HG limescale remover

Safety Data Sheet

According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law, and based on EU 2020/878.
Issue date: 10/07/2024 Version: 1.0

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

1.1. Product identifier

Product form	:	Mixture
Product name	:	HG limescale remover
Product code	:	562 ART
Type of product	:	Detergent
Product group	:	Trade product

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

1.2.1. Relevant identified uses

Intended for general public

Main use category	:	Consumer use
Function or use category	:	Descaling products

1.2.2. Uses advised against

Restrictions on use	:	All other uses not recommended above

1.3. Details of the supplier of the safety data sheet

Manufacturer
HG International B.V.
P.J. Oudweg 41
NL– 1314 CJ Almere
The Netherlands
T +31 (0)36 54 94 700
safety@hg.eu - www.hg.eu

1.4. Emergency telephone number

Emergency number	:	+31 (0)36 54 94 777 Only for medical personnel Mon-Fri 09:00 AM - 05:00 PM (CEST)

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GB CLP (SI 2019:720 as amended)

Skin corrosion/irritation, Category 1	H314
Serious eye damage/eye irritation, Category 1	H318

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

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

Labelling according to GB CLP (SI 2019:720 as amended)

Hazard pictograms (GB CLP) :

GHS05

Signal word (GB CLP) : Danger

Contains : L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid; Alcohols, C9-11, ethoxylated

Hazard statements (GB CLP) : H314 - Causes severe skin burns and eye damage.

Precautionary statements (GB CLP) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P280 - Wear eye protection, protective gloves.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER, a doctor.
P501 - Dispose of contents and container to an approved waste disposal plant.

EUH-statements (GB CLP) : EUH071 - Corrosive to the respiratory tract.

Child-resistant fastening : Applicable

Tactile warning : Applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with UK REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of UK 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 GB BPR and GB PPP 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	%	Labelling according to GB CLP (SI 2019:720 as amended)
Water	CAS-No.: 7732-18-5 EC-No.: 231-791-2	≥ 75 – < 90	Not classified
L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid	CAS-No.: 79-33-4 EC-No.: 201-196-2 REACH-no: 01-2119474164-39	≥ 5 – < 7	Skin Corr. 1C, H314 Eye Dam. 1, H318
Alcohols, C9-11, ethoxylated	CAS-No.: 68439-46-3	≥ 2 – < 5	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Dam. 1, H318
Sulphamidic acid; sulphamic acid; sulfamic acid	CAS-No.: 5329-14-6 EC-No.: 226-218-8 REACH-no: 01-2119488633-28	≥ 1 – < 2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412

Name	Product identifier	%	Labelling according to GB CLP (SI 2019:720 as amended)
D-gluconic acid	CAS-No.: 526-95-4 EC-No.: 208-401-4 REACH-no: 01-2119454394-36	≥ 1 – < 2	Not classified
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	CAS-No.: 68155-07-7 EC-No.: 931-329-6 REACH-no: 01-2119490100-53	≥ 0.1 – < 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
2,6-dimethyl-7-octen-2-ol	CAS-No.: 18479-58-8 EC-No.: 242-362-4 REACH-no: 01-2119457274-37	≥ 0.001 – < 0.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319
4-tert-butylcyclohexyl acetate	CAS-No.: 32210-23-4 EC-No.: 250-954-9 REACH-no: 01-2119976286-24	≥ 0.001 – < 0.01	Skin Sens. 1B, H317
Decan-1-ol	CAS-No.: 112-30-1 EC-No.: 203-956-9 REACH-no: 01-2119480407-35	< 0.01	Aquatic Chronic 3, H412
Allyl (3-methylbutoxy)acetate	CAS-No.: 67634-00-8 EC-No.: 266-803-5 REACH-no: 01-2120795456-39	< 0.01	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 2 (Inhalation:dust,mist), H330 (ATE=0.05 mg/l/4h) Skin Irrit. 2, H315
Pentyl salicylate	CAS-No.: 2050-08-0 EC-No.: 218-080-2 REACH-no: 01-2119969444-27	< 0.01	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Aquatic Acute 1, H400 Aquatic Chronic 1, H410
[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene	CAS-No.: 19870-74-7 EC-No.: 243-384-7 REACH-no: 01-2120228335-61	< 0.01	Flam. Liq. 1, H224 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tetrahydrolinalool	CAS-No.: 78-69-3 EC-No.: 201-133-9 REACH-no: 01-2119454788-21	< 0.01	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one	CAS-No.: 32388-55-9 EC-No.: 251-020-3 REACH-no: 01-2119969651-28	< 0.01	Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one	CAS-No.: 127-51-5 EC-No.: 204-846-3 REACH-no: 01-2120138569-45	≥ 0.001 – < 0.01	Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Hexyl cinnamic aldehyde	CAS-No.: 101-86-0 EC-No.: 202-983-3 REACH-no: 01-2119533092-50	≥ 0.001 – < 0.01	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Name	Product identifier	%	Labelling according to GB CLP (SI 2019:720 as amended)
2-methyl-4-isopropyldihydrocinnamaldehyde	CAS-No.: 103-95-7 EC-No.: 203-161-7 REACH-no: 01-2119970582-32	< 0.001	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412
cineole	CAS-No.: 470-82-6 EC-No.: 207-431-5 REACH-no: 01-2119967772-24	< 0.001	Flam. Liq. 3, H226 Skin Sens. 1B, H317
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1 REACH-no: 01-2119971802-33	< 0.001	Eye Irrit. 2, H319 Skin Sens. 1, H317
Coumarin	CAS-No.: 91-64-5 EC-No.: 202-086-7 REACH-no: 01-2119949300-45	< 0.001	Acute Tox. 4 (Oral), H302 (ATE=680 mg/kg bodyweight) Skin Sens. 1, H317

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : 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

Explosion hazard : Intense heat may cause container to burst.

5.3. Advice for firefighters

Precautionary measures fire : Runoff from fire control or dilution water may cause pollution.

Firefighting instructions : Control run-off water by containing and keeping it out of sewers and watercourses. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : 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

General measures : Do not handle until all safety precautions have been read and understood. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Do not touch or walk on the spilled product. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Do not breathe mist, vapours.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material.

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

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe mist, vapours. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. 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 : Store in dry, cool, well-ventilated area. Protect from sunlight. Store locked up.

Storage temperature : 0 – 30 °C

Heat and ignition sources : Keep away from heat and direct sunlight.

Special rules on packaging : Keep only in original container. Opened containers must be carefully closed and kept upright to avoid leakage.

Packaging materials : Store always product in container of same material as original container.

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

No additional information available

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

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 - Report preview:
Safety glasses. Protective clothing. Gloves. Chemical resistant safety shoes.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection - Report preview:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Normal use conditions	With side shields	EN 166
Face shield	Droplet, mist		EN 166

8.2.2.2. Skin protection

Skin and body protection - Report preview:
Normal use conditions: Long sleeved protective clothing. Chemical resistant safety shoes. Handling large quantities of product: Use chemically protective clothing. Chemical resistant apron

Skin and body protection	
Type	**Standard**
Long sleeved protective clothing	
Chemical resistant safety shoes	
Use chemically protective clothing, apron	EN 14605
Use chemically protective clothing	EN 13034

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.35		EN ISO 374
Disposable gloves	Butyl rubber	6 (> 480 minutes)	0.5		EN ISO 374

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive limits	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	0.7 – 1.7
Viscosity, kinematic	:	Not available
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1.02 – 1.03 g/ml
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

Water (7732-18-5)	
Boiling point	100 °C
Vapour pressure	2300 Pa 25°C

L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid (79-33-4)	
Boiling point	216.6 °C Atm. press.: 1013 hPa
Flash point	≥ 74 °C Source: ECHA
Auto-ignition temperature	400 °C Source: ECHA
Vapour pressure	≈ 0.0286 mm Hg Temp.: 25 °C Remarks on result: 'other:'

D-gluconic acid (526-95-4)	
Boiling point	673.6 °C
Flash point	> 200 °C

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
Vapour pressure	0.78 Pa 25°C

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
Boiling point	> 250 °C
Vapour pressure	0.019 Pa 25°C

Decan-1-ol (112-30-1)	
Boiling point	229.1667 °C Atm. press.: 1 atm Decomposition: 'no'
Flash point	107 °C Atm. press.: 101,5 kPa
Auto-ignition temperature	255 °C Source: ICSC
Vapour pressure	0.00851 mm Hg Temp.: 25 °C

Allyl (3-methylbutoxy)acetate (67634-00-8)	
Boiling point	≈ 201 °C Atm. press.: 760 mm Hg
Flash point	≈ 88 °C Atm. press.: 101325 Pa
Vapour pressure	≈ 19.7 Pa Temp.: 25 °C

Pentyl salicylate (2050-08-0)	
Boiling point	270 °C Source: ChemIDplus
Flash point	126 °C Atm. press.: 101,325 kPa
Vapour pressure	0.24 Pa Temp.: 20 °C

[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene (19870-74-7)	
Boiling point	< 268.305 °C
Flash point	< 110.341 °C
Vapour pressure	0.5 Pa Temp.: 24 °C

Coumarin (91-64-5)	
Boiling point	301.7 °C
Flash point	162 °C Atm. press.: 1 atm Remarks on result: 'other:'
Vapour pressure	0.13034 Pa 25°C

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
Boiling point	234 °C Atm. press.: 101,325 kPa
Flash point	79.5 °C Atm. press.: 101325 Pa
Vapour pressure	0.3 Pa Temp.: 20 °C

2,6-dimethyl-7-octen-2-ol (18479-58-8)	
Boiling point	193 °C Atm. press.: 100,9 kPa
Flash point	76 °C Atm. press.: 101,325 kPa
Vapour pressure	20 Pa Temp.: 25 °C

cineole (470-82-6)	
Boiling point	177 °C Atm. press.: 101,325 kPa Decomposition: 'no'

cineole (470-82-6)	
Flash point	52 °C Remarks on result: 'other:'
Vapour pressure	122 Pa Temp.: 20 °C

Eugenol (97-53-0)	
Boiling point	248 °C Atm. press.: 755 mm Hg
Flash point	124 °C Atm. press.: 1 atm
Auto-ignition temperature	380 °C Source: ECHA
Vapour pressure	0.03999672 hPa Temp.: 25 °C Remarks on result: 'other:'

Hexyl cinnamic aldehyde (101-86-0)	
Boiling point	305 °C
Vapour pressure	0.068 Pa 25°C

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
Boiling point	266.4 °C Atm. press.: 967,1 hPa Decomposition: 'no' Remarks on result: 'other:'
Flash point	110.3 °C Atm. press.: 968,5 hPa Remarks on result: 'other:'
Vapour pressure	0.22 Pa Temp.: 20 °C Remarks on result: 'other:'

4-tert-butylcyclohexyl acetate (32210-23-4)	
Boiling point	243 °C Atm. press.: 101,9 kPa
Flash point	104 °C Atm. press.: 101325 Pa
Vapour pressure	7.9 Pa Temp.: 25 °C

Tetrahydrolinalool (78-69-3)	
Boiling point	197 °C Atm. press.: 1013,25 hPa
Flash point	77 °C Atm. press.: 1013 hPa
Vapour pressure	0.111 hPa Temp.: 19,6 °C

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
Boiling point	320.9 °C Atm. press.: 101,8 kPa
Flash point	> 100 °C Atm. press.: 101,3 kPa
Vapour pressure	0.25 kPa Temp.: 25 °C

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Alkalines. Attacks metals.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Conclusive but not sufficient for classification)
Acute toxicity (dermal) : Not classified (Conclusive but not sufficient for classification)
Acute toxicity (inhalation) : Not classified (Conclusive but not sufficient for classification)

Water (7732-18-5)	
LD50 oral rat	90000 mg/kg
LD50 oral	> 90000 mg/kg bodyweight
LD50 dermal	> 90000 mg/kg bodyweight
ATE GB CLP (oral)	90000 mg/kg bodyweight

L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid (79-33-4)	
LD50 dermal rat	>
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EPA OPP 81-2 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 7.94 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

D-gluconic acid (526-95-4)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
LD50 oral rat	2140 mg/kg bodyweight Animal: rat, Animal sex: female, Remarks on results: other:
LD50 oral	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal	> 2000 mg/kg bodyweight

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit

Decan-1-ol (112-30-1)	
LD50 oral rat	4720 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	3560 mg/kg bodyweight Animal: rabbit, Remarks on results: other:
LC50 Inhalation - Rat	> 2.05 mg/l air Animal: rat, Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)
ATE GB CLP (oral)	4720 mg/kg bodyweight
ATE GB CLP (dermal)	3560 mg/kg bodyweight

Allyl (3-methylbutoxy)acetate (67634-00-8)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE GB CLP (oral)	500 mg/kg bodyweight
ATE GB CLP (dust, mist)	0.05 mg/l/4h

Pentyl salicylate (2050-08-0)	
LD50 oral rat	≈ 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EU Method B.3 (Acute Toxicity (Dermal))
ATE GB CLP (oral)	500 mg/kg bodyweight

[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene (19870-74-7)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Coumarin (91-64-5)	
LD50 oral	680 mg/kg bodyweight
ATE GB CLP (oral)	680 mg/kg bodyweight

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
LD50 oral rat	2000 – 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 5000 mg/kg bodyweight Animal: rat
ATE GB CLP (oral)	2000 mg/kg bodyweight

Eugenol (97-53-0)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 oral	1500 – 1500 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat (Dust/Mist)	> 2580 mg/l
LC50 Inhalation - Rat (Vapours)	> 2580 mg/l

Eugenol (97-53-0)	
ATE GB CLP (oral)	1500 mg/kg bodyweight

Hexyl cinnamic aldehyde (101-86-0)	
LD50 oral rat	2450 – 3750 mg/kg
LD50 oral	> 2450 mg/kg bodyweight
LD50 dermal rabbit	> 3000 mg/kg
LD50 dermal	> 3000 mg/kg bodyweight
LC50 Inhalation - Rat (Dust/Mist)	> 5000 mg/l
ATE GB CLP (oral)	2450 mg/kg bodyweight

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Remarks on results: other:
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:

Tetrahydrolinalool (78-69-3)	
LD50 oral rat	8270 mg/kg bodyweight Animal: rat, Remarks on results: other:
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit
ATE GB CLP (oral)	8270 mg/kg bodyweight

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:

Alcohols, C9-11, ethoxylated (68439-46-3)	
ATE GB CLP (oral)	500 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns.
pH: 0.7 – 1.7

Water (7732-18-5)	
pH	7

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
pH	5.44 Temp.: 30 °C Concentration: 1 other: Remarks on result: 'other:'

Serious eye damage/irritation : Causes serious eye damage.
pH: 0.7 – 1.7

Water (7732-18-5)	
pH	7

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
pH	5.44 Temp.: 30 °C Concentration: 1 other: Remarks on result: 'other:'

Respiratory or skin sensitisation : Not classified (Conclusive but not sufficient for classification)

Germ cell mutagenicity : Not classified (Conclusive but not sufficient for classification)

Carcinogenicity : Not classified (Conclusive but not sufficient for classification)

Coumarin (91-64-5)	
IARC group	3 - Not classifiable

Eugenol (97-53-0)	
IARC group	3 - Not classifiable

Decan-1-ol (112-30-1)	
NOAEL (chronic, oral, animal/female, 2 years)	300 mg/kg bodyweight Animal: mouse, Animal sex: female

Reproductive toxicity : Not classified (Conclusive but not sufficient for classification)

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
NOAEL (animal/female, F1)	500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OPP 83-4 (Reproduction and Fertility Effects)

Pentyl salicylate (2050-08-0)	
NOAEL (animal/male, F0/P)	540 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 [One-Generation Reproduction Toxicity Study (before 9 October 2017)]
NOAEL (animal/female, F0/P)	180 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 415 [One-Generation Reproduction Toxicity Study (before 9 October 2017)]

STOT-single exposure : Not classified (Conclusive but not sufficient for classification)

STOT-repeated exposure : Not classified (Conclusive but not sufficient for classification)

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Decan-1-ol (112-30-1)	
LOAEL (dermal, rat/rabbit, 90 days)	100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEC (inhalation, rat, vapour, 90 days)	≥ 158 mg/l air Animal: rat

Coumarin (91-64-5)	
NOAEL (subchronic, oral, animal/female, 90 days)	> 138.3 mg/kg bodyweight Animal: mouse, Animal sex: female

cineole (470-82-6)	
NOAEL (oral, rat, 90 days)	600 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3150 (90-Day Oral Toxicity in Non-rodents)

Eugenol (97-53-0)	
NOAEL (subchronic, oral, animal/male, 90 days)	≥ 900 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: other:
NOAEL (subchronic, oral, animal/female, 90 days)	450 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: other:

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
NOAEL (oral, rat, 90 days)	30 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	50 mg/kg bodyweight Animal: rat, Guideline: other:, Remarks on results: other:

Tetrahydrolinalool (78-69-3)	
NOAEL (dermal, rat/rabbit, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
NOAEL (oral, rat, 90 days)	80 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Aspiration hazard : Not classified (Conclusive but not sufficient for classification)

Decan-1-ol (112-30-1)	
Viscosity, kinematic	13.133 mm²/s

Tetrahydrolinalool (78-69-3)	
Viscosity, kinematic	13393.462 mm²/s

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
Viscosity, kinematic	38.25 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : 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 substances 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 %

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short–term (acute) : Not classified (Conclusive but not sufficient for classification)

Hazardous to the aquatic environment, long–term (chronic) : Not classified (Conclusive but not sufficient for classification)

L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid (79-33-4)	
LC50 - Fish [1]	195 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	130 mg/l Test organisms (species): Daphnia magna
NOEC chronic algae	1900 mg/l

D-gluconic acid (526-95-4)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	> 1000 mg/l Source: OECD Screening Information Data Set

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
LC50 - Fish [1]	70.3 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	71.6 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	71.6 mg/l waterflea
EC50 - Other aquatic organisms [2]	29.5 mg/l

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
EC50 72h - Algae [1]	48 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	33.8 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	34 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	19 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 60 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '34 d'

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
LC50 - Fish [1]	≈ 2.4 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	≈ 3.2 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	≈ 7.4 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	≈ 2.2 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	≈ 0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≈ 0.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≈ 0.32 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '28 d'
NOEC chronic algae	2 mg/l

Decan-1-ol (112-30-1)	
LC50 - Fish [1]	2.8 mg/l Test organisms (species): not specified
EC50 - Crustacea [1]	5.91 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	0.39 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	79.7 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	20.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	< 0.07 mg/l Test organisms (species): Duration: '21 d'
NOEC chronic fish	0.26 mg/l Test organisms (species): Pimephales promelas Duration: '33 d'

Allyl (3-methylbutoxy)acetate (67634-00-8)	
LC50 - Fish [1]	≈ 0.768 mg/l Test organisms (species):
EC50 96h - Algae [1]	≈ 2.06 mg/l Test organisms (species):

Pentyl salicylate (2050-08-0)	
LC50 - Fish [1]	1.34 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.88 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	0.55 mg/l Source: ECOSAR

[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene (19870-74-7)	
LC50 - Fish [1]	0.373 mg/l Source: ECOSAR
EC50 - Crustacea [1]	0.48 mg/l Test organisms (species): Daphnia magna

[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene (19870-74-7)	
EC50 72h - Algae [2]	1 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	0.662 mg/l Source: ECOSAR

Coumarin (91-64-5)	
LC50 - Fish [1]	56 mg/l
LC50 - Fish [2]	1324 mg/l Test organisms (species):
EC50 - Crustacea [1]	8012 mg/l Test organisms (species): Daphnia sp.
EC50 - Other aquatic organisms [1]	13.5 mg/l waterflea
EC50 96h - Algae [1]	1452 mg/l Test organisms (species):
NOEC (chronic)	0.5 mg/l Test organisms (species): Duration: '21 d'

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
LC50 - Fish [1]	1.42 mg/l Test organisms (species):
LC50 - Fish [2]	2.49 mg/l Test organisms (species):
EC50 - Crustacea [1]	1.4 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	4.3 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	2.7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	3.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	2.7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

2,6-dimethyl-7-octen-2-ol (18479-58-8)	
LC50 - Fish [1]	27.8 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	38 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	80 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	65 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	9.5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

cineole (470-82-6)	
LC50 - Fish [1]	57 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 74 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	> 74 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Eugenol (97-53-0)	
LC50 - Fish [1]	13 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.05 mg/l Test organisms (species): Daphnia magna

Eugenol (97-53-0)	
EC50 - Other aquatic organisms [1]	1.9 mg/l waterflea
EC50 - Other aquatic organisms [2]	15.4 mg/l

Hexyl cinnamic aldehyde (101-86-0)	
LC50 - Fish [1]	1.7 mg/l
EC50 96h - Algae [1]	0.761 mg/l Source: EPI SUITE

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
LC50 - Fish [1]	10.9 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	9 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 20 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

4-tert-butylcyclohexyl acetate (32210-23-4)	
LC50 - Fish [1]	8.6 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	5.3 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	22 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Tetrahydrolinalool (78-69-3)	
LC50 - Fish [1]	8.9 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	14.2 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	21.6 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	3.226 mg/l Source: Ecological Structure Activity Relationships

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
LC50 - Fish [1]	2.3 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	3 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	0.86 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	2.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	0.23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.087 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

HG limescale remover	
Persistence and degradability	The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Water (7732-18-5)	
Persistence and degradability	Rapidly degradable

L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid (79-33-4)	
Persistence and degradability	Readily biodegradable.

D-gluconic acid (526-95-4)	
Persistence and degradability	Rapidly degradable

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
Persistence and degradability	Rapidly degradable

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
Persistence and degradability	Rapidly degradable
Biodegradation	92.5 % (OECD 301B method)

Decan-1-ol (112-30-1)	
Persistence and degradability	Rapidly degradable

Allyl (3-methylbutoxy)acetate (67634-00-8)	
Persistence and degradability	Rapidly degradable

Pentyl salicylate (2050-08-0)	
Persistence and degradability	Rapidly degradable

[3R-(3α,3aβ,6β,7β,8aα)]-Octahydro-6-methoxy-3,6,8,8-tetramethyl-1H-3a,7-methanoazulene (19870-74-7)	
Persistence and degradability	Rapidly degradable

Coumarin (91-64-5)	
Persistence and degradability	Rapidly degradable

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
Persistence and degradability	Rapidly degradable

2,6-dimethyl-7-octen-2-ol (18479-58-8)	
Persistence and degradability	Rapidly degradable

cineole (470-82-6)	
Persistence and degradability	Rapidly degradable

Eugenol (97-53-0)	
Persistence and degradability	Rapidly degradable

Hexyl cinnamic aldehyde (101-86-0)	
Persistence and degradability	Rapidly degradable

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
Persistence and degradability	Rapidly degradable

4-tert-butylcyclohexyl acetate (32210-23-4)	
Persistence and degradability	Rapidly degradable

Tetrahydrolinalool (78-69-3)	
Persistence and degradability	Rapidly degradable

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
Persistence and degradability	Rapidly degradable

Alcohols, C9-11, ethoxylated (68439-46-3)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid (79-33-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.62

D-gluconic acid (526-95-4)	
Partition coefficient n-octanol/water (Log Pow)	-1.87

Sulphamidic acid; sulphamic acid; sulfamic acid (5329-14-6)	
Partition coefficient n-octanol/water (Log Pow)	-4.34

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl) (68155-07-7)	
Partition coefficient n-octanol/water (Log Pow)	3.1

Decan-1-ol (112-30-1)	
Partition coefficient n-octanol/water (Log Pow)	4.57 Source: ChemIDplus

Pentyl salicylate (2050-08-0)	
Partition coefficient n-octanol/water (Log Pow)	4.57 Source: ChemIDplus

Coumarin (91-64-5)	
Partition coefficient n-octanol/water (Log Pow)	1.39

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
Partition coefficient n-octanol/water (Log Pow)	3.91 Source: Ecological Structure Activity Relationships

cineole (470-82-6)	
Partition coefficient n-octanol/water (Log Pow)	2.74

Eugenol (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	2.27

Hexyl cinnamic aldehyde (101-86-0)	
Partition coefficient n-octanol/water (Log Pow)	5.3

3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one (127-51-5)	
Partition coefficient n-octanol/water (Log Pow)	4.7 Source: ECHA Registered substances

Tetrahydrolinalool (78-69-3)	
Partition coefficient n-octanol/water (Log Pow)	3.6 Source: Ecological Structure Activity Relationships

12.4. Mobility in soil

Allyl (3-methylbutoxy)acetate (67634-00-8)	
Mobility in soil	115.7 Source: EPISUITE v4.1

Coumarin (91-64-5)	
Mobility in soil	140 Source: National Library of Medicine/Hazardous Substances Data Bank

2-methyl-4-isopropyldihydrocinnamaldehyde (103-95-7)	
Mobility in soil	2.859 Source: Quantitative Structure Activity Relation

cineole (470-82-6)	
Mobility in soil	223.9 Source: EPISUITE

Eugenol (97-53-0)	
Mobility in soil	409 Source: HSDB

Hexyl cinnamic aldehyde (101-86-0)	
Mobility in soil	2301 Source: EPI SUITE

Tetrahydrolinalool (78-69-3)	
Mobility in soil	319.8 Source: EPI Suite

[3R-(3α,3aβ,7β,8aα)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one (32388-55-9)	
Mobility in soil	3.8 Source: Quantitative Structure Activity Relation

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 3265	UN 3265	UN 3265	UN 3265	UN 3265
14.2. UN proper shipping name				
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid)	Corrosive liquid, acidic, organic, n.o.s. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid)

ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid), 8, III, (E)	UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid), 8, III	UN 3265 Corrosive liquid, acidic, organic, n.o.s. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid), 8, III	UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid), 8, III	UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid; (2S)-2-hydroxypropanoic acid ; Sulphamidic acid; sulphamic acid; sulfamic acid), 8, III
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Dangerous for the environment	Dangerous for the environment: Dangerous for the environment Marine pollutant: No	Dangerous for the environment: Dangerous for the environment	Dangerous for the environment: Dangerous for the environment	Dangerous for the environment: Dangerous for the environment
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	C3
Special provisions (ADR)	:	274
Limited quantities (ADR)	:	5l
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	:	MP19
Portable tank and bulk container instructions (ADR)	:	T7
Portable tank and bulk container special provisions (ADR)	:	TP1, TP28
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V12
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2X

Transport by sea

Special provisions (IMDG)	:	223, 274
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P001, LP01
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T7

Tank special provisions (IMDG)	:	TP1, TP28
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-B
Stowage category (IMDG)	:	A
Stowage and handling (IMDG)	:	SW2
Segregation (IMDG)	:	SGG1, SG36, SG49
Properties and observations (IMDG)	:	Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y841
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	852
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	856
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A3, A803
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C3
Special provisions (ADN)	:	274
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	C3
Special provisions (RID)	:	274
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T7
Portable tank and bulk container special provisions (RID)	:	TP1, TP28
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	80

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

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)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Detergent Regulation (648/2004)

Labelling of contents

Component	%
non-ionic surfactants	<5%
perfumes	

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 no 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)

15.1.2. United Kingdom

UK REACH Annex XIV (Authorisation List)

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

UK REACH Candidate List (SVHC)

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes (UK)

Section	Changed item	Change	Comments
13.1 - Waste treatment methods	Product/Packaging disposal recommendations	Added	
5.3 - Advice for firefighters	Precautionary measures fire	Added	
2.1 - Classification of the substance or mixture	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Modified	
9.1 - Information on basic physical and chemical properties	Colour	Added	
1.2 - Relevant identified uses of the substance or mixture and uses advised against	Restrictions on use	Added	
16 - Other information	Training advice	Added	

Indication of changes (UK)			
Section	**Changed item**	**Change**	**Comments**
16 - Other information	Other information	Added	
	Adverse health effects caused by endocrine disrupting properties	Added	
12.2 - Persistence and degradability	Persistence and degradability	Added	
10.5 - Incompatible materials	Incompatible materials	Added	
8.2 - Exposure controls	Personal protective equipment	Modified	
8.2 - Exposure controls	Respiratory protection	Modified	
7.2 - Conditions for safe storage, including any incompatibilities	Heat and ignition sources	Added	
7.2 - Conditions for safe storage, including any incompatibilities	Storage temperature	Added	
9.1 - Information on basic physical and chemical properties	pH	Added	
7.2 - Conditions for safe storage, including any incompatibilities	Special rules on packaging	Added	
9.1 - Information on basic physical and chemical properties	Density	Added	
7.1 - Precautions for safe handling	Additional hazards when processed	Added	
13.1 - Waste treatment methods	Sewage disposal recommendations	Added	
6.3 - Methods and material for containment and cleaning up	For containment	Added	
6.1 - Personal precautions, protective equipment and emergency procedures	Emergency procedures	Added	

Indication of changes (UK)			
Section	**Changed item**	**Change**	**Comments**
6.1 - Personal precautions, protective equipment and emergency procedures	General measures	Added	
7.2 - Conditions for safe storage, including any incompatibilities	Packaging materials	Added	
13.1 - Waste treatment methods	Regional waste regulation	Added	
13.1 - Waste treatment methods	Additional information	Added	
6.1 - Personal precautions, protective equipment and emergency procedures	Protective equipment	Added	
4.2 - Most important symptoms and effects, both acute and delayed	Symptoms/effects after inhalation	Added	
7.2 - Conditions for safe storage, including any incompatibilities	Technical measures	Added	
5.1 - Extinguishing media	Unsuitable extinguishing media	Added	
5.3 - Advice for firefighters	Firefighting instructions	Added	
6.4 - Reference to other sections	Reference to other sections (8, 13)	Modified	
4.1 - Description of first aid measures	First-aid measures after inhalation	Modified	
6.1 - Personal precautions, protective equipment and emergency procedures	Emergency procedures	Modified	
7.1 - Precautions for safe handling	Precautions for safe handling	Modified	
7.2 - Conditions for safe storage, including any incompatibilities	Storage conditions	Modified	

Indication of changes (UK)			
Section	**Changed item**	**Change**	**Comments**
5.2 - Special hazards arising from the substance or mixture	Explosion hazard	Added	
2.2 - Label elements	Precautionary statements (CLP)	Modified	
	Revision date	Modified	
3 - Composition/information on ingredients	Composition/information on ingredients	Modified	

Training advice : Ensure personnel is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Other information : Normal use of this product shall imply use in accordance with the instructions on the packaging. DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
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
EUH071	Corrosive to the respiratory tract.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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.