Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

1.1 Product identifier

Duftstoff Bazooka
Art.: 216999

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

Koch-Chemie GmbH
Einsteinstrasse 42
59423 Unna
Telefon: +49 (0) 2303 / 9 86 70 - 0
Fax: +49 (0) 2303 / 9 86 70 - 26
info@koch-chemie.com
www.koch-chemie.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:
IRL

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

Telephone number of the company in case of emergencies:
+1 872 5888271 (KCC)

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
Flam. Liq.	3	H226-Flammable liquid and vapour.
Eye Irrit.	2	H319-Causes serious eye irritation.
Skin Sens.	1	H317-May cause an allergic skin reaction.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

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

Warning

H226-Flammable liquid and vapour. H319-Causes serious eye irritation. H317-May cause an allergic skin reaction. H412-Harmful to aquatic life with long lasting effects.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261-Avoid breathing vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / eye protection / face protection.
P314-Get medical advice / attention if you feel unwell.
P403+P235-Store in a well-ventilated place. Keep cool.

EUH066-Repeated exposure may cause skin dryness or cracking.

Benzyl alcohol
(R)-p-mentha-1,8-diene
Citral
Butanedione
Piperonal
Ethyl 2,3-epoxy-3-phenylbutyrat
Methyl cinnamate
Methyl salicylate
Cinnamaldehyde
4-hydroxy-2,5-dimethylfuran-2(3H)-one

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

Isopentyl acetate	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	607-130-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	204-662-3
CAS	123-92-2
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226

ethyl butyrate	
Registration number (REACH)	01-2120118576-54-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-306-4
CAS	105-54-4
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Eye Irrit. 2, H319

Citral	
Registration number (REACH)	01-2119462829-23-XXXX
Index	605-019-00-3
EINECS, ELINCS, NLP, REACH-IT List-No.	226-394-6
CAS	5392-40-5
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317

Benzyl acetate	
Registration number (REACH)	01-2119638272-42-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	205-399-7
CAS	140-11-4
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 3, H412

2-methylbutyl acetate	Substance for which an EU exposure limit value applies.
Registration number (REACH)	---
Index	607-130-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	210-843-8
CAS	624-41-9
content %	3-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Flam. Liq. 3, H226

n-butyl acetate	Substance for which an EU exposure limit value applies.
Registration number (REACH)	---
Index	607-025-00-1
EINECS, ELINCS, NLP, REACH-IT List-No.	204-658-1
CAS	123-86-4
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Flam. Liq. 3, H226 STOT SE 3, H336

Ethyl acetate	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119475103-46-XXXX
Index	607-022-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	205-500-4
CAS	141-78-6
content %	1-<3

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Ethanol	
Registration number (REACH)	01-2119457610-43-XXXX
Index	603-002-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	200-578-6
CAS	64-17-5
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Eye Irrit. 2, H319
Specific Concentration Limits and ATE	Eye Irrit. 2, H319: >=50 %

Benzyl alcohol	
Registration number (REACH)	01-2119492630-38-XXXX
Index	603-057-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	202-859-9
CAS	100-51-6
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Specific Concentration Limits and ATE	ATE (oral): 1200 mg/kg

(R)-p-mentha-1,8-diene	
Registration number (REACH)	01-2119529223-47-XXXX
Index	601-096-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	227-813-5
CAS	5989-27-5
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412

Undecan-4-olide	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-225-4
CAS	104-67-6
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 2, H411

3-Methylbutyl butyrate	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-380-8
CAS	106-27-4
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Aquatic Chronic 2, H411

Vanillin	
Registration number (REACH)	---
Index	---

EINECS, ELINCS, NLP, REACH-IT List-No.	204-465-2
CAS	121-33-5
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319

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 %	1-<3
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
Specific Concentration Limits and ATE	ATE (oral): 218 mg/kg ATE (dermal): 820 mg/kg ATE (as inhalation, Dusts or mist): 0,5 mg/l/4h ATE (as inhalation, Vapours): 3 mg/l/4h

3-ethoxy-4-hydroxybenzaldehyde	
Registration number (REACH)	01-2119958961-24-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-464-7
CAS	121-32-4
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319

Ethyl 2,3-epoxy-3-phenylbutyrat	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	201-061-8
CAS	77-83-8
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317 Aquatic Chronic 2, H411

Ethyl (S)-2-hydroxypropionate	
Registration number (REACH)	---
Index	607-129-00-7
EINECS, ELINCS, NLP, REACH-IT List-No.	211-694-1
CAS	687-47-8
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Eye Dam. 1, H318 STOT SE 3, H335

Methyl salicylate	
Registration number (REACH)	---
Index	607-749-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	204-317-7
CAS	119-36-8
content %	1-<3

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Repr. 2, H361d Aquatic Chronic 3, H412
Specific Concentration Limits and ATE	ATE (oral): 890 mg/kg

Butanedione	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	207-069-8
CAS	431-03-8
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Acute Tox. 3, H331 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373
Specific Concentration Limits and ATE	ATE (oral): 1600 mg/kg ATE (as inhalation, Dusts or mist): 0,5 mg/l/4h ATE (as inhalation, Vapours): 3 mg/l/4h

Piperonal	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-409-7
CAS	120-57-0
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317

Methyl cinnamate	
Registration number (REACH)	01-2119979458-16-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-093-8
CAS	103-26-4
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317

Cinnamaldehyde	
Registration number (REACH)	---
Index	606-155-00-6
EINECS, ELINCS, NLP, REACH-IT List-No.	203-213-9
CAS	104-55-2
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 3, H412
Specific Concentration Limits and ATE	Skin Sens. 1, H317: >=0,01 % ATE (dermal): 1100 mg/kg

4-hydroxy-2,5-dimethylfuran-2(3H)-one	
Registration number (REACH)	---
Index	---

EINECS, ELINCS, NLP, REACH-IT List-No.	222-908-8
CAS	3658-77-3
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317
Specific Concentration Limits and ATE	ATE (oral): 500 mg/kg

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.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

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
Remove person from danger area.
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.
Do not induce vomiting - 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.
eyes, reddened
watering eyes
reddening of the skin
Allergic reaction

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 / alcohol resistant 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 nitrogen
Toxic gases
Formation of highly flammable vapour/air mixtures possible.

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.
Cool container at risk with water.
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 contact with eyes or skin.
If applicable, caution - risk of slipping.
6.1.2 For emergency responders
See section 8 for suitable protective equipment and material specifications.
6.2 Environmental precautions
If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
If accidental entry into drainage system occurs, inform responsible authorities.
6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.
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
Ensure good ventilation.
Avoid aerosol formation.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Take explosion-prevention measures if applicable.
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.

Do not store with flammable or self-igniting materials.
Protect from direct sunlight and warming.
Store in a well ventilated place.
Store cool.
Observe special storage conditions.

7.3 Specific end use(s)

No information available at present.
Observe the instructions for good working practice and the recommendations for risk assessment.
Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,
depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB	**Chemical Name**	Isopentyl acetate	
WEL-TWA: 50 ppm (270 mg/m3) (Pentyl acetates (all isomers), WEL-TWA), 50 ppm (270 mg/m3) (EU)	WEL-STEL: 100 ppm (541 mg/m3) (Pentyl acetates (all isomers), WEL-STEL), 100 ppm (540 mg/m3) (EU)	---	
Monitoring procedures:	- Compur - KITA-188 U (549 384) - NIOSH 1450 (ESTERS 1) - 2003 - OSHA PV2142 (n-Amyl Acetate Isoamyl Acetate) - 2005		
BMGV: ---		Other information: ---	

IRL	**Chemical Name**	Isopentyl acetate	
OELV-8h: 50 ppm (260 mg/m3) (OELV-8h), 50 ppm (270 mg/m3) (EU)	OELV-15min: 100 ppm (520 mg/m3) (OELV-15min), 100 ppm (540 mg/m3) (EU)	---	
Monitoring procedures:	- Compur - KITA-188 U (549 384) - NIOSH 1450 (ESTERS 1) - 2003 - OSHA PV2142 (n-Amyl Acetate Isoamyl Acetate) - 2005		
BLV: ---		Other information: ---	

M	**Chemical Name**	Isopentyl acetate	
OELV-8h: 50 ppm (270 mg/m3) (OELV-8h, EU)	OELV-ST: 100 ppm (540 mg/m3) (OELV-ST, EU)	---	
Monitoring procedures:	- Compur - KITA-188 U (549 384) - NIOSH 1450 (ESTERS 1) - 2003 - OSHA PV2142 (n-Amyl Acetate Isoamyl Acetate) - 2005		
BMGV: ---		Other information: ---	

IRL	**Chemical Name**	Citral	
OELV-8h: 5 ppm (IFV)	OELV-15min: ---	---	
Monitoring procedures:	---		
BLV: ---		Other information: ---	

IRL	**Chemical Name**	Benzyl acetate	
OELV-8h: 10 ppm	OELV-15min: ---	---	
Monitoring procedures:	---		
BLV: ---		Other information: ---	

GB	**Chemical Name**	2-methylbutyl acetate	
WEL-TWA: 50 ppm (270 mg/m3) (Pentyl acetates (all isomers), WEL-TWA), 50 ppm (270 mg/m3) (EU) (Isopentyl acetate)	WEL-STEL: 100 ppm (541 mg/m3) (Pentyl acetates (all isomers), WEL-STEL), 100 ppm (540 mg/m3) (EU) (Isopentyl acetate)	---	
Monitoring procedures:	---		
BMGV: ---		Other information: ---	

IRL	**Chemical Name**	2-methylbutyl acetate	
OELV-8h: 50 ppm (260 mg/m3) (OELV-8h), 50 ppm (270 mg/m3) (EU) (Isopentyl acetate)	OELV-15min: 100 ppm (520 mg/m3) (OELV-15min), 100 ppm (540 mg/m3) (EU) (Isopentyl acetate)	---	
Monitoring procedures:	---		

BLV: ---	Other information: ---

M	Chemical Name	2-methylbutyl acetate	
OELV-8h: 50 ppm (270 mg/m3) (Isopentylacetate) (OELV-8h, EU)	OELV-ST: 100 ppm (540 mg/m3) (Isopentylacetate) (OELV-ST, EU)	---	
Monitoring procedures: ---			
BMGV: ---		Other information: ---	

GB	Chemical Name	n-butyl acetate	
WEL-TWA: 150 ppm (724 mg/m3) (WEL-TWA), 50 ppm (241 mg/m3) (EU)	WEL-STEL: 200 ppm (966 mg/m3) (WEL-STEL), 150 ppm (723 mg/m3) (EU)	---	
Monitoring procedures:	- Compur - KITA-138 U (548 857) - Compur - KITA-139 SB(C) (549 731) - NIOSH 1450 (ESTERS 1) - 2003 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996 - OSHA 1009 (n-Butyl Acetate Isobutyl Acetate sec-Butyl Acetate tert-Butyl Acetate) - 2007		
BMGV: ---		Other information: ---	

IRL	Chemical Name	n-butyl acetate	
OELV-8h: 50 ppm (241 mg/m3) (OELV-8h, EU)	OELV-15min: 150 ppm (723 mg/m3) (OELV-15min, EU)	---	
Monitoring procedures:	- Compur - KITA-138 U (548 857) - Compur - KITA-139 SB(C) (549 731) - NIOSH 1450 (ESTERS 1) - 2003 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996 - OSHA 1009 (n-Butyl Acetate Isobutyl Acetate sec-Butyl Acetate tert-Butyl Acetate) - 2007		
BLV: ---		Other information: ---	

M	Chemical Name	n-butyl acetate	
OELV-8h: 50 ppm (241 mg/m3) (OELV-8h, EU)	OELV-ST: 150 ppm (723 mg/m3) (OELV-ST, EU)	---	
Monitoring procedures:	- Compur - KITA-138 U (548 857) - Compur - KITA-139 SB(C) (549 731) - NIOSH 1450 (ESTERS 1) - 2003 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996 - OSHA 1009 (n-Butyl Acetate Isobutyl Acetate sec-Butyl Acetate tert-Butyl Acetate) - 2007		
BMGV: ---		Other information: ---	

GB	Chemical Name	Ethyl acetate	
WEL-TWA: 200 ppm (734 mg/m3) (WEL-TWA, EU)	WEL-STEL: 400 ppm (1468 mg/m3) (WEL-STEL, EU)	---	
Monitoring procedures:	- Draeger - Ethyl Acetate 200/a (CH 20 201) - Compur - KITA-111 SA (549 160) - Compur - KITA-111 U(C) (549 178) - DFG Meth. Nr. 1 (D) (Loesungsmittelgemische 2), DFG (E) (Solvent mixtures 2) - 1993, 2002 - DFG Meth. Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - DFG Meth. Nr. 6 (D) (Loesungsmittelgemische 4), DFG (E) (Solvent mixtures 4) - 2014, 2002 - NIOSH 1457 (ETHYL ACETATE) - 1994 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996		
BMGV: ---		Other information: ---	

IRL	Chemical Name	Ethyl acetate	
OELV-8h: 200 ppm (734 mg/m3) (OELV-8h, EU)	OELV-15min: 400 ppm (1468 mg/m3) (OELV-15min, EU)	---	
Monitoring procedures:	- Draeger - Ethyl Acetate 200/a (CH 20 201) - Compur - KITA-111 SA (549 160) - Compur - KITA-111 U(C) (549 178) - DFG Meth. Nr. 1 (D) (Loesungsmittelgemische 2), DFG (E) (Solvent mixtures 2) - 1993, 2002		

	- DFG Meth. Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - DFG Meth. Nr. 6 (D) (Loesungsmittelgemische 4), DFG (E) (Solvent mixtures 4) - 2014, 2002 - NIOSH 1457 (ETHYL ACETATE) - 1994 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996
BLV: ---	Other information: ---

M **Chemical Name** Ethyl acetate

OELV-8h: 200 ppm (734 mg/m3) (EU)	OELV-ST: 400 ppm (1468 mg/m3) (EU)	---
Monitoring procedures:	- Draeger - Ethyl Acetate 200/a (CH 20 201) - Compur - KITA-111 SA (549 160) - Compur - KITA-111 U(C) (549 178) - DFG Meth. Nr. 1 (D) (Loesungsmittelgemische 2), DFG (E) (Solvent mixtures 2) - 1993, 2002 - DFG Meth. Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - DFG Meth. Nr. 6 (D) (Loesungsmittelgemische 4), DFG (E) (Solvent mixtures 4) - 2014, 2002 - NIOSH 1457 (ETHYL ACETATE) - 1994 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996	
BMGV: ---	Other information: ---	

GB **Chemical Name** Ethanol

WEL-TWA: 1000 ppm (1920 mg/m3)	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Alcohol 25/a Ethanol (81 01 631) - Compur - KITA-104 SA (549 210) - DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 2013, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) - DFG Meth. Nr. 2 (D) (Loesungsmittelgemische) - 2013 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) - DFG Meth. Nr. 3 (D) (Loesungsmittelgemische) - 2013 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004)	
BMGV: ---	Other information: ---	

IRL **Chemical Name** Ethanol

OELV-8h: 1000 ppm	OELV-15min: ---	---
Monitoring procedures:	- Draeger - Alcohol 25/a Ethanol (81 01 631) - Compur - KITA-104 SA (549 210) - DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 2013, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) - DFG Meth. Nr. 2 (D) (Loesungsmittelgemische) - 2013 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) - DFG Meth. Nr. 3 (D) (Loesungsmittelgemische) - 2013 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004)	
BLV: ---	Other information: ---	

GB **Chemical Name** Butanedione

WEL-TWA: 0,02 ppm (0,07 mg/m3) (WEL-TWA, EU)	WEL-STEL: 0,1 ppm (0,36 mg/m3) (WEL-STEL, EU)	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

IRL **Chemical Name** Butanedione

OELV-8h: 0,02 ppm (0,07 mg/m3) (OELV-8h, EU)	OELV-15min: 0,1 ppm (0,36 mg/m3) (OELV-15min, EU)	---
Monitoring procedures:	---	
BLV: ---	Other information: IOELV	

M **Chemical Name** Butanedione

OELV-8h: 0,02 ppm (0,07 mg/m3) (EU)	OELV-ST: 0,1 ppm (0,36 mg/m3) (EU)	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

ethyl butyrate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	29,7	µg/l	
	Environment - marine		PNEC	2,97	µg/l	
	Environment - sewage treatment plant		PNEC	23,6	mg/l	
	Environment - sediment, freshwater		PNEC	0,173	mg/kg	
	Environment - sediment, marine		PNEC	0,0173	mg/kg	
	Environment - soil		PNEC	0,0171	mg/kg	
	Environment - sewage treatment plant		PNEC	23,6	mg/l	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	49,3	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,33	mg/kg bw/d	

Citral						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,00678	mg/l	
	Environment - marine		PNEC	0,000678	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	0,0678	mg/l	
	Environment - sewage treatment plant		PNEC	1,6	mg/l	
	Environment - sediment, freshwater		PNEC	0,125	mg/kg	
	Environment - sediment, marine		PNEC	0,0125	mg/kg	
	Environment - soil		PNEC	0,0209	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,7	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,6	mg/kg	
Consumer	Human - dermal	Long term, local effects	DNEL	0,14	mg/cm2	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	1,7	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	9	mg/m3	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,14	mg/cm2	

Benzyl acetate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**

	Environment - freshwater		PNEC	0,004	mg/l	
	Environment - marine		PNEC	0,0004	mg/l	
	Environment - periodic release		PNEC	0,04	mg/l	
	Environment - sewage treatment plant		PNEC	8,55	mg/l	
	Environment - sediment, freshwater		PNEC	0,114	mg/kg	
	Environment - sediment, marine		PNEC	0,0114	mg/kg	
	Environment - soil		PNEC	0,0205	mg/kg	
Consumer	Human - oral	Short term, systemic effects	DNEL	6,25	mg/kg bw/day	
Consumer	Human - dermal	Short term, systemic effects	DNEL	6,25	mg/kg bw/day	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	11	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	5,5	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	3,125	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	9	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	43,8	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	6,25	mg/kg bw/day	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	12,5	mg/kg bw/day	

n-butyl acetate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,18	mg/l	
	Environment - marine		PNEC	0,018	mg/l	
	Environment - periodic release		PNEC	0,36	mg/l	
	Environment - sediment, freshwater		PNEC	0,981	mg/kg	
	Environment - sediment, marine		PNEC	0,0981	mg/kg	
	Environment - soil		PNEC	0,0903	mg/kg	
	Environment - sewage treatment plant		PNEC	35,6	mg/l	
Consumer	Human - dermal	Long term, systemic effects	DNEL	6	mg/kg	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	300	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	35,7	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	300	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	35,7	mg/m3	
Consumer	Human - dermal	Short term, systemic effects	DNEL	6	mg/kg bw/day	

Consumer	Human - oral	Long term, systemic effects	DNEL	2	mg/kg bw/day	
Consumer	Human - oral	Short term, systemic effects	DNEL	2	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	600	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	300	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	11	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	11	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	600	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	300	mg/m3	

Ethyl acetate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,24	mg/l	
	Environment - marine		PNEC	0,024	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,65	mg/l	
	Environment - sediment, freshwater		PNEC	1,15	mg/kg	
	Environment - sediment, marine		PNEC	0,115	mg/kg	
	Environment - soil		PNEC	0,148	mg/kg	
	Environment - sewage treatment plant		PNEC	650	mg/l	
	Environment - oral (animal feed)		PNEC	200	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	4,5	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	37	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	367	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	367	mg/m3	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	734	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	734	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	63	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	734	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	734	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	1468	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	1468	mg/m3	

Ethanol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,96	mg/l	
	Environment - marine		PNEC	0,79	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2,75	mg/l	
	Environment - sewage treatment plant		PNEC	580	mg/l	
	Environment - sediment, freshwater		PNEC	3,6	mg/kg dry weight	
	Environment - soil		PNEC	0,63	mg/kg dry weight	
	Environment - oral (animal feed)		PNEC	0,38	g/kg feed	
	Environment - sediment, marine		PNEC	2,9	mg/kg dry weight	
Consumer	Human - dermal	Short term, local effects	DNEL	950	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	114	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	87	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	206	mg/kg bw/d	
Consumer	Human - inhalation	Short term, local effects	DNEL	950	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	343	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	950	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	1900	mg/m3	

(R)-p-mentha-1,8-diene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	14	µg/l	
	Environment - marine		PNEC	1,4	µg/l	
	Environment - sewage treatment plant		PNEC	1,8	mg/l	
	Environment - sediment, freshwater		PNEC	3,85	mg/kg dw	
	Environment - sediment, marine		PNEC	0,385	mg/kg dw	
	Environment - soil		PNEC	0,763	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	8,33	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	4,76	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	66,7	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	9,5	mg/kg	

Vanillin

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,118	mg/l	
	Environment - marine		PNEC	0,012	mg/l	
	Environment - sediment, freshwater		PNEC	58,22	mg/kg dw	
	Environment - sediment, marine		PNEC	5,822	mg/kg dw	
	Environment - soil		PNEC	11,54	mg/kg dw	
	Environment - sewage treatment plant		PNEC	10	mg/l	

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	

Ethyl 2,3-epoxy-3-phenylbutyrat

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,008	mg/l	
	Environment - marine		PNEC	8,4	µg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	0,214	mg/kg dw	
	Environment - sediment, marine		PNEC	0,021	mg/kg dw	
	Environment - soil		PNEC	0,038	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,17	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,25	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	2,45	mg/m3	

Workers / employees	Human - dermal	Long term, systemic effects	DNEL	5	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,63	mg/m3	

Ethyl (S)-2-hydroxypropionate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,32	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	3,2	mg/l	
	Environment - marine		PNEC	0,032	mg/l	
	Environment - sediment, freshwater		PNEC	1,66	mg/kg dw	
	Environment - sediment, marine		PNEC	0,166	mg/kg dw	
	Environment - soil		PNEC	0,145	mg/kg dw	
Consumer	Human - inhalation	Short term	DNEL	54	mg/m3	
Consumer	Human - inhalation	Long term	DNEL	6	mg/m3	
Workers / employees	Human - inhalation	Short term	DNEL	90	mg/m3	
Workers / employees	Human - inhalation	Long term	DNEL	1,6	mg/m3	

Methyl salicylate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	20	µg/l	
	Environment - marine		PNEC	2	µg/l	
	Environment - sewage treatment plant		PNEC	140	mg/l	
	Environment - soil		PNEC	0,35	mg/kg dw	
	Environment - sediment, freshwater		PNEC	0,52	mg/kg dw	
	Environment - sediment, marine		PNEC	0,052	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	213	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	3	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	1	mg/kg bw/day	
Consumer	Human - oral	Short term, local effects	DNEL	5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,5	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	285	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	6	mg/kg bw/day	

Piperonal

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	2,5	µg/l	
	Environment - marine		PNEC	0,25	µg/l	
	Environment - periodic release		PNEC	25	µg/l	
	Environment - sediment, freshwater		PNEC	0,0119	mg/kg	
	Environment - soil		PNEC	0,00084	mg/kg dry weight	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, marine		PNEC	0,0012	mg/kg dry weight	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,25	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,25	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4,3	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,6	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg bw/day	

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (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 (2004/37/CE). |
| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

IRL - Ireland/Éire | OELV-8h = Occupational Exposure Limit Value - 8-hour reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (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 (2004/37/CE). |
| OELV-15min = Occupational Exposure Limit Value - 15-minute reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

| BMGV = Biological Monitoring Guidance Value (Biological Monitoring Guidelines 2011, HSA (Health and Safety Authority)): ACGIH-BEI = BMGV have been sourced from Biological Exposure Indices (BEI) as issued by the American Conference of Governmental Industrial Hygienists (ACGIH). SCOEL = BMGV have been sourced from the Scientific Committee on Occupational Exposure Limit Values (SCOEL) which was set up by a Commission Decision (95/320/EC) with the mandate to advise the European Commission on occupational exposure limits for chemicals in the workplace. HSE = BMGV have been sourced from the Health and Safety Executive (HSE), UK.
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

M - Malta | OELV-8h = Occupational Exposure Limit Value - 8 h (8-hour reference period as a time-weighted average) [S.L.424.24, last amended by L.N. 356 of 2021]: [9] = Inhalable fraction, [10] = Respirable fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (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 (2004/37/CE). |
| OELV-ST = Occupational Exposure Limit Value - Short-term (15-minute reference period) [S.L.424.24, last amended by L.N. 356 of 2021]: [8] = Short-term exposure limit value in relation to a reference period of 1 minute, [9] = Inhalable fraction, [10] = Respirable fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020), United Kingdom).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information [S.L.424.24, last amended by L.N. 356 of 2021]: Skin = Possibility of a significant uptake through the skin. [11] = When selecting an appropriate exposure monitoring method , account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. [12] = The mist is defined as the thoracic fraction. [13] = Established in accordance with the Annex to Directive 91/322/EEC. [14] = During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(EU13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/CE), (EU14) = The substance can cause sensitisation of the skin (2004/37/CE), (EU15) = Substantial contribution to the total body burden via dermal exposure possible. |

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:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN ISO 374).
Recommended
Protective nitrile gloves (EN ISO 374).
Minimum layer thickness in mm:
> 0,7
Permeation time (penetration time) in minutes:
> 10
Protective hand cream recommended.
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.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
If OES or MEL is exceeded.
Gas mask filter A (EN 14387), code colour brown
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:	Liquid
Colour:	Yellow
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	There is no information available on this parameter.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	27 °C
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	Mixture is non-soluble (in water).
Kinematic viscosity:	There is no information available on this parameter.
Solubility:	Not miscible
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:	0,95 g/cm3
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information
No information available at present.

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
See also section 7.
Heating, open flame, ignition sources
Electrostatic charge

10.5 Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
See also section 5.2
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).

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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.

ethyl butyrate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:					OECD 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)	Not irritant
Serious eye damage/irritation:				Human being	OECD 492 (Reconstructed Human Cornea-like Epithelium ... Not Requir. C. + L. for Eye Irrit./Dam.)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig		No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Reproductive toxicity (Developmental toxicity):	NOAEL	500	mg/kg bw/d	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	

Citral

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	~ 6800	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat		
Skin corrosion/irritation:				Rabbit		Irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Chinese hamster
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Chinese hamster
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative

Symptoms:						respiratory distress, drowsiness, coughing, headaches, gastrointestinal disturbances, mucous membrane irritation, nausea

Benzyl acetate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	2490	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	> 5000	mg/kg	Rabbit		

2-methylbutyl acetate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Skin corrosion/irritation:						Repeated exposure may cause skin dryness or cracking.
Symptoms:						breathing difficulties, unconsciousness, vomiting, headaches, dizziness, nausea

n-butyl acetate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	10760-13100	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	Female
Acute toxicity, by dermal route:	LD50	>17600	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>21,1	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
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:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative

Reproductive toxicity:	NOAEC	9640	mg/m3		OECD 416 (Two-generation Reproduction Toxicity Study)	Negative
Specific target organ toxicity - single exposure (STOT-SE):						May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure (STOT-RE):						Negative
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	125	mg/kg	Rat	Regulation (EC) 440/2008 B.26 (SUB-CHRONIC ORAL TOXICITY TEST REPEATED DOSE 90 - DAY (RODENTS))	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	500	ppm	Rat		
Symptoms:						unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting.

Ethyl acetate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	4934	mg/kg	Rabbit	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>20000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC0	29,3	mg/l/4h	Rat		Vapours
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Repeated exposure may cause skin dryness or cracking.
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:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative

Specific target organ toxicity - single exposure (STOT-SE):						STOT SE 3, H336, May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	900	mg/kg bw/d	Rat	Regulation (EC) 440/2008 B.26 (SUB-CHRONIC ORAL TOXICITY TEST REPEATED DOSE 90 - DAY (RODENTS))	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	0,002	mg/kg	Rat	Regulation (EC) 440/2008 B.29 (SUB-CHRONIC INHALATION TOXICITY STUDY 90-DAY REPEATED (RODENTS))	
Aspiration hazard:						No
Symptoms:						lack of appetite, breathing difficulties, drowsiness, unconsciousness, drop in blood pressure, cornea opacity, coughing, headaches, gastrointestinal disturbances, intoxication, drowsiness, mucous membrane irritation, dizziness, salivation, nausea and vomiting., fatigue

Ethanol						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	10470	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	51-124,7	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
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)	No (skin contact)

Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Carcinogenicity:	NOAEL	>3000	mg/kg	Rat	OECD 451 (Carcinogenicity Studies)	24 mon
Reproductive toxicity:	NOAEL	5200	mg/kg bw/d	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAL	>20	mg/l	Rat	OECD 403 (Acute Inhalation Toxicity)	Male
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	1730	mg/kg/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Female
Symptoms:						respiratory distress, drowsiness, unconsciousness, drop in blood pressure, vomiting, coughing, headaches, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea

Benzyl alcohol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	1230	mg/kg	Rat		
Acute toxicity, by oral route:	ATE	1200	mg/kg			
Acute toxicity, by dermal route:	LD50	2000	mg/kg	Rabbit		Does not conform with EU classification.
Acute toxicity, by inhalation:	LC50	>4,178	mg/l/4h	Rat		Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2

Respiratory or skin sensitisation:				Human being	(Patch-Test)	Skin Sens. 1B
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:						Negative
Symptoms:						breathing difficulties, drowsiness, unconsciousness, diarrhoea, headaches, cramps, gastrointestinal disturbances, intoxication, dizziness, nausea and vomiting.

(R)-p-mentha-1,8-diene

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 dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
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)	Yes (skin contact)
Germ cell mutagenicity:						Negative
Reproductive toxicity:						Negative
Symptoms:						diarrhoea, rash, itching, gastrointestinal disturbances, mucous membrane irritation, nausea and vomiting.

Undecan-4-olide

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	18500	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Symptoms:						mucous membrane irritation

3-Methylbutyl butyrate						
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	>5000	mg/kg	Rabbit		
Symptoms:						drowsiness, burning of the membranes of the nose and throat, cornea opacity, coughing, stomach pain, intoxication, mucous membrane irritation, dizziness, nausea and vomiting.

Vanillin						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	3925-3978	mg/kg	Rat	Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)	
Acute toxicity, by dermal route:	LD50	>5010	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit	Regulation (EC) 440/2008 B.4 (ACUTE DERMAL IRRITATION/CORROSION)	Not irritant, Mechanical irritation possible.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Guinea pig	Regulation (EC) 440/2008 B.6 (SKIN SENSITISATION)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	(Ames-Test)	Negative

Allyl hexanoate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	ATE	218	mg/kg			
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 dermal route:	ATE	820	mg/kg			
Acute toxicity, by inhalation:	ATE	3	mg/l/4h			Vapours
Acute toxicity, by inhalation:	ATE	0,5	mg/l/4h			Dusts or mist
Acute toxicity, by inhalation:	LC50	0,297	ppm/4h	Rat		Vapours

3-ethoxy-4-hydroxybenzaldehyde						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		

Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat		
Symptoms:						weight loss

Ethyl 2,3-epoxy-3-phenylbutyrat						
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	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Human being	Regulation (EC) 440/2008 B.46 (IN VITRO SKIN IRRITATION - RECONSTRUCTED HUMAN EPIDERMIS TEST METHOD)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig		Yes (skin contact)
Reproductive toxicity:	NOEL	1000	mg/kg bw/d	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	

Ethyl (S)-2-hydroxypropionate						
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 inhalation:	LC50	>5,4	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Dam. 1
Respiratory or skin sensitisation:				Mouse	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Specific target organ toxicity - single exposure (STOT-SE):						STOT SE 3, H335
Specific target organ toxicity - repeated exposure (STOT-RE):						Negative

Methyl salicylate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	ATE	890	mg/kg			
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant

Serious eye damage/irritation:				Rabbit	OECD 491 (Short-time Exposure ... Chemicals Causing Eye Dam., Chem. Not Requir. Eye Dam. or Irrit.)	Eye Dam. 1
Symptoms:						acidosis, respiratory distress, annoyance, blisters, heart/circulatory disorders, coughing, cramps, stomach pain, intoxication, mucous membrane irritation, pain in chest, sweats, dizziness, visual disturbances, nausea and vomiting.

Butanedione

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	1600	mg/kg			
Acute toxicity, by oral route:	ATE	1600	mg/kg			
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	3	mg/l			Vapours
Acute toxicity, by inhalation:	ATE	3	mg/l/4h			Vapours
Acute toxicity, by inhalation:	ATE	0,5	mg/l/4h			Dusts or mist
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit		Eye Dam. 1

Piperonal

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2700	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Guinea pig	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Skin Sens. 1B
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative

Methyl cinnamate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes

Acute toxicity, by oral route:	LD50	2610	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative Chinese hamster
Aspiration hazard:						No

Cinnamaldehyde

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2220	mg/kg	Rat		
Acute toxicity, by dermal route:	ATE	1100	mg/kg			
Skin corrosion/irritation:				Human being		Irritant
Skin corrosion/irritation:				Guinea pig		Irritant
Respiratory or skin sensitisation:				Guinea pig		Sensitising (skin contact)
Respiratory or skin sensitisation:				Human being	(Patch-Test)	Sensitising (skin contact)
Symptoms:						breathing difficulties, skin afflictions

4-hydroxy-2,5-dimethylfuran-2(3H)-one

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	500	mg/kg			

11.2. Information on other hazards

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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.

Ethanol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes

Other information:						Excessive alcohol consumption during pregnancy induces the foetus alcohol syndrome (reduced weight at birth, physical and mental disorders)., There is no sign that this syndrome is also caused by dermal or inhalative absorption., Experiences on persons.

SECTION 12: Ecological information

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

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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.
Other information:							DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a.
Other information:	AOX			%			According to the recipe, contains no AOX.

ethyl butyrate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	100	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	116,6	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	100	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		42d	50	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	BCF		8				
12.3. Bioaccumulative potential:	Log Pow		2,433			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	
12.4. Mobility in soil:	Log Koc		1,346			OECD 121 (Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using HPLC)	25°C

Citral							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	6,78	mg/l	Leuciscus idus	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	6,8	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATIO N TEST)	
12.1. Toxicity to algae:	EC50	72h	103,8	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.1. Toxicity to algae:	EC10	72h	3	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.2. Persistence and degradability:		28d	> 90	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	92	%	activated sludge	OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		89,72				Low

12.3. Bioaccumulative potential:	Log Pow		2,76			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	A notable biological accumulation potential is not to be expected (LogPow 1-3).25 °C
12.4. Mobility in soil:	Log Koc		2,33			OECD 121 (Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using HPLC)	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	30min	~160	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Benzyl acetate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	4	mg/l	Oryzias latipes	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	17	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:	EC50	72h	110	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	52	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	92	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		1,96				A notable biological accumulation potential is not to be expected (LogPow 1-3)., Low25 °C
12.3. Bioaccumulative potential:	BCF		8				Low, calculated value

12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	3h	855	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

n-butyl acetate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	18	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	44	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	23	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	72h	397	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	83	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,3			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	Low
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50		356	mg/l			Tetrahymena pyriformis

Ethyl acetate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	NOEC/NOEL	32d	<9,65	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	96h	230	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	48h	333	mg/l	Leuciscus idus		
12.1. Toxicity to daphnia:	EC50	48h	610	mg/l	Daphnia magna	DIN 38412 T.11	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	2,4	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	165	mg/l			Daphnia cucullata

12.1. Toxicity to algae:	EC50	48h	5600	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.1. Toxicity to algae:	NOEC/NOEL	96h	2000	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	96h	>2000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	>100	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	48h	3300	mg/l	Scenedesmus subspicatus		
12.2. Persistence and degradability:	BOD	20d	79	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF	72h	30				(Fish)
12.3. Bioaccumulative potential:	Log Kow		0,68			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	Bioaccumulation is unlikely (LogPow < 1).25 °C
12.4. Mobility in soil:	H (Henry)		0,00012	atm*m3/mol			
12.4. Mobility in soil:	Koc		3				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.6. Endocrine disrupting properties:							Negative
Toxicity to bacteria:	EC10	18h	2900	mg/l	Pseudomonas putida	DIN 38412 T.8	
Toxicity to bacteria:	EC10	16h	2900	mg/l	Escherichia coli		
Toxicity to bacteria:	EC50	15min	5870	mg/l	Photobacterium phosphoreum		

Ethanol							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	13000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	120h	250	mg/l	Brachydanio rerio	OECD 212 (Fish, Short-term Toxicity Test on Embryo and Sac-fry Stages)	
12.1. Toxicity to daphnia:	EC50	48h	5414	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	10d	9,6	mg/l	Ceriodaphnia spec.		References

12.1. Toxicity to algae:	EC50	72h	275	mg/l	Chlorella vulgaris	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	97	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		(-0,35) - (-0,32)				Bioaccumulation is unlikely (LogPow < 1).
12.3. Bioaccumulative potential:	BCF		0,66 - 3,2				
12.4. Mobility in soil:	H (Henry)		0,000138				
12.4. Mobility in soil:	Koc		1,0				Highestimated
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	IC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion
Other organisms:	NOEC/NOEL		280	mg/l	Lemna gibba	OECD 201 (Alga, Growth Inhibition Test)	
Other information:	COD		1,9	g/g			
Other information:	BOD5		1	g/g			

Benzyl alcohol							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	10	mg/l	Lepomis macrochirus		
12.1. Toxicity to fish:	LC50	96h	460	mg/l	Pimephales promelas		
12.1. Toxicity to daphnia:	EC50	24h	55	mg/l	Daphnia magna		
12.1. Toxicity to algae:	IC50	72h	700	mg/l			
12.2. Persistence and degradability:		28d	92-96	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
12.3. Bioaccumulative potential:	Log Pow		1,1				Low
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	16h	658	mg/l	Pseudomonas putida		

(R)-p-mentha-1,8-diene							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	0,70	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to daphnia:	EC50	48h	0,307	mg/l	Daphnia magna STRAUS	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,32	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	
12.2. Persistence and degradability:		28d	80	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		4,23				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	3h	209	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Undecan-4-olide

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	~21,5	mg/l	Leuciscus idus	DIN 38412 T.15	
12.1. Toxicity to daphnia:	EC50	21d	3,7	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,138	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	4	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATION TEST)	
12.1. Toxicity to algae:	EC50	48h	5,94	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	48h	0,779	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	~74	%	activated sludge	OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable

12.3. Bioaccumulative potential:	Log Pow		3,4			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	Not to be expected
Toxicity to bacteria:	EC50	30min	800	mg/l	Pseudomonas putida	DIN 38412 T.27 (Draft)	

3-Methylbutyl butyrate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	21	mg/l	Brachydanio rerio		
12.2. Persistence and degradability:							Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		3,25				

Vanillin							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	123	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	36,79	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.2. Persistence and degradability:		14d	97-100	%	activated sludge	OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		1,21				Slight
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Allyl hexanoate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	0,117	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	2	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATIO N TEST)	
12.1. Toxicity to algae:	EC50	72h	>4,6	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,158	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	70	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable

12.3. Bioaccumulative potential:	Log Pow		3,2				Low
12.3. Bioaccumulative potential:	BCF		59,2-102,3				Low (Q)SAR

3-ethoxy-4-hydroxybenzaldehyde							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	87,9	mg/l			
12.1. Toxicity to daphnia:	EC50	24h	130	mg/l	Daphnia magna		
12.2. Persistence and degradability:							Readily biodegradable

Ethyl 2,3-epoxy-3-phenylbutyrat							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	4,2	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	52	mg/l		OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	36	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	9,3	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	53	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Koc		2,74			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	
12.4. Mobility in soil:	Log Koc		2,34-2,74			OECD 121 (Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using HPLC)	

Ethyl (S)-2-hydroxypropionate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	320	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	683	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	2200	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	

12.2. Persistence and degradability:		28d	85	%		Regulation (EC) 440/2008 C.5 (DEGRADATION - BIOCHEMICAL OXYGEN DEMAND)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,31				Bioaccumulation is unlikely (LogPow < 1).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	NOEC/NOEL	3h	>=1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Methyl salicylate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	19,8	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	870	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	48h	28	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	27	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,79	mg/l	Desmodesmus subspicatus	Regulation (EC) 440/2008 C.3 (FRESHWATER ALGAE AND CYANOBACTERIA, GROWTH INHIBITION TEST)	
12.2. Persistence and degradability:	DOC	28d	98,4	%			Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,5				
12.4. Mobility in soil:	Log Koc		2,346				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	16h	380	mg/l	Pseudomonas putida		

Butanedione

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes

12.1. Toxicity to daphnia:	EC50	48h	46	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.2. Persistence and degradability:		28d	82	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-1,3				

Piperonal							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	2,5	mg/l	Cyprinus carpio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	96h	1,6	mg/l	Cyprinus caprio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	52	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	22	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	31	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	1,1	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	82	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Methyl cinnamate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.2. Persistence and degradability:		7d	100	%	activated sludge	Regulation (EC) 440/2008 C.4-B (DETERMINATION OF 'READY' BIODEGRAD. - MODIFIED OECD SCREENING TEST)	Readily biodegradable
12.3. Bioaccumulative potential:							Low

12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:		3h	181	mg/l	activated sludge	ISO 8192	

Cinnamaldehyde							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.2. Persistence and degradability:		14d	91	%			

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)
07 06 99 wastes not otherwise specified
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Implement substance recycling.
E.g. suitable incineration plant.
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.
15 01 10 packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

General statements
Transport by road/by rail (ADR/RID),
14.1. UN number or ID number: 1266
14.2. UN proper shipping name:
UN 1266 PERFUMERY PRODUCTS

14.3. Transport hazard class(es): 3
14.4. Packing group: III
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D/E
Classification code: F1
LQ: 5 L
Transport category: 3
Transport by sea (IMDG-code)
14.1. UN number or ID number: 1266
14.2. UN proper shipping name:
UN 1266 PERFUMERY PRODUCTS

14.3. Transport hazard class(es): 3
14.4. Packing group: III
14.5. Environmental hazards: Not applicable
Marine Pollutant: Not applicable
EmS: F-E, S-D
Transport by air (IATA)
14.1. UN number or ID number: 1266
14.2. UN proper shipping name:

UN 1266 Perfumery products

14.3. Transport hazard class(es):	3
14.4. Packing group:	III
14.5. Environmental hazards:	Not applicable

14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

14.7. Maritime transport in bulk according to IMO instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

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 national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P5c		5000	50000

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): ~ 16,5 %

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 8
Employee training in handling dangerous goods is required.
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

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)
Revision date / version: 09.12.2024 / 0006
Replacing version dated / version: 06.08.2024 / 0005
Valid from: 09.12.2024
PDF print date: 09.12.2024
Duftstoff Bazooka
Art.: 216999

Flam. Liq. 3, H226	Classification based on test data.
Eye Irrit. 2, H319	Classification according to calculation procedure.
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Chronic 3, H412	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.
H314 Causes severe skin burns and eye damage.
H361d Suspected of damaging the unborn child.
H225 Highly flammable liquid and vapour.
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.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Flam. Liq. — Flammable liquid
Eye Irrit. — Eye irritation
Skin Sens. — Skin sensitization
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Skin Irrit. — Skin irritation
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Acute Tox. — Acute toxicity - oral
Asp. Tox. — Aspiration hazard
Aquatic Acute — Hazardous to the aquatic environment - acute
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - inhalation
Eye Dam. — Serious eye damage
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Repr. — Reproductive toxicity
STOT RE — Specific target organ toxicity - repeated exposure
Skin Corr. — Skin corrosion

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
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
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
mg/kg bw mg/kg body weight
mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
mg/kg dw mg/kg dry weight
mg/kg wwt mg/kg wet weight
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)
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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

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.
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