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Safety data sheet

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.
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Product: **Linalool**

(ID no. 30034999/SDS_GEN_CH/EN)
Date of print 21.10.2025

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

1.1. Product identifier

Linalool

Chemical name: Linalool
CAS Number: 78-70-6

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

Relevant identified uses: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Contact address:
BASF Schweiz AG
Klybeckstrasse 161
4057 Basel, SWITZERLAND

Telephone: +41 0800 227722
E-mail address: PS-BCSCHWEIZ@basf.com

1.4. Emergency telephone number

Tox Info Suisse (STIZ): Tel. 145
International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Skin Corr./Irrit. 2	H315 Causes skin irritation.
Eye Dam./Irrit. 2	H319 Causes serious eye irritation.
Skin Sens. 1B	H317 May cause an allergic skin reaction.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:

Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

Linalool

	Skin Corr./Irrit. 2
CAS Number: 78-70-6	Eye Dam./Irrit. 2
EC-Number: 201-134-4	Skin Sens. 1B
	H319, H315, H317

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, dry powder, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: carbon oxides, harmful vapours
Advice: The substances/groups of substances mentioned can be released in case of fire.
Combustible Liquid

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.
Ensure adequate ventilation. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For large amounts: Dike spillage. Cover with blanket of foam (alcohol-resistant foam). Pump off product.

For residues: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).
Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed. This product may cause irritations; wash your hands after every contact.

Protection against fire and explosion:
The product is combustible. Avoid all sources of ignition: heat, sparks, open flame. Take precautionary measures against static discharges. If exposed to fire, keep containers cool by spraying with water. Vapours may form explosive mixture with air.

7.2. Conditions for safe storage, including any incompatibilities

Odour-sensitive: Segregate from products releasing odours.
Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect containers from physical damage.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

PNEC

freshwater: 0,2 mg/l

marine water: 0,02 mg/l

intermittent release: 2 mg/l

STP: 10 mg/l

sediment (freshwater): 2,22 mg/kg

soil: 0,327 mg/kg

sediment (marine water): 0,222 mg/kg

oral (secondary poisoning): 7,8 mg/kg

DNEL

worker:
Long-term exposure- systemic effects, dermal: 2,5 mg/kg bw/day

worker:
Long-term exposure- systemic effects, Inhalation: 2,8 mg/m3

worker:
Long- and short-term exposure - local effects, dermal: 3 mg/cm2

consumer:
Long-term exposure- systemic effects, dermal: 1,25 mg/kg bw/day

consumer:
Long-term exposure- systemic effects, Inhalation: 0,7 mg/m3

consumer:
Long-term exposure- systemic effects, oral: 0,2 mg/kg bw/day

consumer:
Long- and short-term exposure - local effects, dermal: 1,5 mg/cm2

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Consider the risk management measures as outlined in the exposure scenario.

Hand protection:
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
butyl rubber (butyl) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
fluoroelastomer (FKM) - 0.7 mm coating thickness

Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)
chloroprene rubber (CR) - 0.5 mm coating thickness
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Consider the risk management measures as outlined in the exposure scenario.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Consider the risk management measures as outlined in the exposure scenario.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

Consider the risk management measures as outlined in the exposure scenario.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	liquid	
Colour:	colourless	
Odour:	flowery	
Odour threshold:	< 100 ppm	
Melting point:	< -100 °C	(OECD Guideline 102)
glass transition temperature:	-99 °C	
Boiling point:	196,3 °C (1.013,25 hPa)	(OECD Guideline 103)
Flammability:	Combustible liquid.	(derived from flash point)

Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	77,2 °C	(ISO 2719, closed cup)
Auto-ignition temperature:	260 °C	(Directive 92/69/EEC, A.15)
Thermal decomposition:	approx. >= 260 °C (DSC (DIN 51007))	
pH value:	4,5 (1,45 g/l, 25 °C)	
Viscosity, kinematic:	approx. 5,19 mm2/s (25 °C)	(calculated (from dynamic viscosity))
Viscosity, dynamic:	4,46 mPa.s (25 °C) Literature data.	
Solubility in water:	1,45 g/l (25 °C, 1.013 hPa, pH 4,5)	(other)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	2,7 (25 °C)	(OECD Guideline 107)
Vapour pressure:	0,3 hPa (20 °C) dynamic	(measured)
Relative density:	0,862 (20 °C)	
Density:	0,862 g/cm3 (20 °C, 1.013 hPa)	(pyknometer)
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(calculated)

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard:	not explosive

Oxidizing properties

Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.

Pyrophoric properties

Self-ignition temperature:		Test type: Spontaneous self-ignition at room-temperature.
	Based on its structural properties the product is not classified as self-igniting.	

Self-heating substances and mixtures

Self heating ability:	not applicable, the product is a liquid

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:
Forms no flammable gases in the presence of water.

Corrosion to metals

Corrosive effects to metal are not anticipated.

Other safety characteristics

pKA:	not applicable, The substance does not dissociate.	
Adsorption/water - soil:	KOC: 56,32; log KOC: 1,75	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Molar mass:	154,25 g/mol	
SAPT-Temperature:	Study scientifically not justified.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

Evolution of heat under influence of acids.

10.4. Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. See SDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
acids

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:
Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): 2.790 mg/kg
Literature data.

LD50 rabbit (dermal): 5.610 mg/kg
Literature data.

Irritation

Assessment of irritating effects:
Skin contact causes irritation. Eye contact causes irritation.

Experimental/calculated data:
Skin corrosion/irritation
rabbit: Irritant. (OECD Guideline 404)
Literature data.

Serious eye damage/irritation
rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Caused skin sensitization in animal studies.

Experimental/calculated data:
Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing (OECD Guideline 429)

Germ cell mutagenicity

Assessment of mutagenicity:
Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Carcinogenicity

Assessment of carcinogenicity:
The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Effects on the kidney of male rats were detected after repeated exposure. These effects are specific for the male rat and are known to be of no relevance to humans.

Aspiration hazard

No data available.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 27,8 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:
EC50 (48 h) 59 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants:
EC50 (72 h) 156,6 mg/l (growth rate), Desmodesmus subspicatus (DIN 38412 Part 9, static)

Microorganisms/Effect on activated sludge:
EC10 (3 h) > 100 mg/l, (OECD Guideline 209, static)

Chronic toxicity to fish:

Study does not need to be conducted.

Chronic toxicity to aquatic invertebrates:
Study does not need to be conducted.

Assessment of terrestrial toxicity:
Study scientifically not justified.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Elimination information:
60 - 70 % BOD of the ThOD (28 d) (OECD 301D; EEC 92/69, C.4-E) (aerobic, municipal sewage treatment plant effluent)

Assessment of stability in water:
Study does not need to be conducted.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of

substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable

Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

Water hazard class (§6 AwSV para.4 (Legal binding announcement of the substance in the Federal Gazette)): (1) Weakly water polluting. ID-No.: 1135

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The following Swiss regulations must be observed for the professional use:

- Article 4 Paragraph 4 of the Ordinance on the Protection of young workers (SR 822.115) and Article 1 letter f of the EAER Ordinance on Dangerous Work for Young People (SR 822.115.2): Young people in an initial professional training can only work with this product (this substance / preparation) if this is foreseen in the respective education ordinance to achieve their education goal, the requirements of the education plan are fulfilled and the applicable age restrictions are observed. Young people who do not complete any initial professional training are not allowed to work with this product (this substance / this preparation). Employees of both genders up to the age of 18 are considered as young people.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Acute Tox. 5 (oral)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 2A
Aquatic Acute 3
Flam. Liq. 4
Skin Sens. 1B

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Annex: Exposure Scenarios

Index

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1. Short title of exposure scenario

Use as an intermediate
SU9; ERC6a; PROC1, PROC2, PROC3, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. No assessment required - Industrial use as intermediate under strictly controlled conditions

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions No assessment required - Industrial use as intermediate under strictly controlled conditions

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition No assessment required - Industrial use as intermediate under strictly controlled conditions

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). No assessment required - Industrial use as intermediate under strictly controlled conditions

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities No assessment required - Industrial use as intermediate under strictly controlled conditions

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. No assessment required - Industrial use as intermediate under strictly controlled conditions

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2. Short title of exposure scenario

Use in/as Formulation
SU10; ERC2; PROC1, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,001371
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - local

Exposure estimate	1 µg/cm³
Risk Characterization Ratio (RCR)	0,000333
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,0129 mg/m³
Risk Characterization Ratio (RCR)	0,004591
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 90 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0,0686 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,027429
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - local
Exposure estimate	20 µg/cm³
Risk Characterization Ratio (RCR)	0,006667

Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	1,1569 mg/m³
Risk Characterization Ratio (RCR)	0,413168
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 90 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0691 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,027656
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	1,9281 mg/m³
Risk Characterization Ratio (RCR)	0,688613
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario

Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Additionally:	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, Workplace measurements
	Worker - dermal, long-term - local
Exposure estimate	10,8 µg/cm³
Risk Characterization Ratio (RCR)	0,0036
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 90 %
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %

Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with 'basic' employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, Workplace measurements
	Worker - dermal, long-term - systemic
Exposure estimate	0,0124 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,004964
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	1,9281 mg/m³
Risk Characterization Ratio (RCR)	0,688613
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Additionally:	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, Workplace measurements
	Worker - dermal, long-term - local
Exposure estimate	1,81 µg/cm³
Risk Characterization Ratio (RCR)	0,000603
Assessment method	Qualitative assessment
	Worker - inhalation

Contributing exposure scenario

Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 90 %
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with 'basic' employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,137143
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	25 µg/cm³
Risk Characterization Ratio (RCR)	0,008333
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,9641 mg/m³
Risk Characterization Ratio (RCR)	0,344306
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see	

exposure estimates)

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 95 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker, Reduction factor for local exhaust ventilation (LEV) has been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - systemic
Exposure estimate	0,0686 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,027429
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker, Reduction factor for local exhaust ventilation (LEV) has been used for the calculation of dermal exposure estimates.
	Worker - dermal, long-term - local
Exposure estimate	5 µg/cm³
Risk Characterization Ratio (RCR)	0,001667
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,3214 mg/m³
Risk Characterization Ratio (RCR)	0,114769
Guidance to Downstream Users	

For scaling see: http://www.ecetoc.org/tra

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 90 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,1714 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,068571
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	25 µg/cm³
Risk Characterization Ratio (RCR)	0,008333
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1607 mg/m³

Risk Characterization Ratio (RCR)	0,057384
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	15 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - dermal, long-term - systemic
Exposure estimate	0,0343 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,013714
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,9641 mg/m³
Risk Characterization Ratio (RCR)	0,344306
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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3. Short title of exposure scenario

Formulation
SU10; ERC2; PROC1, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic

Exposure estimate	0,0009 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000343
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	0,25 µg/cm³
Risk Characterization Ratio (RCR)	0,000083
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,0032 mg/m³
Risk Characterization Ratio (RCR)	0,001148
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in	

combination with 'basic' employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,0171 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,006857
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	5 µg/cm³
Risk Characterization Ratio (RCR)	0,001667
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,8677 mg/m³
Risk Characterization Ratio (RCR)	0,309876
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	240 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %

Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with 'basic' employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,137143
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	50 µg/cm³
Risk Characterization Ratio (RCR)	0,016667
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	1,4461 mg/m³
Risk Characterization Ratio (RCR)	0,51646
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid

Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	60 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Wear chemically resistant gloves in combination with 'basic' employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with 'basic' employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,3429 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,137143
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	25 µg/cm³
Risk Characterization Ratio (RCR)	0,008333
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	1,6068 mg/m³
Risk Characterization Ratio (RCR)	0,573844
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC14: Tabletting, compression, extrusion, pelletisation, granulation In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 25 %
Physical state	liquid
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	15 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Wear chemically resistant gloves in combination with ‘basic’ employee training.	Effectiveness: 90 %
Avoid skin contact. Ensure minimization of manual phases	
Use suitable eye protection., Wear chemically resistant gloves in combination with ‘basic’ employee training.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - systemic
Exposure estimate	0,0086 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,003429
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - dermal, long-term - local
Exposure estimate	2,5 µg/cm³

Risk Characterization Ratio (RCR)	0,000833
Assessment method	EASY TRA v4.1, ECETOC TRA v3.0, worker, modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,8034 mg/m³
Risk Characterization Ratio (RCR)	0,286922
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra Please note that a modified version has been used (see exposure estimates)	

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4. Short title of exposure scenario

Use in Cleaning Agents, (use in industrial settings)
SU3; ERC4; PROC1, PROC2, PROC4, PROC7, PROC8b, PROC10, PROC13

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

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5. Short title of exposure scenario

Use in Cleaning Agents, (use in professional settings)
ERC8d, ERC8a; PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.

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6. Short title of exposure scenario

Use in/as Air care products
ERC8a; PC3

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC3: Air care products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 480 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	150 uses per year Relevant for inhalative exposure estimates
Room size	16 m3
Ventilation rate per hour	1
body weight	65 kg
Spray duration	28800 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0214 mg/m³
Risk Characterization Ratio (RCR)	0,03053
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC3: Air care products. Other products of this category do either not exceed a

	concentration of 1% for this substance or exposure estimations are covered by the calculations made for this product category. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.
Operational conditions	
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

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7. Short title of exposure scenario

Use in Cleaning Agents, (consumer use)
ERC8d, ERC8a; PC31, PC35

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC31: Polishes and Wax Blends. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.
Operational conditions	

Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC35: Washing and Cleaning Products (including solvent based products). In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.
Operational conditions	
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

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8. Short title of exposure scenario

Use in cosmetics
ERC8a; PC28, PC39

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC28: Perfumes, Fragrances. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009.
Operational conditions	
Vapour pressure of the substance during use	27,299999 Pa

Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC39: Cosmetics, personal care products. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009.
Operational conditions	
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

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9. Short title of exposure scenario

other consumer applications than fragrance
ERC8a, ERC8d; PC8

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	

Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	54 uses per year Relevant for dermal exposure estimates
Duration and Frequency of activity	Exposure duration: 180 min Relevant for oral exposure estimates
Duration and Frequency of activity	54 uses per year Relevant for oral exposure estimates
body weight	65 kg
Uptake fraction dermal	100 %
Uptake fraction oral	100 %
	Amount per use 6 g Relevant for dermal exposure estimates
Ingestion rate	0,00133 mg/min
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction
	Consumer - dermal, long-term - systemic
Exposure estimate	0,1366 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,109252
	The calculation is based on the internal chronic dose.
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Oral model: constant rate, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	0,0001 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000027
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

body weight	65 kg
	Amount per use 6 g Relevant for dermal exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: instant application
	Consumer - dermal, short-term - local
Exposure estimate	0,0034 µg/cm³
Risk Characterization Ratio (RCR)	0,002286
	The calculation is based on the external dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	54 uses per year Relevant for dermal exposure estimates
Duration and Frequency of activity	Exposure duration: 180 min Relevant for oral exposure estimates
Duration and Frequency of activity	54 uses per year Relevant for oral exposure estimates
body weight	8,69 kg
Uptake fraction dermal	100 %
Uptake fraction oral	100 %
	Amount per use 1,5 g Relevant for dermal exposure estimates
Ingestion rate	0,00083 mg/min
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: instant application, Uptake model: Uptake fraction
	Consumer - dermal, long-term - systemic
Exposure estimate	0,2554 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,204297
	The calculation is based on the internal chronic dose.

Assessment method	EASY TRA v4.1, ConsExpo v4.1, Oral model: constant rate, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	0,0001 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000127
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
body weight	8,69 kg
	Amount per use 1,5 g Relevant for dermal exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: instant application
	Consumer - dermal, short-term - local
Exposure estimate	0,0031 µg/cm³
Risk Characterization Ratio (RCR)	0,002083
	The calculation is based on the external dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	90 uses per year

	Relevant for inhalative exposure estimates
Duration and Frequency of activity	90 uses per year Relevant for dermal exposure estimates
Room size	58 m3
Ventilation rate per hour	0,5
body weight	65 kg
Uptake fraction dermal	100 %
Spray duration	19,8 sec
Contact rate	269 mg/min
Release duration	0,33 min
	Relevant for dermal exposure estimates
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: constant application rate, Uptake model: Uptake fraction
	Consumer - dermal, long-term - systemic
Exposure estimate	0,0034 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,002694
	The calculation is based on the internal chronic dose.
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0041 mg/m³
Risk Characterization Ratio (RCR)	0,005799
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
body weight	65 kg
Contact rate	269 mg/min
Release duration	0,33 min
	Relevant for dermal exposure estimates

Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: constant application rate
	Consumer - dermal, short-term - local
Exposure estimate	0,0001 µg/cm³
Risk Characterization Ratio (RCR)	0,000034
	The calculation is based on the external dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
Duration and Frequency of activity	90 uses per year Relevant for dermal exposure estimates
Duration and Frequency of activity	Exposure duration: 60 min Relevant for oral exposure estimates
Duration and Frequency of activity	90 uses per year Relevant for oral exposure estimates
body weight	8,69 kg
Uptake fraction dermal	100 %
Uptake fraction oral	100 %
Transfer coefficient	1,666667 cm²/s
Dislodgeable amount	0,000082 g/cm²
Contact time	3600 sec
Rubbed surface	22 m²
Ingestion rate	0,0082 mg/min
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: rubbing off, Uptake model: Uptake fraction
	Consumer - dermal, long-term - systemic
Exposure estimate	0,1396 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,111682
	The calculation is based on the internal chronic dose.
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Oral model: constant rate, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic

Exposure estimate	0,0001 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,000698
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products.
Operational conditions	
Concentration of the substance	Linalool Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C
body weight	8,69 kg
Transfer coefficient	1,666667 cm²/s
Dislodgeable amount	0,000082 g/cm²
Contact time	3600 sec
Rubbed surface	22 m²
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.1, ConsExpo v4.1, Dermal model: rubbing off
	Consumer - dermal, short-term - local
Exposure estimate	0,001 µg/cm³
Risk Characterization Ratio (RCR)	0,000683
	The calculation is based on the external dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8: Biocidal Products. Other products of this category do either not exceed a concentration of 1% for this substance or exposure estimations are covered by the calculations made for this product category. In accordance to the Article 14 (2a-f) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed if the substance in a preparation is less than 1%.
Operational conditions	
Vapour pressure of the substance during use	27,299999 Pa
Process temperature	20 °C

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