

Clax Revoflow Enzi 20X1

Revision: 2012-07-30

Version 08

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

1.1 Product identifier

Trade name: Clax Revoflow Enzi 20X1

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

Identified uses:

For professional and industrial use only

AISE-P101 - Laundry detergent. Automatic process

AISE-P102 - Laundry detergent. Semi-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 Ltd

Contact details

Weston Favell Centre, Northampton NN3 8PD, United Kingdom

Tel: 01604 405311, Fax: 01604 406809

Regulatory Email: MSDSinfoUK@diversey.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 Directive 1999/45/EC and corresponding national legislation.

Indication of danger

Xn - Harmful

Risk phrases:

R22 - Harmful if swallowed.

R41 - Risk of serious damage to eyes.

2.2 Label elements



Xn - Harmful

Contains alkyl alcohol alkoxyate

Risk phrases:

R22 - Harmful if swallowed.

R41 - Risk of serious damage to eyes.

Safety phrases:

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 - Wear eye/face protection.

Further indications on the label:

Contains subtilisin, 4-formylphenylboronic acid. May produce an allergic reaction.

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

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3.2 Mixtures

Ingredient(s)	EC number	CAS number	REACH number	Classification	Classification (EC) 1272/2008	Notes	Weight percent
propane-1,2-diol	200-338-0	57-55-6	01-2119456809-23	-	-		20-30
alkyl alcohol ethoxylate	Polymer*	68213-23-0	No data available	Xn; R22-41	Eye Dam. 1 (H318) Acute Tox. 4 (H302)		10-20
alkyl alcohol ethoxylate	Polymer*	64425-86-1	No data available	Xn,N; R22-41-50	Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Acute Tox. 4 (H302)		10-20
alkyl alcohol alkoxylate	Polymer*	111905-54-5	No data available	Xi,N; R38-50	Aquatic Acute 1 (H400) Skin Irrit. 2 (H315)		10-20
glycerol	200-289-5	56-81-5	No data available	-	-		3-10
subtilisin	232-752-2	9014-01-1	No data available	Xn; R37/38-41-42	Resp. Sens. 1 (H334) Eye Dam. 1 (H318) STOT SE 3 (H335) Skin Irrit. 2 (H315)		0.1-1
4-formylphenylboronic acid	438-670-5	87199-17-5	No data available	Xi; R43	Skin Sens. 1 (H317)		0.1-1

* 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

General Information

Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident. If unconscious place in recovery position and seek medical advice.

Inhalation

Remove from source of exposure. Get medical attention.

Skin contact

Not required under normal use. Rinse with plenty of water. If irritation develops get medical attention.

Eye contact

Wash off immediately with plenty of water. Get medical attention immediately.

Ingestion

Remove material from mouth. Immediately drink 1-2 glasses of water or milk. Get medical attention immediately.

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

Causes irritation.

Skin contact

Unlikely to be irritant in normal use.

Eye contact

Causes severe irritation.

Ingestion

Causes irritation. Harmful.

Sensitisation

May produce an allergic reaction.

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

Wear eye/face protection.

6.2 Environmental precautions

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

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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****Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Do not mix with other products unless advised by Diversey. For advice on general occupational hygiene see subsection 8.2. For environmental exposure controls see subsection 8.2. For incompatible materials see subsection 10.5.

Prevention of fire and explosion

No special precautions required.

7.2 Conditions for safe storage, including any incompatibilities**Requirements for storage rooms / facilities:**

In accordance with local and national regulations.

Combined storage in storage rooms / facilities:

In accordance with local and national regulations. For incompatible materials see subsection 10.5.

Basic storage conditions

Store in original container. Keep container tightly closed. For conditions to avoid see subsection 10.4.

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)
propane-1,2-diol	150 ppm 474 mg/m ³ 10 mg/m ³	450 ppm 1422 mg/m ³ 30 mg/m ³
glycerol	10 mg/m ³	30 mg/m ³
subtilisin	0.00004 mg/m ³	0.00012 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 oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
propane-1,2-diol	No data available	No data available	No data available	85
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxyolate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
4-formylphenylboronic acid	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)
propane-1,2-diol	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxyolate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

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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)
propane-1,2-diol	No data available	No data available	No data available	213
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxylate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
4-formylphenylboronic acid	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
propane-1,2-diol	No data available	No data available	10	168
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxylate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
4-formylphenylboronic acid	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
propane-1,2-diol	No data available	No data available	10	50
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxylate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
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)
propane-1,2-diol	260	26	183	20000
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxylate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
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)
propane-1,2-diol	572	57.2	50	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol ethoxylate	No data available	No data available	No data available	No data available
alkyl alcohol alkoxylate	No data available	No data available	No data available	No data available
glycerol	No data available	No data available	No data available	No data available
subtilisin	No data available	No data available	No data available	No data available
4-formylphenylboronic acid	No data available	No data available	No data available	No data available

8.2 Exposure controls**General health and safety measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and at the end of workday. Avoid contact with eyes.

The following information applies for the uses indicated in subsection 1.2.

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:

The product is intended to be used in closed systems.

Appropriate organisational controls:

Avoid direct contact and/or splashes where possible. Train personnel.

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.

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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

Physical State: Liquid
Colour: Clear Colourless
Odour: Product specific
pH: ≈ 8 (neat)
Boiling point/range (°C): Not determined
Flash point (°C): Not applicable.
Flammability: Not flammable.
Specific gravity: 1.04 g/cm³ (20°C)
Solubility in / Miscibility with Water: Fully miscible
Viscosity: ≈ 130 mPa.s (20°C)
Explosive properties: Not explosive.
Oxidising properties: Not oxidising.

9.2 Other information

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 toxicological effects

Mixtures

No test data is available on the mixture

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)
propane-1,2-diol	LD ₅₀	> 22000	Rat	Method not given	
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxyate		No data available			
glycerol	LD ₅₀	12600	Rat	Method not given	
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
propane-1,2-diol	LD ₅₀	> 2000	Rabbit	Method not given	

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alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol	LD ₅₀	> 10000	Rabbit	Method not given	
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
propane-1,2-diol		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol		No data available			
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
propane-1,2-diol	Not irritant		Method not given	
alkyl alcohol ethoxylate	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	Not irritant		OECD 404 (EU B.4)	
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
propane-1,2-diol	Not corrosive or irritant		Method not given	
alkyl alcohol ethoxylate	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	Not corrosive or irritant		Method not given	
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
propane-1,2-diol	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	No data available			
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
propane-1,2-diol	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	
alkyl alcohol ethoxylate	No data available			

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alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	Not sensitising		Method not given	
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
propane-1,2-diol	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	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 (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
propane-1,2-diol		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol alkoxylate		No data available				
glycerol		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
propane-1,2-diol		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol alkoxylate		No data available				
glycerol		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
propane-1,2-diol		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol alkoxylate		No data available				
glycerol		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
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propane-1,2-diol			No data available				
alkyl alcohol ethoxylate			No data available				
alkyl alcohol ethoxylate			No data available				
alkyl alcohol alkoxylate			No data available				
glycerol			No data available				
subtilisin			No data available				
4-formylphenylboronic acid			No data available				

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mixture data:

Based on available data, the classification criteria are not met.

Substance data, where relevant and available

Carcinogenicity

Ingredient(s)	Effect
propane-1,2-diol	No data available
alkyl alcohol ethoxylate	No data available
alkyl alcohol ethoxylate	No data available
alkyl alcohol alkoxylate	No data available
glycerol	No evidence for carcinogenicity, negative test results
subtilisin	No data available
4-formylphenylboronic acid	No data available

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
propane-1,2-diol	No data available		No data available	
alkyl alcohol ethoxylate	No data available		No data available	
alkyl alcohol ethoxylate	No data available		No data available	
alkyl alcohol alkoxylate	No data available		No data available	
glycerol	No evidence for mutagenicity, negative test results	Method not given	No data available	
subtilisin	No data available		No data available	
4-formylphenylboronic acid	No data available		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
propane-1,2-diol			No data available				
alkyl alcohol ethoxylate			No data available				
alkyl alcohol ethoxylate			No data available				
alkyl alcohol alkoxylate			No data available				
glycerol			No data available				Not toxic for reproduction
subtilisin			No data available				
4-formylphenylboronic acid			No data available				

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**

Mixtures

No test data is available on the mixture.

Substance data, where relevant and available, are listed below

Aquatic short-term toxicity

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Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
propane-1,2-diol	LC ₅₀	40613	Oncorhynchus mykiss	Method not given	96
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol	LC ₅₀	54000	Oncorhynchus mykiss	Method not given	96
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
propane-1,2-diol	EC ₅₀	> 100	Daphnia	Method not given	48
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol	EC ₅₀	> 10000	Daphnia magna Straus	Method not given	48
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
propane-1,2-diol	EC ₅₀	24200	Desmodesmus subspicatus	Method not given	72
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol		No data available			
subtilisin		No data available			
4-formylphenylboronic acid		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
propane-1,2-diol		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			
alkyl alcohol alkoxylate		No data available			
glycerol		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
propane-1,2-diol	EC ₀	> .?	Pseudomonas putida	Method not given	18 hour(s)
alkyl alcohol ethoxylate		No data available			
alkyl alcohol ethoxylate		No data available			

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alkyl alcohol alkoxylate		No data available			
glycerol	EC ₅₀	> 10000	Pseudomonas putida	Method not given	16 hour(s)
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
propane-1,2-diol		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol alkoxylate		No data available				
glycerol		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
propane-1,2-diol		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol ethoxylate		No data available				
alkyl alcohol alkoxylate		No data available				
glycerol		No data available				
subtilisin		No data available				
4-formylphenylboronic acid		No data available				

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

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
propane-1,2-diol			> 70 % in 28 day(s)	OECD 301A	Readily biodegradable
alkyl alcohol ethoxylate					No data available
alkyl alcohol ethoxylate					No data available
alkyl alcohol alkoxylate					No data available

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glycerol				Method not given	Readily biodegradable
subtilisin					No data available
4-formylphenylboronic acid					No data available

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
propane-1,2-diol	-1.07	Method not given	No bioaccumulation expected	
alkyl alcohol ethoxylate	No data available			
alkyl alcohol ethoxylate	No data available			
alkyl alcohol alkoxylate	No data available			
glycerol	-1.76	Method not given	No bioaccumulation expected	
subtilisin	No data available			
4-formylphenylboronic acid	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
propane-1,2-diol	No data available				
alkyl alcohol ethoxylate	No data available				
alkyl alcohol ethoxylate	No data available				
alkyl alcohol alkoxylate	No data available				
glycerol	No data available				
subtilisin	No data available				
4-formylphenylboronic acid	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
propane-1,2-diol	No data available				
alkyl alcohol ethoxylate	No data available				
alkyl alcohol ethoxylate	No data available				
alkyl alcohol alkoxylate	No data available				
glycerol	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 Other adverse effects

No other adverse effects known.

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

Waste from residues / unused products Dispose of in compliance with all Federal, state, provincial, and local laws and regulations.
European Waste Catalogue: 20 01 29* - detergents containing dangerous substances.

Empty packaging**Recommendation:****Suitable cleaning agents**

Dispose of observing national or local regulations.
 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****Ingredients according to EC Detergents Regulation 648/2004**

non-ionic surfactants

>=30%

enzymes, Benisothiazolinone

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

MSDS code: MSDS5918**Version** 08**Revision:** 2012-07-30**Reason for revision:**

Overall design adjusted in accordance with Regulation (EC) No 1907/2006, Annex II

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

- R41 - Risk of serious damage to eyes.
- R22 - Harmful if swallowed.
- R50 - Very toxic to aquatic organisms.
- R38 - Irritating to skin.
- R42 - May cause sensitisation by inhalation.
- R43 - May cause sensitisation by skin contact.
- R37/38 - Irritating to respiratory system and skin.
- 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.

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

End of Safety Data Sheet