development
org. organic
OSHA Occupational Safety and Health Administration (USA)
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.
These statements were made by:
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