Safety Data Sheet

According to Regulation (EC) No 1907/2006

Sun Professional All In 1 Tablets

Revision: 2020-09-06 **Version:** 07.0

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

1.1 Product identifier
Trade name: Sun Professional All In 1 Tablets
Sun 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:
AISE-C6 - Machine dishwashing (powder, liquid, tablet) for consumer use
AISE-P202 - Dishwash product. Automatic 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
Diversey Ltd
Weston Favell Centre, Northampton NN3 8PD, United Kingdom
Tel: 01604 405311, Fax: 01604 406809
Regulatory Email: customerservice.uk@diversey.com

1.4 Emergency telephone number
Seek medical advice (show the label or safety data sheet where possible)
For medical or environmental emergency only:
call 0800 052 0185

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Eye Irrit. 2 (H319)

2.2 Label elements

Signal word: Warning.

Contains subtilisin (Subtilisin)

Hazard statements:
H319 - Causes serious eye irritation.
EUH208 - May produce an allergic reaction.

Precautionary statements:
P102 - Keep out of reach of children.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.

2.3 Other hazards
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	Notes	Weight percent
sodium carbonate	207-838-8	497-19-8	01-2119485498-19	Eye Irrit. 2 (H319)		30-50
sodium percarbonate	239-707-6	15630-89-4	01-2119457268-30	Ox. Sol. 2 (H272) Acute Tox. 4 (H302) Eye Dam. 1 (H318)		10-20
sodium silicate	215-687-4	1344-09-8	01-2119448725-31	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)		3-10
Alcohols, C16-18, ethoxylated	500-212-8	68439-49-6	-	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)		3-10
tetrasodium (1-hydroxy ethylidene)bisphosphonate	223-267-7	3794-83-0	01-2119510382-52	Acute Tox. 4 (H302) Eye Irrit. 2 (H319)		1-3
subtilisin	232-752-2	9014-01-1	01-2119480434-38	Acute Tox. 4 (H302) STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)		0.1-1

Workplace exposure limit(s), if available, are listed in subsection 8.1.
For the full text of the H and EUH phrases mentioned in this Section, see Section 16.

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: Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation occurs and persists, get medical attention.

Ingestion: Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. 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

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.

6.3 Methods and material for containment and cleaning up

Collect mechanically. Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

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:
Follow general hygiene considerations recognised as common good workplace practices. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Do not mix with other products unless adviced by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Use only with adequate ventilation. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. Keep out of reach of children.
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:

Ingredient(s)	UK - Long term value(s)	UK - Short term value(s)
subtilisin	0.00004 mg/m³	0.00012 mg/m³

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 carbonate	-	-	-	-
sodium percarbonate	-	-	-	-
sodium silicate	-	-	-	0.8
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	2.1
subtilisin	-	3.6	-	1.8

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 carbonate	-	-	No data available	-
sodium percarbonate	12.8 mg/cm² skin	-	12.8 mg/cm² skin	-
sodium silicate	No data available	-	No data available	1.59
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	48
subtilisin	0.2 %	-	-	-

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 carbonate	No data available	-	No data available	-
sodium percarbonate	6.4 mg/cm² skin	-	6.4 mg/cm² skin	-
sodium silicate	No data available	-	No data available	0.8
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available

tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	24
subtilisin	0.2 %	-	-	-

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 carbonate	-	-	10	-
sodium percarbonate	-	-	5	-
sodium silicate	-	-	-	5.61
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	16.9
subtilisin	-	-	0.00006 (DMEL)	-

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 carbonate	10	-	-	-
sodium percarbonate	-	-	-	-
sodium silicate	-	-	-	1.38
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	10	No data available	10	4.2
subtilisin	-	-	0.000015 (DMEL)	-

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 carbonate	-	-	-	-
sodium percarbonate	0.035	0.035	0.035	16.24
sodium silicate	7.5	1	7.5	348
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	No data available
subtilisin	0.00006	0.000006	-	65

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m³)
sodium carbonate	-	-	-	-
sodium percarbonate	-	-	-	-
sodium silicate	-	-	-	-
Alcohols, C16-18, ethoxylated	No data available	No data available	No data available	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available	No data available	No data available	No data available
subtilisin	-	-	-	-

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:

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: No special requirements under normal use conditions.
Hand protection: No special requirements under normal use conditions.
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: Solid
Appearance: Tablets
Colour: Specks from White to Turquoise
Odour: Product specific
Odour threshold: Not applicable
pH Not applicable
Dilution pH: ≈ 11 (10%)
Melting point/freezing point (°C): Not determined — Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined — Not applicable to solids or gases

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
sodium carbonate	1600	Method not given	1013
sodium percarbonate	Product decomposes before boiling		
sodium silicate	> 100	Method not given	
Alcohols, C16-18, ethoxylated	No data available		
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available		
subtilisin	No data available		

Method / remark

Flammability (liquid): Not applicable.
Flash point (°C): Not applicable.
Sustained combustion: Not applicable.
(UN Manual of Tests and Criteria, section 32, L.2)

Evaporation rate: Not relevant for classification of this product.
Flammability (solid, gas): Not determined
Upper/lower flammability limit (%): Not determined — See substance data

Substance data, flammability or explosive limits, if available:

Ingredient(s)	Lower limit (% vol)	Upper limit (% vol)
subtilisin	-	-

Method / remark

Vapour pressure: Not determined — See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
sodium carbonate	Negligible		
sodium percarbonate	Negligible		
sodium silicate	No data available		
Alcohols, C16-18, ethoxylated	No data available		
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available		
subtilisin	Not applicable		

Method / remark

Vapour density: Not determined — Not relevant to classification of this product
Relative density: ≈ 0.85 (20 °C) — OECD 109 (EU A.3)
Solubility in / Miscibility with Water: Soluble

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
sodium carbonate	210-215	Method not given	20
sodium percarbonate	140	Method not given	20
sodium silicate	Soluble	Method not given	20
Alcohols, C16-18, ethoxylated	No data available		
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available		
subtilisin	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 — Not applicable to solids or gases
Explosive properties: Not explosive.
Oxidising properties: Not oxidising.

9.2 Other information
Surface tension (N/m): Not determined — OECD 115
Corrosion to metals: Not determined — Not applicable to solids or gases

Substance data, dissociation constant, if available:

Ingredient(s)	Value	Method	Temperature (°C)
sodium silicate	9.9 - 12 (pKa)	Method not given	

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
Reacts with acids.

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

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 carbonate	LD_{50}	2800	Rat	Method not given	
sodium percarbonate	LD_{50}	1034	Rat	Method not given	
sodium silicate	LD_{50}	3400	Rat	Method not given	
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin	LD_{50}	1800	Rat	OECD 401 (EU B.1)	

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
sodium carbonate	LD_{50}	> 2000	Rabbit	Method not given	
sodium percarbonate	LD_{50}	> 2000	Rabbit	OECD 402 (EU B.3)	
sodium silicate	LD_{50}	> 5000	Rat	Method not given	
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin		No data available			

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium carbonate	LC_{50}	> 2.3 (dust)		Weight of evidence	2
sodium percarbonate		No data available			
sodium silicate		No mortality observed	Rat	Method not given	4
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin		-		Weight of evidence	

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium carbonate	Not irritant	Rabbit	OECD 404 (EU B.4)	
sodium percarbonate	Not irritant	Rabbit	Method not given	
sodium silicate	Irritant		Method not given	
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	Mild irritant	Rabbit	OECD 404 (EU B.4)	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium carbonate	Irritant	Rabbit	Method not given	
sodium percarbonate	Severe damage	Rabbit	EPA OPP 81-4	
sodium silicate	Severe damage		Method not given	
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	Not corrosive or irritant	Rabbit	OECD 405 (EU B.5)	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium carbonate	No data available			
sodium percarbonate	Irritating to respiratory tract	Mouse	Method not given	
sodium silicate	Irritating to respiratory tract		Method not given	
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	Irritating to respiratory tract			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
sodium carbonate	Not sensitising		Method not given	
sodium percarbonate	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
sodium silicate	Not sensitising		Method not given	
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
sodium carbonate	No data available			
sodium percarbonate	No data available			
sodium silicate	No data available			
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	Sensitising		Weight of evidence	

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method	Result (in-vivo)	Method

		(in-vitro)		(in-vivo)
sodium carbonate	No data available		No data available	
sodium percarbonate	No data available		No data available	
sodium silicate	No evidence for mutagenicity, negative test results		No data available	
Alcohols, C16-18, ethoxylated	No data available		No data available	
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available		No data available	
subtilisin	No evidence for mutagenicity, negative test results	OECD 471 (EU B.12/13) OECD 473 OECD 476 (Chinese Hamster Ovary)	No data available	

Carcinogenicity

Ingredient(s)	Effect
sodium carbonate	No evidence for carcinogenicity, weight-of-evidence
sodium percarbonate	No data available
sodium silicate	No evidence for carcinogenicity, negative test results
Alcohols, C16-18, ethoxylated	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available
subtilisin	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
sodium carbonate			No data available				
sodium percarbonate			No data available				
sodium silicate			No data available				No evidence for reproductive toxicity
Alcohols, C16-18, ethoxylated			No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate			No data available				
subtilisin			No data available				

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 carbonate		No data available				
sodium percarbonate		No data available				
sodium silicate	NOAEL	> 159	Rat	Method not given		
Alcohols, C16-18, ethoxylated		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		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 carbonate		No data available				
sodium percarbonate		No data available				
sodium silicate		No data available				
Alcohols, C16-18, ethoxylated		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	Specific effects and organs

		(mg/kg bw/d)			time (days)	affected
sodium carbonate		No data available				
sodium percarbonate		No data available				
sodium silicate		No data available				
Alcohols, C16-18, ethoxylated		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
sodium carbonate			No data available					
sodium percarbonate			No data available					
sodium silicate			No data available					
Alcohols, C16-18, ethoxylated			No data available					
tetrasodium (1-hydroxy ethylidene)bisphosphonate			No data available					
subtilisin			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
sodium carbonate	No data available
sodium percarbonate	No data available
sodium silicate	No data available
Alcohols, C16-18, ethoxylated	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available
subtilisin	Respiratory tract

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
sodium carbonate	No data available
sodium percarbonate	No data available
sodium silicate	No data available
Alcohols, C16-18, ethoxylated	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available
subtilisin	No data available

Aspiration hazard
Substances with an aspiration hazard (H304), if any, are listed in section 3.

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 carbonate	LC_{50}	300	*Lepomis macrochirus*	Method not given	96
sodium percarbonate	LC_{50}	70.7	*Pimephales promelas*	Method not given	96
sodium silicate	LC_{50}	3185	*Brachydanio rerio*	Method not given	96
Alcohols, C16-18, ethoxylated		No data			

		available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin	LC_{50}	8.2	*Fish*	OECD 203 (EU C.1)	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium carbonate	EC_{50}	265	*Daphnia magna Straus*	Method not given	96
sodium percarbonate	EC_{50}	4.9	*Daphnia pulex*	Method not given	48
sodium silicate	EC_{50}	1700	*Daphnia magna Straus*	Method not given	48
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin	EC_{50}	0.586	*Daphnia*	OECD 202 (EU C.2)	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium carbonate		No data available			-
sodium percarbonate		No data available			-
sodium silicate	EC_{50}	207	*Desmodesmus subspicatus*	DIN 38412, Part 9	72
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin	$E_r C_{50}$	0.830	*Not specified*	OECD 201 (EU C.3)	72

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
sodium carbonate		No data available			-
sodium percarbonate		No data available			-
sodium silicate		No data available			-
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin		No data available			-

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
sodium carbonate		No data available			
sodium percarbonate	EC_{50}	466	*Activated sludge*	OECD 209	0.5 hour(s)
sodium silicate		No data available			
Alcohols, C16-18, ethoxylated		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			
subtilisin		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium carbonate		No data available				
sodium percarbonate	NOEC	7.4	*Pimephales promelas*	Method not given	96 hour(s)	
sodium silicate	NOEC	348	*Brachydanio rerio*	Method not given	96 hour(s)	
Alcohols, C16-18, ethoxylated		No data available				

tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium carbonate		No data available				
sodium percarbonate	NOEC	2	*Daphnia pulex*	Method not given	48 hour(s)	
sodium silicate		No data available				
Alcohols, C16-18, ethoxylated		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		No data available				

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

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
Alcohols, C16-18, ethoxylated		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				
subtilisin		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
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
subtilisin		No data available			-	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
subtilisin		No data available			-	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
subtilisin		No data available			-	

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
subtilisin		No data available			-	

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium carbonate		No data available			-	
sodium percarbonate		No data available			-	
sodium silicate		No data available			-	
subtilisin		No data available			-	

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
sodium percarbonate	NA	Method not given		

Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
sodium carbonate	No data available		Rapidly hydrolysible	
sodium percarbonate	< 1 day(s)	Method not given	Hydrolysible	

Abiotic degradation - other processes, if available:

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT_{50}	Method	Evaluation
sodium carbonate					Not applicable (inorganic substance)
sodium percarbonate					Not applicable (inorganic substance)
sodium silicate					Not applicable (inorganic substance)
Alcohols, C16-18, ethoxylated				OECD 301D	Readily biodegradable
tetrasodium (1-hydroxy ethylidene)bisphosphonate				Weight of evidence	Not readily biodegradable.
subtilisin				OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
sodium carbonate	No data available		No bioaccumulation expected	
sodium percarbonate	No data available			
sodium silicate	No data available		Low potential for bioaccumulation	
Alcohols, C16-18, ethoxylated	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			
subtilisin	< 0			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
sodium carbonate	No data available			No bioaccumulation expected	

sodium percarbonate	No data available				
sodium silicate	No data available				
Alcohols, C16-18, ethoxylated	No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available				
subtilisin	-			Not relevant, does not bioaccumulate	

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 carbonate	No data available				Potential for mobility in soil, soluble in water
sodium percarbonate	No data available				High potential for mobility in soil
sodium silicate	No data available				
Alcohols, C16-18, ethoxylated	No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available				
subtilisin	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

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.

SECTION 14: Transport information

Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)
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
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 and the IBC Code: Non-dangerous goods

SECTION 15: Regulatory information

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

EU regulations:
• Regulation (EC) No. 1907/2006 - REACH
• Regulation (EC) No 1272/2008 - CLP
• Regulation (EC) No. 648/2004 - Detergents regulation

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

UFI: PT26-S0D0-4005-92VN

Ingredients according to EC Detergents Regulation 648/2004

oxygen-based bleaching agents	5 - 15 %
non-ionic surfactants, polycarboxylates, phosphonates	< 5 %
perfumes , enzymes	

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: MSDS6574 **Version:** 07.0 **Revision:** 2020-09-06

Reason for revision:
This data sheet contains changes from the previous version in section(s):, 3, 8, 9, 11, 12, 15, 16

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 H and EUH phrases mentioned in section 3:
- H272 - May intensify fire; oxidiser.
- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H319 - Causes serious eye irritation.
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 - May cause respiratory irritation.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H400 - Very toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.
- H412 - Harmful to aquatic life with long lasting effects.

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
- LD50 - Lethal Dose, 50% / Median Lethal dose
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- EC50 - effective concentration, 50%
- NOEL - No observed effect level
- NOAEL - No observed adverse effect level
- OECD - Organization for Economic Cooperation and Development

End of Safety Data Sheet