

BLUEBERRY MUFFIN CC-16456

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 1/7/2020 Revision date: 4/1/2025 Supersedes version of: 1/10/2024 Version: 2.1



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

1.1. Product identifier

Product form : Mixture
Trade name : BLUEBERRY MUFFIN CC-16456
UFI : FA2S-23NT-A00Q-X2P6
Product code : CC-16456
Type of product : Perfumes, fragrances
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Industrial/Professional use spec : For professional use only
Industrial
Use of the substance/mixture : Perfumes, fragrances
Function or use category : Odour agents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Candle Craft
Weiherwiese 10
65510 Idstein - Germany
T 49-6126-9363 -0
info@candlecraft.de - www.candlecraft.de

1.4. Emergency telephone number

Emergency number : 1-800-255-3924; +01-813-248-0585; China: +400-120-0751; Mexico: +01-800-099-0731;
Brazil: +0-800-591-6042; India: +000-800-100-4086

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Skin sensitisation, Category 1 H317
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Contains :

benzyl alcohol; Linalool; Cinnamic aldehyde; Vertenex; Damascone Beta; Acetyl Propionyl

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Hazard statements (CLP)	: H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation.
Precautionary statements (CLP)	: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P302+P352 - IF ON SKIN: Wash with plenty of water. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Extra phrases	: For professional users only.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
benzyl alcohol substance with national workplace exposure limit(s) (BG, CZ, DE, FI, LT, LV, PL, SI, CH)	CAS-No.: 100-51-6 EC-No.: 202-859-9 EC Index-No.: 603-057-00-5 REACH-no: 01-2119492630-38	3.5 – 7	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Linalool	CAS-No.: 78-70-6 EC-No.: 201-134-4 EC Index-No.: 603-235-00-2 REACH-no: 01-2119474016-42	2.8 – 5.5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Ethyl vanillin	CAS-No.: 121-32-4 EC-No.: 204-464-7 REACH-no: 01-211958961-24	2.501614 – 5.001614	Eye Irrit. 2, H319
Vanillin	CAS-No.: 121-33-5 EC-No.: 204-465-2 REACH-no: 01-2119516040-60	1.00001 – 2.00001	Eye Irrit. 2, H319
Ethyl maltol	CAS-No.: 4940-11-8 EC-No.: 225-582-5	1 – 2	Acute Tox. 4 (Oral), H302
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 EC Index-No.: 606-155-00-6 REACH-no: 01-2119935242-45	0.5 – 1.05	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 3, H412

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Vertenex	CAS-No.: 32210-23-4 EC-No.: 250-954-9 REACH-no: 01-2119976286-24	0.1 – 0.15	Skin Sens. 1B, H317
butyric acid substance with national workplace exposure limit(s) (BG, LT, LV, RO)	CAS-No.: 107-92-6 EC-No.: 203-532-3 EC Index-No.: 607-135-00-X	0.1 – 0.15	Skin Corr. 1B, H314
Damascone Beta	CAS-No.: 23726-92-3 EC-No.: 245-843-7	0.1 – 0.15	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
propionic acid ... % substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 79-09-4 EC-No.: 201-176-3 EC Index-No.: 607-089-00-0	0.1 – 0.1	Flam. Liq. 3, H226 Skin Corr. 1B, H314 STOT SE 3, H335
benzaldehyde substance with national workplace exposure limit(s) (BG, FI, HU, LT, LV, PL)	CAS-No.: 100-52-7 EC-No.: 202-860-4 EC Index-No.: 605-012-00-5 REACH-no: 01-2119455540-44	0.1 – 0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361 STOT SE 3, H335
Acetyl Propionyl substance with national workplace exposure limit(s) (DE, SI, CH)	CAS-No.: 600-14-6 EC-No.: 209-984-8	0.1 – 0.1	Flam. Liq. 2, H225 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373
Dipropylene glycol monomethyl ether substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 34590-94-8 EC-No.: 252-104-2	0.000254 – 0.000254	Not classified
Toluene substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3	≤ 0.000003	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
propionic acid ... %	CAS-No.: 79-09-4 EC-No.: 201-176-3 EC Index-No.: 607-089-00-0	(10 ≤ C < 100) STOT SE 3, H335 (10 ≤ C < 25) Eye Irrit. 2, H319 (10 ≤ C < 25) Skin Irrit. 2, H315 (25 ≤ C < 100) Skin Corr. 1B, H314

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

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of water/.... If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation. Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Sand. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
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Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : 25 °C

Storage area : Store away from heat. Store in a well-ventilated place.

Special rules on packaging : Store in a closed container.

Packaging materials : Do not store in corrodable metal.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

benzyl alcohol (100-51-6)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	40 mg/m ³
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	45 mg/m ³
	10 ppm

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benzyl alcohol (100-51-6)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	22 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³
OEL chemical category	Skin notation
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	240 mg/m ³
Slovenia - Occupational Exposure Limits	
OEL TWA	22 mg/m ³
	5 ppm
OEL STEL	44 mg/m ³
	10 ppm
OEL chemical category	Potential for cutaneous absorption
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	22 mg/m ³ (aerosol, vapour)
	5 ppm (aerosol, vapour)
OEL chemical category	Skin notation
butyric acid (107-92-6)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Latvia - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	10 mg/m ³
Romania - Occupational Exposure Limits	
OEL TWA	15 mg/m ³
	4 ppm
OEL STEL	30 mg/m ³
	8 ppm
Toluene (108-88-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	192 mg/m ³
	50 ppm

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Toluene (108-88-3)	
IOEL STEL	384 mg/m ³
	100 ppm
Remark	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	190 mg/m ³
	50 ppm
MAK (OEL STEL)	380 mg/m ³
	100 ppm
OEL chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	77 mg/m ³
	20 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
Bulgaria - Biological limit values	
BLV	1.6 mmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of exposure or end of work shift
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	192 mg/m ³
	50 ppm
KGVI (OEL STEL)	384 mg/m ³
	100 ppm
OEL chemical category	Skin notation
Croatia - Biological limit values	
BLV	1 mg/l Parameter: Toluene - Medium: blood - Sampling time: at the end of the work shift 20 ppm Parameter: Toluene - Medium: final exhaled air - Sampling time: during exposure 2.5 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine) 1 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
Cyprus - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm

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Toluene (108-88-3)	
OEL chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	200 mg/m ³
OEL chemical category	Potential for cutaneous absorption
Czech Republic - Biological limit values	
BLV	1.6 µmol/mmol Creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1000 µmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.) 1.5 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1600 mg/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.)
Denmark - Occupational Exposure Limits	
OEL TWA	94 mg/m ³
	25 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Skin notation
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	81 mg/m ³
	25 ppm
HTP (OEL STEL)	380 mg/m ³
	100 ppm
OEL chemical category	Potential for cutaneous absorption
Finland - Biological limit values	
BLV	500 nmol/L Parameter: Toluene - Medium: blood - Sampling time: in the morning after a working day
France - Occupational Exposure Limits	
VME (OEL TWA)	76.8 mg/m ³ (restrictive limit)
	20 ppm (restrictive limit)
VLE (OEL C/STEL)	384 mg/m ³ (restrictive limit)

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Toluene (108-88-3)	
	100 ppm (restrictive limit)
OEL chemical category	Reproductive Toxin category 2, Risk of cutaneous absorption
France - Biological limit values	
BLV	20 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of workweek (Semi-quantitative (ambiguous interpretation)) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	190 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) 50 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation
Germany - Biological limit values (TRGS 903)	
Biological limit value	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: immediately after exposure 75 µg/l Parameter: Toluene - Medium: urine - Sampling time: end of exposure or shift 1.5 mg/l Parameter: o-Cresol (after hydrolysis) - Medium: urine - Sampling time: at the end of the shift, in case of long-term exposure after several previous shifts
Gibraltar - Occupational Exposure Limits	
OEL TWA	192 mg/m ³ 50 ppm
OEL STEL	384 mg/m ³ 100 ppm
OEL chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	192 mg/m ³ 50 ppm
OEL STEL	384 mg/m ³ 100 ppm
OEL chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	190 mg/m ³
CK (OEL STEL)	384 mg/m ³
OEL chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA	192 mg/m ³ 50 ppm
OEL STEL	384 mg/m ³ 100 ppm
OEL chemical category	Potential for cutaneous absorption

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Toluene (108-88-3)	
Italy - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	50 mg/m ³
	14 ppm
OEL chemical category	skin - potential for cutaneous exposure
Latvia - Biological Exposure Indices	
BEI	600 µg/l Parameter: Toluene - Medium: blood - Sampling time: at the end of exposure (for assessment of long-term exposure, samples are taken at the end of a shift after several previous shifts) 75 µg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift (for assessment of long-term exposure, samples are taken at the end of a shift after several previous shifts) 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: at the end of exposure or shift (after hydrolysis)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	192 mg/m ³
	50 ppm
TPRV (OEL STEL)	384 mg/m ³
	100 ppm
OEL chemical category	Reproductive toxin, Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	150 mg/m ³
	39 ppm
TGG-15min (OEL STEL)	384 mg/m ³
	100 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	100 mg/m ³

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Toluene (108-88-3)	
NDSCh (OEL STEL)	200 mg/m ³
Portugal - Occupational Exposure Limits	
OEL TWA	192 mg/m ³ (indicative limit value)
	50 ppm (indicative limit value)
OEL STEL	384 mg/m ³ (indicative limit value)
	100 ppm (indicative limit value)
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Skin notation
Romania - Biological limit values	
BLV	2 g/l Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift 3 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	192 mg/m ³
	50 ppm
NPHV (OEL C)	384 mg/m ³ (also biological monitoring considered)
OEL chemical category	Potential for cutaneous absorption
Slovakia - Biological limit values	
BLV	600 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of exposure or work shift 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: after all work shifts (for long-term exposure) 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of exposure or work shift 2401 mg/g creatinine Parameter: Hippuric acid - Sampling time: end of exposure or work shift
Slovenia - Occupational Exposure Limits	
OEL TWA	192 mg/m ³
	50 ppm
OEL STEL	384 mg/m ³
	100 ppm
OEL chemical category	Category 2, Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	192 mg/m ³ (indicative limit value)
	50 ppm (indicative limit value)
VLA-EC (OEL STEL)	384 mg/m ³
	100 ppm

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Toluene (108-88-3)	
OEL chemical category	skin - potential for cutaneous absorption
Spain - Biological limit values	
BLV	0.6 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift 0.05 mg/l Parameter: Toluene - Medium: blood - Sampling time: start of last shift of workweek 0.08 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	192 mg/m ³
	50 ppm
KGV (OEL STEL)	384 mg/m ³
	100 ppm
OEL chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	191 mg/m ³
	50 ppm
WEL STEL (OEL STEL)	384 mg/m ³
	100 ppm
WEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	94 mg/m ³
	25 ppm
Korttidsverdi (OEL STEL)	141 mg/m ³ (value calculated)
	37.5 ppm (value calculated)
OEL chemical category	Skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	190 mg/m ³
	50 ppm
KZGW (OEL STEL)	760 mg/m ³
	200 ppm
OEL chemical category	Skin notation, Category 2 reproductive toxin
Switzerland - BAT	
BAT	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 6.48 µmol/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 2 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 0.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 4.62 µmol/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 75 µg/l Parameter: Toluol - Medium: urine - Sampling time: end of shift

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Toluene (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	20 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
BEI	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g creatinine Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
Dipropylene glycol monomethyl ether (34590-94-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	308 mg/m ³ 50 ppm
Remark	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	307 mg/m ³ (mixed isomers) 50 ppm (mixed isomers)
MAK (OEL STEL)	614 mg/m ³ (isomers mixtures) 100 ppm (isomers mixtures)
OEL chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	308 mg/m ³ 50 ppm
OEL chemical category	Skin notation
Cyprus - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	270 mg/m ³
OEL chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA	309 mg/m ³

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Dipropylene glycol monomethyl ether (34590-94-8)	
	50 ppm
OEL STEL	618 mg/m ³
	100 ppm
OEL chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
	50 ppm
OEL chemical category	Skin notation
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	310 mg/m ³
	50 ppm
OEL chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	308 mg/m ³ (restrictive limit)
	50 ppm (restrictive limit)
OEL chemical category	Risk of cutaneous absorption
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	310 mg/m ³ (isomer mixture)
	50 ppm (isomer mixture)
Gibraltar - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
	50 ppm
OEL chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	600 mg/m ³
	100 ppm
OEL STEL	900 mg/m ³
	150 ppm
OEL chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	308 mg/m ³
Ireland - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ ((2-Methoxymethylethoxy)propanol)
	50 ppm ((2-Methoxymethylethoxy)propanol)
OEL STEL	924 mg/m ³ (calculated (2-(2-Methoxypropoxy)-1-propanol)
	150 ppm (calculated (2-(2-Methoxypropoxy)-1-propanol)
OEL chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	308 mg/m ³

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Dipropylene glycol monomethyl ether (34590-94-8)	
	50 ppm
OEL chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	skin - potential for cutaneous exposure
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	300 mg/m ³ (2-(2-Methoxypropoxy)-propanol) 50 ppm (2-(2-Methoxypropoxy)-propanol)
TPRV (OEL STEL)	450 mg/m ³ (2-(2-Methoxypropoxy)-propanol) 75 ppm (2-(2-Methoxypropoxy)-propanol)
OEL chemical category	Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	300 mg/m ³ 48.7 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	240 mg/m ³ (mixture of isomers: 1-(2-Methoxy-1-methylethoxy)propan-2-ol, 1-(2-Methoxy-2-methylethoxy)propan-2-ol and 2-(2-Methoxy-1-methylethoxy)propan-1-ol)
NDSch (OEL STEL)	480 mg/m ³ (mixture of isomers: 1-(2-Methoxy-1-methylethoxy)propan-2-ol, 1-(2-Methoxy-2-methylethoxy)propan-2-ol, 2-(2-Methoxy-1-methylethoxy)propan-1-ol)
Portugal - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ (indicative limit value) 50 ppm (indicative limit value)
OEL STEL	150 ppm
OEL chemical category	skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ 50 ppm
OEL chemical category	Skin notation
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	308 mg/m ³ 50 ppm

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Dipropylene glycol monomethyl ether (34590-94-8)	
OEL chemical category	Potential for cutaneous absorption
Slovenia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
	50 ppm
OEL STEL	308 mg/m ³
	50 ppm
OEL chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	308 mg/m ³ (indicative limit value)
	50 ppm (indicative limit value)
OEL chemical category	skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	300 mg/m ³
	50 ppm
KGV (OEL STEL)	450 mg/m ³
	75 ppm
OEL chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	308 mg/m ³
	50 ppm
WEL STEL (OEL STEL)	924 mg/m ³ (calculated)
	150 ppm (calculated)
OEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	300 mg/m ³
	50 ppm
Korttidsverdi (OEL STEL)	375 mg/m ³ (value calculated)
	75 ppm (value calculated)
OEL chemical category	Skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	300 mg/m ³ (aerosol, vapour)
	50 ppm (aerosol, vapour)
KZGW (OEL STEL)	300 mg/m ³ (aerosol, vapour)
	50 ppm (aerosol, vapour)
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	50 ppm (Dipropylene glycol methyl ether)
propionic acid ... % (79-09-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	31 mg/m ³

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propionic acid ... % (79-09-4)	
	10 ppm
IOEL STEL	62 mg/m ³
	20 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	31 mg/m ³
	10 ppm
MAK (OEL STEL)	62 mg/m ³
	20 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	31 mg/m ³
	10 ppm
KGVI (OEL STEL)	62 mg/m ³
	20 ppm
Cyprus - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	30 mg/m ³
Denmark - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	30 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³

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propionic acid ... % (79-09-4)	
	20 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	31 mg/m ³
	10 ppm
HTP (OEL STEL)	61 mg/m ³
	20 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	31 mg/m ³ (indicative limit)
	10 ppm (indicative limit)
VLE (OEL C/STEL)	62 mg/m ³ (indicative limit)
	20 ppm (indicative limit)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	31 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Gibraltar - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Greece - Occupational Exposure Limits	
OEL TWA	30 mg/m ³
	10 ppm
OEL STEL	60 mg/m ³
	20 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	31 mg/m ³
CK (OEL STEL)	62 mg/m ³
Ireland - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Italy - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm

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propionic acid ... % (79-09-4)	
Latvia - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	31 mg/m ³
	10 ppm
TPRV (OEL STEL)	62 mg/m ³
	20 ppm
Luxembourg - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Malta - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	31 mg/m ³
	10 ppm
TGG-15min (OEL STEL)	62 mg/m ³
	20 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	30 mg/m ³
NDSch (OEL STEL)	45 mg/m ³
Portugal - Occupational Exposure Limits	
OEL TWA	31 mg/m ³ (indicative limit value)
	10 ppm (indicative limit value)
OEL STEL	62 mg/m ³ (indicative limit value)
	20 ppm (indicative limit value)
Romania - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	31 mg/m ³
	10 ppm

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propionic acid ... % (79-09-4)	
NPHV (OEL C)	62 mg/m ³
Slovenia - Occupational Exposure Limits	
OEL TWA	31 mg/m ³
	10 ppm
OEL STEL	62 mg/m ³
	20 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	31 mg/m ³ (indicative limit value)
	10 ppm (indicative limit value)
VLA-EC (OEL STEL)	62 mg/m ³
	20 ppm
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	30 mg/m ³
	10 ppm
KGV (OEL STEL)	62 mg/m ³
	20 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	31 mg/m ³
	10 ppm
WEL STEL (OEL STEL)	46 mg/m ³
	15 ppm
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	30 mg/m ³
	10 ppm
Korttidsverdi (OEL STEL)	45 mg/m ³ (value calculated)
	20 ppm (value calculated)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	30 mg/m ³
	10 ppm
KZGW (OEL STEL)	60 mg/m ³
	20 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 ppm
benzaldehyde (100-52-7)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	4.4 mg/m ³
	1 ppm

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benzaldehyde (100-52-7)	
HTP (OEL C)	17.4 mg/m ³
	4 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	5 mg/m ³
CK (OEL STEL)	10 mg/m ³
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m ³
NDSch (OEL STEL)	40 mg/m ³
Acetyl Propionyl (600-14-6)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	0.083 mg/m ³
	0.02 ppm
Chemical category	Skin notation, Skin sensitization
Slovenia - Occupational Exposure Limits	
OEL TWA	0.083 mg/m ³
	0.02 ppm
OEL STEL	0.083 mg/m ³
	0.02 ppm
OEL chemical category	Potential for cutaneous absorption
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	0.08 mg/m ³
	0.02 ppm
KZGW (OEL STEL)	0.16 mg/m ³
	0.04 ppm
OEL chemical category	Sensitizer, Skin notation

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Wear protective gloves.

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light yellow. amber. Conforms to standard.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Non flammable,Not applicable
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 93 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available

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Vapour pressure	: 0.002567096 mm Hg (calculated value)
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: ≈ 0.85
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 3.400787 % (calculated value)(CARB VOC) (%w/w)

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

benzyl alcohol (100-51-6)

LD50 oral rat	1230 mg/kg (Source: NLM_CIP)
LD50 oral	1570 mg/kg

Linalool (78-70-6)

LD50 oral	2790 mg/kg
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Ethyl vanillin (121-32-4)

LD50 oral rat	1590 mg/kg (Source: NLM_CIP)
LD50 oral	3000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg (Source: ECHA_API)

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Ethyl maltol (4940-11-8)	
LD50 oral rat	1150 mg/kg (Source: NLM_CIP)
LD50 oral	1200 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA_API)
Vanillin (121-33-5)	
LD50 dermal rabbit	> 5010 mg/kg (Source: OECD_SIDS)
LD50 dermal	2600 mg/kg bodyweight
Cinnamic aldehyde (104-55-2)	
LD50 oral rat	2220 mg/kg (Source: NLM_CIP)
LD50 oral	2220 mg/kg
LD50 dermal rabbit	1260 mg/kg (Source: EPA_HPVS)
Vertenex (32210-23-4)	
LD50 oral rat	5 g/kg (Source: NLM_CIP)
LD50 oral	3370 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)
butyric acid (107-92-6)	
LD50 oral rat	2 g/kg (Source: NLM_CIP)
LD50 oral	1630 mg/kg bodyweight
LD50 dermal rabbit	530 mg/kg (Source: NLM_HSDB)
Damascone Beta (23726-92-3)	
LD50 oral	2920 mg/kg bodyweight
Toluene (108-88-3)	
LD50 oral rat	2600 mg/kg (Source: JAPAN_GHS)
LD50 dermal rabbit	12000 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	12.5 mg/l/4h
Dipropylene glycol monomethyl ether (34590-94-8)	
LD50 oral rat	5.35 g/kg (Source: NLM_HSDB)
LD50 dermal rabbit	9500 mg/kg (Source: NLM_CIP)
propionic acid ... % (79-09-4)	
LD50 oral rat	351 mg/kg (Source: EFSA)
LD50 oral	3455 mg/kg
LD50 dermal rat	3235 mg/kg (Source: ECHA_API)
LD50 dermal	3235 mg/kg
LC50 Inhalation - Rat	> 19.7 mg/l (Exposure time: 1 h Source: ECHA)
benzaldehyde (100-52-7)	
LD50 oral rat	1292 mg/kg (Source: JAPAN_GHS)
LD50 dermal rabbit	> 1250 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	< 5 mg/l/4h

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Acetyl Propionyl (600-14-6)	
LD50 oral rat	3 g/kg (Source: NLM_CIP)
LD50 oral	3000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg (Source: NIOSH)

Skin corrosion/irritation	: Causes skin irritation.
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met

Toluene (108-88-3)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.

propionic acid ... % (79-09-4)	
STOT-single exposure	May cause respiratory irritation.

benzaldehyde (100-52-7)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

Toluene (108-88-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Acetyl Propionyl (600-14-6)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

Toluene (108-88-3)	
Hydrocarbon	Yes

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
LC50 - Fish [2]	10 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
EC50 - Crustacea [1]	23 mg/l (Exposure time: 48 h - Species: water flea)
Linalool (78-70-6)	
EC50 96h - Algae [1]	88.3 mg/l (Species: Desmodemus subspicatus)
Ethyl vanillin (121-32-4)	
LC50 - Fish [1]	81.4 – 94.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
Ethyl maltol (4940-11-8)	
LC50 - Fish [1]	> 85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: ECHA)
Vanillin (121-33-5)	
LC50 - Fish [1]	53 – 61.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	88 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
NOEC (acute)	10000 mg/kg (Exposure time: 42 Days - Species: Eisenia foetida [soil dry weight])
Vertenex (32210-23-4)	
LC50 - Fish [1]	8.6 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static] Source: ECHA)
butyric acid (107-92-6)	
EC50 72h - Algae [1]	46.7 mg/l (Species: Desmodemus subspicatus)
Toluene (108-88-3)	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	12.5 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 433 mg/l (Species: Pseudokirchneriella subcapitata)
Dipropylene glycol monomethyl ether (34590-94-8)	
LC50 - Fish [1]	> 10000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	1919 mg/l (Exposure time: 48 h - Species: Daphnia magna)
propionic acid ... % (79-09-4)	
LC50 - Fish [1]	> 1 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: IUCLID)

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propionic acid ... % (79-09-4)	
LC50 - Fish [2]	73 – 99.7 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
EC50 72h - Algae [1]	45.8 mg/l (Species: Desmodesmus subspicatus)
EC50 96h - Algae [1]	43 mg/l (Species: Desmodesmus subspicatus)

benzaldehyde (100-52-7)	
LC50 - Fish [1]	10.6 – 11.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through] Source: EPA)
LC50 - Fish [2]	12.69 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static] Source: IUCLID)

12.2. Persistence and degradability

BLUEBERRY MUFFIN CC-16456	
Persistence and degradability	Not established.

benzyl alcohol (100-51-6)	
Persistence and degradability	Rapidly degradable

Linalool (78-70-6)	
Persistence and degradability	Rapidly degradable

Ethyl vanillin (121-32-4)	
Persistence and degradability	Rapidly degradable

Ethyl maltol (4940-11-8)	
Persistence and degradability	Rapidly degradable

Vanillin (121-33-5)	
Persistence and degradability	Rapidly degradable

Cinnamic aldehyde (104-55-2)	
Persistence and degradability	Rapidly degradable

Vertenex (32210-23-4)	
Persistence and degradability	Rapidly degradable

butyric acid (107-92-6)	
Persistence and degradability	Rapidly degradable

Damascone Beta (23726-92-3)	
Persistence and degradability	Rapidly degradable

Toluene (108-88-3)	
Persistence and degradability	Rapidly degradable

Dipropylene glycol monomethyl ether (34590-94-8)	
Persistence and degradability	Rapidly degradable

propionic acid ... % (79-09-4)	
Persistence and degradability	Rapidly degradable

benzaldehyde (100-52-7)	
Persistence and degradability	Rapidly degradable

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Acetyl Propionyl (600-14-6)	
Persistence and degradability	Rapidly degradable
12.3. Bioaccumulative potential	
BLUEBERRY MUFFIN CC-16456	
Bioaccumulative potential	Not established.
benzyl alcohol (100-51-6)	
Partition coefficient n-octanol/water (Log Pow)	1.05
Ethyl vanillin (121-32-4)	
Partition coefficient n-octanol/water (Log Pow)	1.61 (at 25 °C)
Ethyl maltol (4940-11-8)	
Partition coefficient n-octanol/water (Log Pow)	2.9 (at 25 °C)
Vanillin (121-33-5)	
Partition coefficient n-octanol/water (Log Pow)	1.23 (at 22 °C)
Cinnamic aldehyde (104-55-2)	
Partition coefficient n-octanol/water (Log Pow)	2.1065 (at 25 °C)
Vertenex (32210-23-4)	
Partition coefficient n-octanol/water (Log Pow)	4.8 (at 25 °C)
butyric acid (107-92-6)	
Partition coefficient n-octanol/water (Log Pow)	1.1 (at 25 °C (at pH 3))
Toluene (108-88-3)	
Partition coefficient n-octanol/water (Log Pow)	2.73 (at 20 °C (at pH 7))
Dipropylene glycol monomethyl ether (34590-94-8)	
Partition coefficient n-octanol/water (Log Pow)	0.35 (at 25 °C (at pH 7))
propionic acid ... % (79-09-4)	
Partition coefficient n-octanol/water (Log Pow)	0.25 – 0.33
benzaldehyde (100-52-7)	
BCF - Fish [1]	(no significant bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	1.4 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with local/national laws and regulations.
Ecological information	: Avoid release to the environment.
HP Code	: HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Toluene ; propionic acid ... % ; Acetyl Propionyl	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	BLUEBERRY MUFFIN CC-16456 ; benzyl alcohol ; Linalool ; Cinnamic aldehyde ; Vertenex ; butyric acid ; Damascone Beta ; Toluene ; propionic acid ... % ; benzaldehyde ; Acetyl Propionyl	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Cinnamic aldehyde ; Damascone Beta	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
40.	Toluene ; propionic acid ... % ; Acetyl Propionyl	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.
48.	Toluene	Toluene

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : 3.400787 % (calculated value)(CARB VOC) (%w/w)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

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Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Toluene		108-88-3	2902 30 00	Category 3		Annex I

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 4 BIS	Gastrointestinal disorders caused by benzene, toluene, xylenes and all products containing them
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG). Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
Water hazard class (WGK)	: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
List of sensitizing substances (TRGS 907)	: Contains sensitizing substances according TRGS 907.
Major Accidents Ordinance (12. BImSchV)	: Is not subject to the Major Accidents Ordinance (12. BImSchV)

Netherlands

ABM category	: A(3) - hazardous for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: Toluene is listed

Denmark

Classification remarks	: Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1

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Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.