



Clax Revoflow Enzi 20X1

Revision: 2023-05-25

Version: 12.1

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

1.1 Product identifier

Trade name: Clax Revoflow Enzi 20X1

UFI: HUN5-C051-V00E-EHVW

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

Product use: Laundry aid.
For professional use only.

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

SWED - Sector-specific worker exposure description :

AISE_SWED_PW_8b_2

AISE_SWED_PW_1_1

AISE_SWED_PW_4_1

1.3 Details of the supplier of the safety data sheet

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

Contact details

Tandur Hf.
Hesthalsi 12, 110 Reykjavik
Tel. 5101200, Email: tandur@tandur.is

1.4 Emergency telephone number

Seek medical advice (show the label or safety data sheet where possible).

Poison Center: (+354) 543-2222

Emergency services: 112.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Eye Dam. 1 (H318)
Aquatic Chronic 3 (H412)

2.2 Label elements



Signal word: Danger.

Contains alkyl alcohol ethoxylate (C12-18 Pareth 7-15), Alcohols, C10-16, ethoxylated (7-<15 EO) (C12-15 Pareth-7), subtilisin (Subtilisin), 4-formylphenylboronic acid (4-Formylphenylboronic Acid)

Hazard statements:

H318 - Causes serious eye damage.

H412 - Harmful to aquatic life with long lasting effects.

EUH208 - May produce an allergic reaction.

Precautionary statements:

P280 - Wear eye or face protection.

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 CENTRE, doctor or physician.

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2.3 Other hazards

Concentrated enzymatic liquid products are dust free preparations. However, inappropriate handling may cause formation of dust or aerosols which may induce sensitization and may cause allergic reactions in sensitized individuals.

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

Ingredient(s)	EC number	CAS number	REACH number	Classification	Notes	Weight percent
alkyl alcohol ethoxylate	[4]	68213-23-0	[4]	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)		10-20
Alcohols, C10-16, ethoxylated (7-<15 EO)	[4]	68002-97-1	[4]	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)		10-20
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	[4]	120313-48-6	[4]	Skin Irrit. 2 (H315) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)		3-10
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
4-formylphenylboronic acid	438-670-5	87199-17-5	01-0000018341-78	Skin Sens. 1 (H317)		0.1-1

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

ATE, if available, are listed in section 11.

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

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. Immediately call a POISON CENTRE, doctor or physician.

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:**

Inappropriate handling may cause formation of dust or aerosols which may induce sensitization and may cause allergic reactions in sensitized individuals.

Skin contact:

No known effects or symptoms in normal use.

Eye contact:

Causes severe or permanent damage.

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

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6.1 Personal precautions, protective equipment and emergency procedures

Wear eye/face protection.

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up

Dyke to collect large liquid spills. Warning: concentrated enzymatic product. Spillages should be removed immediately to avoid formation of dust from dried product. Use a cloth wetted with a chlorine bleach to clean up product spillage. Flush remainder carefully with plenty of water. Avoid splashing and high pressure washing (do not remove product spillage in procedures likely to give rise to aerosols).

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 to prevent aerosol and dust generation:

Do not apply via trigger spray or other device which creates aerosols.

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 Diversey. Wash hands before breaks and at the end of workday. Avoid contact with eyes. 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. 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)	Long term value(s)	Short term value(s)
subtilisin		0.00006 mg/m ³

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/DMEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	-	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	-	3.6	-	1.8
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

DNEL/DMEL 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)
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available

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Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	No data available	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	0.2 %	-	-	-
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

DNEL/DMEL 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)
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	No data available	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	0.2 %	-	-	-
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

DNEL/DMEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	-	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	-	-	0.00006	-
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

DNEL/DMEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	-	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	-	-	0.000015	-
4-formylphenylboronic acid	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)
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	-	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	0.00006	0.000006	-	65
4-formylphenylboronic acid	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)
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	-	-	-	-
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available	No data available	No data available	No data available
subtilisin	-	-	-	-
4-formylphenylboronic acid	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:

- Appropriate engineering controls:** If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.
- Appropriate organisational controls:** Avoid direct contact and/or splashes where possible. Train personnel.

REACH use scenarios considered for the undiluted product:

	SWED - Sector-specific worker exposure description	LCS	PROC	Duration (min)	ERC
Automatic transfer and dilution	AISE_SWED_PW_8b_2	PW	PROC 8b	60	ERC8b

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Personal protective equipment

Eye / face protection: Safety glasses or goggles (EN 166).
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.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 0.06

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

REACH use scenarios considered for the diluted product:

	SWED	LCS	PROC	Duration (min)	ERC
Automatic application in a dedicated closed system	AISE_SWED_PW_1_1	PW	PROC 1	480	ERC8a
Automatic application in a dedicated system	AISE_SWED_PW_4_1	PW	PROC 4	480	ERC8a

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: Liquid	
Colour: Clear , Colourless	
Odour: Product specific	
Odour threshold: Not applicable	
Melting point/freezing point (°C): Not determined	Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined	See substance data

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
alkyl alcohol ethoxylate	No data available		
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available		
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	> 250	Method not given	
subtilisin	No data available		
4-formylphenylboronic acid	No data available		

	Method / remark
Flammability (solid, gas): Not applicable to liquids	
Flammability (liquid): Not flammable.	
Flash point (°C): > 70 °C	closed cup
Sustained combustion: The product does not sustain combustion (UN Manual of Tests and Criteria, section 32, L.2)	Weight of evidence
Lower and upper explosion limit/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
Autoignition temperature: Not determined	
Decomposition temperature: Not applicable.	
pH: ≈ 9 (neat)	ISO 4316

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Dilution pH: ≈ 9 (0.06 %)
Kinematic viscosity: Not determined
Solubility in / Miscibility with water: Fully miscible

ISO 4316
 DM-006 Viscosity - Standard

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
alkyl alcohol ethoxylate	No data available		
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available		
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Insoluble		
subtilisin	No data available		
4-formylphenylboronic acid	No data available		

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

Vapour pressure: Not determined

Method / remark
 See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
alkyl alcohol ethoxylate	No data available		
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available		
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	< 10	Method not given	20
subtilisin	Not applicable		
4-formylphenylboronic acid	No data available		

Relative density: ≈ 1.04 (20 °C)
Relative vapour density: No data available.
Particle characteristics: No data available.

Method / remark
 OECD 109 (EU A.3)
 Not relevant to classification of this product
 Not applicable to liquids.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties: Not explosive. Vapours may form explosive mixtures with air.
Oxidising properties: Not oxidising.
Corrosion to metals: Not corrosive

9.2.2 Other safety characteristics

No other relevant information 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 hazard classes as defined in Regulation (EC) No 1272/2008

Mixture data: .

Relevant calculated ATE(s):

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ATE - Oral (mg/kg): >2000

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)	ATE (mg/kg)
alkyl alcohol ethoxylate	LD ₅₀	> 300 - 2000		OECD 401 (EU B.1)		Not established
Alcohols, C10-16, ethoxylated (7-<15 EO)	LD ₅₀	≥ 1000		Read across		1000
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	LD ₅₀	> 2000	Rat	Method not given		Not established
subtilisin	LD ₅₀	1800	Rat	OECD 401 (EU B.1)		1800
4-formylphenylboronic acid	LD ₅₀	> 2000		OECD 401 (EU B.1)		Not established

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE (mg/kg)
alkyl alcohol ethoxylate		No data available				Not established
Alcohols, C10-16, ethoxylated (7-<15 EO)	LD ₅₀	> 2000		Method not given		Not established
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available				Not established
subtilisin		No data available				Not established
4-formylphenylboronic acid		No data available				Not established

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
alkyl alcohol ethoxylate		No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available			
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available			
subtilisin		-		Weight of evidence	
4-formylphenylboronic acid		No data available			

Acute inhalative toxicity, continued

Ingredient(s)	ATE - inhalation, dust (mg/l)	ATE - inhalation, mist (mg/l)	ATE - inhalation, vapour (mg/l)	ATE - inhalation, gas (mg/l)
alkyl alcohol ethoxylate	Not established	Not established	Not established	Not established
Alcohols, C10-16, ethoxylated (7-<15 EO)	Not established	Not established	Not established	Not established
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not established	Not established	Not established	Not established
subtilisin	Not established	Not established	Not established	Not established
4-formylphenylboronic acid	Not established	Not established	Not established	Not established

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
alkyl alcohol ethoxylate	Not irritant		OECD 404 (EU B.4)	
Alcohols, C10-16, ethoxylated (7-<15 EO)	Not irritant	Rabbit	Method not given	
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Irritant	Rabbit	Draize test	
subtilisin	Mild irritant	Rabbit	OECD 404 (EU B.4)	
4-formylphenylboronic acid	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
alkyl alcohol ethoxylate	Severe damage		OECD 405 (EU B.5)	
Alcohols, C10-16, ethoxylated (7-<15 EO)	Severe damage	Rabbit	Method not given	
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not corrosive or irritant	Rabbit	Draize test	
subtilisin	Not corrosive or irritant	Rabbit	OECD 405 (EU B.5)	
4-formylphenylboronic acid	No data available			

Respiratory tract irritation and corrosivity

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Ingredient(s)	Result	Species	Method	Exposure time
alkyl alcohol ethoxylate	No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available			
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available			
subtilisin	Irritating to respiratory tract			
4-formylphenylboronic acid	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
alkyl alcohol ethoxylate	No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)	Not sensitising	Guinea pig	Method not given	
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available			
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
alkyl alcohol ethoxylate	No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available			
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available			
subtilisin	Sensitising		Weight of evidence	
4-formylphenylboronic acid	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)
alkyl alcohol ethoxylate	No evidence for mutagenicity, negative test results		No data available	
Alcohols, C10-16, ethoxylated (7-<15 EO)	No evidence for mutagenicity, negative test results	Method not given	No evidence for mutagenicity, negative test results	Method not given
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	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	
4-formylphenylboronic acid	No evidence for mutagenicity, negative test results		No data available	

Carcinogenicity

Ingredient(s)	Effect
alkyl alcohol ethoxylate	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	No evidence for carcinogenicity, weight-of-evidence
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available
subtilisin	No data available
4-formylphenylboronic acid	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
alkyl alcohol ethoxylate			No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)			No data available		Literature		No evidence for teratogenic effects No evidence for reproductive toxicity
Alcohols, C12-15-branched and linear, ethoxylated propoxylated			No data available				
subtilisin			No data available				
4-formylphenylboronic acid			No data available				

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	Specific effects and organs
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	(mg/kg bw/d)		time (days)	affected
alkyl alcohol ethoxylate	No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available			
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available			
subtilisin	No data available			
4-formylphenylboronic acid	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
alkyl alcohol ethoxylate		No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available				
subtilisin		No data available				
4-formylphenylboronic acid		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
alkyl alcohol ethoxylate		No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available				
subtilisin		No data available				
4-formylphenylboronic acid		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
alkyl alcohol ethoxylate			No data available					
Alcohols, C10-16, ethoxylated (7-<15 EO)			No data available					
Alcohols, C12-15-branched and linear, ethoxylated propoxylated			No data available					
subtilisin			No data available					
4-formylphenylboronic acid			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
alkyl alcohol ethoxylate	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available
subtilisin	Respiratory tract
4-formylphenylboronic acid	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
alkyl alcohol ethoxylate	No data available
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available
subtilisin	No data available
4-formylphenylboronic acid	No data available

Aspiration hazard

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

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Potential adverse health effects and symptoms

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

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

Endocrine disrupting properties - Human data, if available:

11.2.2 Other information

No other relevant information available.

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)
alkyl alcohol ethoxylate	LC ₅₀	1 - 10		ISO 7346	
Alcohols, C10-16, ethoxylated (7-<15 EO)	LC ₅₀	> 1-10	<i>Brachydanio rerio</i>	Method not given	96
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	LC ₅₀	> 1-10	<i>Fish</i>	OECD 203 (EU C.1)	96
subtilisin	LC ₅₀	8.2	<i>Fish</i>	OECD 203 (EU C.1)	96
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
alkyl alcohol ethoxylate	EC ₅₀	1 - 10		OECD 202 (EU C.2)	
Alcohols, C10-16, ethoxylated (7-<15 EO)	EC ₅₀	> 1-10	<i>Daphnia magna Straus</i>	Method not given	48
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	EC ₅₀	≤ 1	<i>Daphnia magna Straus</i>	OECD 202 (EU C.2)	48
subtilisin	EC ₅₀	0.586	<i>Daphnia</i>	OECD 202 (EU C.2)	48
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
alkyl alcohol ethoxylate	EC ₅₀	1 -10		OECD 201 (EU C.3)	
Alcohols, C10-16, ethoxylated (7-<15 EO)	EC ₅₀	> 1-10	<i>Desmodesmus subspicatus</i>	Method not given	72
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	EC ₅₀	≤ 1	<i>Desmodesmus subspicatus</i>	OECD 201 (EU C.3)	RM000517/ RM002677 BASF EU RSDS 2021
subtilisin	E _r C ₅₀	0.830	<i>Not specified</i>	OECD 201 (EU C.3)	72
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
alkyl alcohol ethoxylate		No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available			
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available			
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time

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alkyl alcohol ethoxylate	EC ₀	> 100		DIN 38412 / Part 8	
Alcohols, C10-16, ethoxylated (7-<15 EO)	EC ₅₀	140	Activated sludge	Method not given	
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available			
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
alkyl alcohol ethoxylate		No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available				
subtilisin		No data available				
4-formylphenylboronic acid		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
alkyl alcohol ethoxylate		No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)	EC ₁₀	> 0.1-1	<i>Daphnia sp.</i>	OECD 211		
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	NOEC	> 0.1-1	<i>Daphnia magna</i>	Method not given	21 day(s)	
subtilisin		No data available				
4-formylphenylboronic acid		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
alkyl alcohol ethoxylate		No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)		No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated		No data available				
subtilisin		No data available				
4-formylphenylboronic acid		No data available				

Terrestrial toxicity

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

Terrestrial toxicity - plants, if available:

Terrestrial toxicity - birds, if available:

Terrestrial toxicity - beneficial insects, if available:

Terrestrial toxicity - soil bacteria, if 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:

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Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
alkyl alcohol ethoxylate	Activated sludge, aerobe		95%	OECD 301F Read across	Readily biodegradable
Alcohols, C10-16, ethoxylated (7-<15 EO)	Activated sludge, aerobe	Method not given	> 60 % in 28 day(s)	OECD 301B	Readily biodegradable
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Activated sludge, aerobe	CO ₂ production	> 60% in 28 day(s)	OECD 301B	Readily biodegradable
subtilisin				OECD 301B	Readily biodegradable
4-formylphenylboronic acid				OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

12.3 Bioaccumulative potentialPartition coefficient n-octanol/water (log K_{ow})

Ingredient(s)	Value	Method	Evaluation	Remark
alkyl alcohol ethoxylate	No data available			
Alcohols, C10-16, ethoxylated (7-<15 EO)	3.55	QSAR	No bioaccumulation expected	
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available			
subtilisin	< 0			
4-formylphenylboronic acid	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
alkyl alcohol ethoxylate	No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available				
subtilisin	-			Not relevant, does not bioaccumulate	
4-formylphenylboronic acid	No data available			Not relevant, does not bioaccumulate	

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log K _{oc}	Desorption coefficient Log K _{oc} (des)	Method	Soil/sediment type	Evaluation
alkyl alcohol ethoxylate	No data available				
Alcohols, C10-16, ethoxylated (7-<15 EO)	No data available				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	No data available				
subtilisin	No data available				
4-formylphenylboronic acid	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 Endocrine disrupting properties

Endocrine disrupting properties - Environmental effects, if available:

12.7 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.

Empty packaging

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Recommendation: Dispose of observing national or local regulations.
Suitable cleaning agents: Water, if necessary with cleaning agent.

SECTION 14: Transport information

Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

- 14.1 UN number or ID 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 Maritime transport in bulk according to IMO instruments: 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
- substances identified as having endocrine disrupting properties in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Regulation (EU) 2018/605
- Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
- International Maritime Dangerous Goods (IMDG) Code

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

Ingredients according to EC Detergents Regulation 648/2004

non-ionic surfactants >= 30 %
 enzymes, Benzisothiazolinone

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.

Seveso - Classification: Not classified

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

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This data sheet contains changes from the previous version in section(s):, 9, 14, 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.

Abbreviations and acronyms:

- AISE - The international Association for Soaps, Detergents and Maintenance Products
- ATE - Acute Toxicity Estimate
- DNEL - Derived No Effect Limit

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- EC50 - effective concentration, 50%
- ERC - Environmental release categories
- EUH - CLP Specific hazard statement
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- LCS - Life cycle stage
- LD50 - Lethal Dose, 50% / Median Lethal dose
- NOAEL - No observed adverse effect level
- NOEL - No observed effect level
- OECD - Organisation for Economic Cooperation and Development
- PBT - Persistent, Bioaccumulative and Toxic
- PNEC - Predicted No Effect Concentration
- PROC - Process categories
- REACH number - REACH registration number, without supplier specific part
- vPvB - very Persistent and very Bioaccumulative
- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 - May cause respiratory irritation.
- H400 - Very toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.
- H412 - Harmful to aquatic life with long lasting effects.

End of Safety Data Sheet