

Persil Professional Washing Up Liquid Zest

Revision: 2016-02-23

Version: 01.0

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

1.1 Product identifier

Trade name: Persil Professional Washing Up Liquid Zest
Persil is a registered trade mark and is used under licence of Unilever

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

Identified uses:

For professional use only.

AISE-P201 - Dishwash product. Manual process

Uses advised against: Uses other than those identified are not recommended

1.3 Details of the supplier of the safety data sheet

Diversey Europe Operations BV, Maarssenbroeksedijk 2, 3542DN Utrecht, The Netherlands

Contact details

Unilever UK Ltd., Freepost ADM1000, London SW1A 2XX
Tel: 0800 776647

Diversey Ltd

Weston Favell Centre, Northampton NN3 8PD, United Kingdom

Tel: 01604 405311, Fax: 01604 406809

Regulatory Email: MSDSinfoUK@sealedair.com

1.4 Emergency telephone number

For medical or environmental emergency only:
call 0800 052 0185

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified and labelled in accordance with Regulation (EC) No 1272/2008.

Eye Irrit. 2 (H319)

Classification in accordance with Directive 1999/45/EC and corresponding national legislation

Indication of danger

Xi - Irritant

Risk phrases:

R36 - Irritating to eyes.

2.2 Label elements



Signal word: Warning.

Contains EUH208: d-limonene (Limonene).

Hazard statements:

H319 - Causes serious eye irritation.

EUH208 - May produce an allergic reaction.

2.3 Other hazards

Persil Professional Washing Up Liquid Zest

No other hazards known. The product does not meet the criteria for PBT or vPvB in accordance with Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Ingredient(s)	EC number	CAS number	REACH number	Classification	Classification (1999/45/EC)	Notes	Weight percent
sodium dodecylbenzenesulphonate	246-680-4	25155-30-0	01-2119489428-22	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	Xn;R22 Xi;R38-41		3-10
alcohols, C12-14, ethoxylated, sulphates, sodium salts	500-234-8	68891-38-3	01-2119488639-16	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)	Xi;R38-41		3-10
amines, C10-16 alkyldimethyl-,N-oxides	274-687-2	70592-80-2	No data available	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	Xn;R22 Xi;R38-41 N;R50		1-3
d-limonene	227-813-5	5989-27-5	01-2119529223-47	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1B (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	R10 Xi;R38-43 N;R50/53 Xn;R65		0.1-1
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	220-239-6 247-500-7	55965-84-9	No data available	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	T;R23/24/25 C;R34 Xi;R43 N;R50/53		< 0.01

* Polymer.

For the full text of the R, H and EUH phrases mentioned in this Section, see Section 16.

Workplace exposure limit(s), if available, are listed in subsection 8.1.

[1] Exempted: ionic mixture. See Regulation (EC) No 1907/2006, Annex V, paragraph 3 and 4. This salt is potentially present, based on calculation, and included for classification and labelling purposes only. Each starting material of the ionic mixture is registered, as required.

[2] Exempted: included in Annex IV of Regulation (EC) No 1907/2006.

[3] Exempted: Annex V of Regulation (EC) No 1907/2006.

[4] Exempted: polymer. See Article 2(9) of Regulation (EC) No 1907/2006.

SECTION 4: First aid measures**4.1 Description of first aid measures**

Inhalation:	Get medical attention or advice if you feel unwell.
Skin contact:	Wash skin with plenty of lukewarm, gently flowing water. If skin irritation occurs: Get medical advice or attention.
Eye contact:	Immediately rinse eyes cautiously with lukewarm water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation occurs and persists, get medical attention.
Ingestion:	Immediately drink 1 glass of water. Get medical attention or advice if you feel unwell.
Self-protection of first aider:	Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	No known effects or symptoms in normal use.
Skin contact:	No known effects or symptoms in normal use.
Eye contact:	Causes severe irritation.
Ingestion:	No known effects or symptoms in normal use.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

No special hazards known.

5.3 Advice for firefighters

Persil Professional Washing Up Liquid Zest

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No special measures required.

6.2 Environmental precautions

Do not allow to enter drainage system, surface or ground water. Dilute with plenty of water.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).

6.4 Reference to other sections

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire and explosions:

No special precautions required.

Measures required to protect the environment:

For environmental exposure controls see subsection 8.2.

Advices on general occupational hygiene:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Sealed Air. Wash hands before breaks and at the end of workday. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Use personal protective equipment as required. Use only with adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local and national regulations. Keep only in original container. Store in a closed container.

For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end use(s)

No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits

Air limit values, if available:

Biological limit values, if available:

Recommended monitoring procedures, if available:

Additional exposure limits under the conditions of use, if available:

DNEL/DMEL and PNEC values

Human exposure

DNEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	-	-	-	15
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	-	-	-	4.76
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

DNEL dermal exposure - Worker

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	-	-	-	2750
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	0.222 mg/cm ² skin	-	No data available	-
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

Persil Professional Washing Up Liquid Zest

DNEL dermal exposure - Consumer

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	-	-	-	1650
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	0.111 mg/cm ² skin	-	No data available	-
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

DNEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	-	-	-	175
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	-	-	-	33.3
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

DNEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	-	-	-	52
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	-	-	-	8.33
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

Environmental exposure

Environmental exposure - PNEC

Ingredient(s)	Surface water, fresh (mg/l)	Surface water, marine (mg/l)	Intermittent (mg/l)	Sewage treatment plant (mg/l)
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	0.24	0.024	0.071	10000
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	0.0054	0.00054	-	1.8
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m ³)
sodium dodecylbenzenesulphonate	No data available	No data available	No data available	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	5.45	0.545	0.946	-
amines, C10-16 alkyldimethyl-,N-oxides	No data available	No data available	No data available	No data available
d-limonene	1.32	0.13	0.262	-
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	No data available	No data available	No data available

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet. If available, please refer to the product information sheet for application and handling instructions. Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Covering activities such as filling and transfer of product to application equipment, flasks or buckets

Appropriate engineering controls: No special requirements under normal use conditions.
Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

Personal protective equipment

Eye / face protection: Safety glasses are not normally required. However, their use is recommended in those cases where splashes may occur when handling the product.
Hand protection: Rinse and dry hands after use. For prolonged contact protection for the skin may be necessary.
Body protection: No special requirements under normal use conditions.
Respiratory protection: No special requirements under normal use conditions.

Environmental exposure controls: No special requirements under normal use conditions.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (%): 0.21

Persil Professional Washing Up Liquid Zest

Appropriate engineering controls: No special requirements under normal use conditions.
Appropriate organisational controls: No special requirements under normal use conditions.

Personal protective equipment

Eye / face protection: Safety glasses are not normally required. However, their use is recommended in those cases where splashes may occur when handling the product.
Hand protection: Rinse and dry hands after use. For prolonged contact protection for the skin may be necessary.
Body protection: No special requirements under normal use conditions.
Respiratory protection: No special requirements under normal use conditions.

Environmental exposure controls: No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Information in this section refers to the product, unless it is specifically stated that substance data is listed

Method / remark

Physical State: Liquid
Colour: Clear, Yellow
Odour: Slightly perfumed
Odour threshold: Not applicable
pH: ≈ 7 (neat)
Melting point/freezing point (°C): Not determined
Initial boiling point and boiling range (°C): Not determined

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
sodium dodecylbenzenesulphonate	No data available		
alcohols, C12-14, ethoxylated, sulphates, sodium salts	> 100	Method not given	
amines, C10-16 alkyldimethyl-,N-oxides	No data available		
d-limonene	175-178	Method not given	1013
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available		

Method / remark

Flash point (°C): Not applicable.
Sustained combustion: Not applicable.
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Upper/lower flammability limit (%): Not determined

Substance data, flammability or explosive limits, if available:

Ingredient(s)	Lower limit (% vol)	Upper limit (% vol)
d-limonene	0.7	6.1

Method / remark

Vapour pressure: Not determined

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
sodium dodecylbenzenesulphonate	No data available		
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available		
amines, C10-16 alkyldimethyl-,N-oxides	No data available		
d-limonene	190-230	Method not given	20
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available		

Method / remark

Vapour density: Not determined
Relative density: 1.03 g/cm³ (20 °C)
Solubility in / Miscibility with Water: Fully miscible

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
sodium dodecylbenzenesulphonate	No data available		
alcohols, C12-14, ethoxylated, sulphates, sodium salts	280 Soluble	Method not given	20
amines, C10-16 alkyldimethyl-,N-oxides	No data available		

Persil Professional Washing Up Liquid Zest

d-limonene	Insoluble	Method not given	20
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available		

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Method / remark

Autoignition temperature: Not determined
Decomposition temperature: Not applicable.
Viscosity: Not determined
Explosive properties: Not explosive.
Oxidising properties: Not oxidising

9.2 Other information

Surface tension (N/m): Not determined
Corrosion to metals: Not corrosive

Substance data, dissociation constant, if available:

SECTION 10: Stability and reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid

None known under normal storage and use conditions.

10.5 Incompatible materials

None known under normal use conditions.

10.6 Hazardous decomposition products

None known under normal storage and use conditions.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Mixture data:.

Relevant calculated ATE(s):

ATE - Oral (mg/kg): >2000

Skin irritation and corrosivity

Result: Not corrosive or irritant **Method:** Method not given

Eye irritation and corrosivity

Result: Eye irritant 2 **Method:** Weight of evidence

Substance data, where relevant and available, are listed below:.

Acute toxicity

Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	LD ₅₀	> 5000	Rat	OECD 401 (EU B.1)	
amines, C10-16 alkylidimethyl-,N-oxides		No data available			
d-limonene	LD ₅₀	4400 - 5100	Rat	Method not given	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	LD ₅₀	457	Rat	Method not given	

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	LD ₅₀	> 2000	Rat	OECD 402 (EU B.3)	

Persil Professional Washing Up Liquid Zest

amines, C10-16 alkyldimethyl-,N-oxides		No data available		
d-limonene	LD ₅₀	> 5000	Rabbit	Method not given
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	LD ₅₀	660	Rabbit	Method not given

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			
amines, C10-16 alkyldimethyl-,N-oxides		No data available			
d-limonene		No data available			
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	Irritant	Rabbit	OECD 404 (EU B.4)	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	Irritant	Rabbit	Method not given	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	Corrosive		Method not given	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	Severe damage	Rabbit	OECD 405 (EU B.5)	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	No data available			
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	Severe damage		Method not given	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available			
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	No data available			
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	Sensitising	Guinea pig	Method not given	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	Sensitising		Method not given	

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available			
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	No data available			
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
sodium dodecylbenzenesulphonate	No data available		No data available	

Persil Professional Washing Up Liquid Zest

alcohols, C12-14, ethoxylated, sulphates, sodium salts	No evidence for mutagenicity, negative test results	OECD 471 (EU B.12/13) OECD 476	No evidence for mutagenicity, negative test results	OECD 475 (EU B.11)
amines, C10-16 alkyldimethyl-,N-oxides	No data available		No data available	
d-limonene	No data available		No data available	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No evidence for mutagenicity	Method not given	No data available	

Carcinogenicity

Ingredient(s)	Effect
sodium dodecylbenzenesulphonate	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No evidence for carcinogenicity, weight-of-evidence
amines, C10-16 alkyldimethyl-,N-oxides	No data available
d-limonene	No data available
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No evidence for carcinogenicity, negative test results

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
sodium dodecylbenzenesulphonate			No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	NOAEL	Developmental toxicity	> 1000	Rat	OECD 414 (EU B.31), oral		No evidence for reproductive toxicity
amines, C10-16 alkyldimethyl-,N-oxides			No data available				
d-limonene			No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)			No data available				No evidence for reproductive toxicity No evidence for teratogenic effects

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium dodecylbenzenesulphonate		No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	NOAEL	> 225		OECD 408 (EU B.26)	90	
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
d-limonene		No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium dodecylbenzenesulphonate		No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
d-limonene		No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium dodecylbenzenesulphonate		No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available				
amines, C10-16 alkyldimethyl-,N-oxides		No data available				
d-limonene		No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No		No data				

Persil Professional Washing Up Liquid Zest

247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		available			
---	--	-----------	--	--	--

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
sodium dodecylbenzenesulphonate			No data available					
alcohols, C12-14, ethoxylated, sulphates, sodium salts			No data available					
amines, C10-16 alkyl dimethyl-,N-oxides			No data available					
d-limonene			No data available					
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
sodium dodecylbenzenesulphonate	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available
amines, C10-16 alkyl dimethyl-,N-oxides	No data available
d-limonene	No data available
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
sodium dodecylbenzenesulphonate	No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available
amines, C10-16 alkyl dimethyl-,N-oxides	No data available
d-limonene	No data available
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available

Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3. If relevant, see section 9 for dynamic viscosity and relative density of the product.

Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

SECTION 12: Ecological information

12.1 Toxicity

No data is available on the mixture

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	LC ₅₀	7.1	Fish	OECD 203	96
amines, C10-16 alkyl dimethyl-,N-oxides		No data available			
d-limonene	LC ₅₀	0.72	<i>Pimephales promelas</i>	OECD 203	96
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	LC ₅₀	0.28	<i>Lepomis macrochirus</i>	OECD 203	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	EC ₅₀	7.4	<i>Daphnia magna</i> Straus	OECD 202	48

Persil Professional Washing Up Liquid Zest

amines, C10-16 alkylidimethyl-,N-oxides		No data available			
d-limonene	EC ₅₀	0.36	<i>Daphnia magna Straus</i>	OECD 202	48
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	EC ₅₀	0.126	<i>Daphnia magna Straus</i>	OECD 202	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	EC ₅₀	10 - 100	<i>Pseudokirchneriella subcapitata</i>	OECD 201	72
amines, C10-16 alkylidimethyl-,N-oxides		No data available			
d-limonene	E _r C ₅₀	150	<i>Desmodesmus subspicatus</i>	OECD 201	72
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	EC ₅₀	0.003	<i>Pseudokirchneriella subcapitata</i>	OECD 201	72

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-
amines, C10-16 alkylidimethyl-,N-oxides		No data available			
d-limonene		No data available			-
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
sodium dodecylbenzenesulphonate		No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	EC ₀	> 100		DIN 38412, Part 27	
amines, C10-16 alkylidimethyl-,N-oxides		No data available			
d-limonene		No data available			
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	EC ₂₀	0.97	<i>Activated sludge</i>	OECD 209	3 hour(s)

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium dodecylbenzenesulphonate		No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	NOEC	1 - 10	<i>Not specified</i>	OECD 203	45 day(s)	
amines, C10-16 alkylidimethyl-,N-oxides		No data available				
d-limonene		No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium dodecylbenzenesulphonate		No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	NOEC	0.27	<i>Daphnia sp.</i>	OECD 211	21 day(s)	
amines, C10-16 alkylidimethyl-,N-oxides		No data available				
d-limonene		No data available				
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	Effects observed
---------------	----------	-------	---------	--------	----------	------------------

Persil Professional Washing Up Liquid Zest

	(mg/kg dw sediment)	time (days)
sodium dodecylbenzenesulphonate	No data available	
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available	-
amines, C10-16 alkyl dimethyl-,N-oxides	No data available	
d-limonene	No data available	-
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available	-

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-	
d-limonene		No data available			-	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-	
d-limonene		No data available			-	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-	
d-limonene		No data available			-	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-	

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-	
d-limonene		No data available			-	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-	

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
alcohols, C12-14, ethoxylated, sulphates, sodium salts		No data available			-	
d-limonene		No data available			-	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		No data available			-	

12.2 Persistence and degradability**Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

Abiotic degradation - hydrolysis, if available:

Abiotic degradation - other processes, if available:

Persil Professional Washing Up Liquid Zest

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
sodium dodecylbenzenesulphonate					No data available
alcohols, C12-14, ethoxylated, sulphates, sodium salts		CO ₂ production	> 60 % in 28 day(s)	OECD 301B	Readily biodegradable
amines, C10-16 alkyldimethyl-,N-oxides					No data available
d-limonene			80 % in 28 day(s)	OECD 301D	Readily biodegradable
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)		Oxygen depletion	> 60%	OECD 301D	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

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.

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
sodium dodecylbenzenesulphonate	No data available			
alcohols, C12-14, ethoxylated, sulphates, sodium salts	0.3	Method not given	No bioaccumulation expected	
amines, C10-16 alkyldimethyl-,N-oxides	No data available			
d-limonene	No data available		High potential for bioaccumulation	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	-0.71 - +0.75	Method not given	No bioaccumulation expected	

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
sodium dodecylbenzenesulphonate	No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	< 3		Method not given	No bioaccumulation expected	
amines, C10-16 alkyldimethyl-,N-oxides	No data available				
d-limonene	683.1		Method not given	High potential for bioaccumulation	
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available				

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
sodium dodecylbenzenesulphonate	No data available				
alcohols, C12-14, ethoxylated, sulphates, sodium salts	No data available				
amines, C10-16 alkyldimethyl-,N-oxides	No data available				
d-limonene	No data available				High potential for mobility in soil
5-chloro-2-methyl-2H-isothiazol-3-one [EC No 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC No 220-239-6] (3:1)	No data available				

12.5 Results of PBT and vPvB assessment

Substances that fulfill the criteria for PBT/vPvB, if any, are listed in section 3.

12.6 Other adverse effects

No other adverse effects known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Persil Professional Washing Up Liquid Zest

Waste from residues / unused products:	The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.
European Waste Catalogue:	20 01 29* - detergents containing dangerous substances.
Empty packaging Recommendation:	Dispose of observing national or local regulations.
Suitable cleaning agents:	Water, if necessary with cleaning agent.

SECTION 14: Transport information**ADR, RID, ADN, IMO/IMDG, ICAO/IATA**

14.1 UN number: Non-dangerous goods

14.2 UN proper shipping name: Non-dangerous goods

14.3 Transport hazard class(es): Non-dangerous goods

Class: -

14.4 Packing group: Non-dangerous goods

14.5 Environmental hazards: Non-dangerous goods

14.6 Special precautions for user: Non-dangerous goods

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: The product is not transported in bulk tankers.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Authorisations or restrictions (Regulation (EC) No 1907/2006, Title VII respectively Title VIII): Not applicable.

Ingredients according to EC Detergents Regulation 648/2004

anionic surfactants

5 - 15%

amphoteric surfactants, non-ionic surfactants

< 5%

perfumes, Limonene, Linalool, Methylchloroisothiazolinone, Methylisothiazolinone

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

SDS code: MS1002264

Version: 01.0

Revision: 2016-02-23

Classification procedure

The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Full text of the R, H and EUH phrases mentioned in section 3:

- H226 - Flammable liquid and vapour.
- H227 - Combustible liquid.
- H301 - Toxic if swallowed.
- H302 - Harmful if swallowed.
- H304 - May be fatal if swallowed and enters airways.
- H311 - Toxic in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H319 - Causes serious eye irritation.
- H331 - Toxic if inhaled.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.
- H411 - Toxic to aquatic life with long lasting effects.
- H412 - Harmful to aquatic life with long lasting effects.
- R10 - Flammable.
- R22 - Harmful if swallowed.
- R23 - Toxic by inhalation.
- R24 - Toxic in contact with skin.
- R25 - Toxic if swallowed.
- R34 - Causes burns.
- R38 - Irritating to skin.
- R41 - Risk of serious damage to eyes.
- R43 - May cause sensitisation by skin contact.

Persil Professional Washing Up Liquid Zest

- R50 - Very toxic to aquatic organisms.
- R65 - Harmful: may cause lung damage if swallowed.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Abbreviations and acronyms:

- AISE - The international Association for Soaps, Detergents and Maintenance Products
- DNEL - Derived No Effect Limit
- EUH - CLP Specific hazard statement
- PBT - Persistent, Bioaccumulative and Toxic
- PNEC - Predicted No Effect Concentration
- REACH number - REACH registration number, without supplier specific part
- vPvB - very Persistent and very Bioaccumulative
- ATE - Acute Toxicity Estimate

End of Safety Data Sheet