

ZENITH 1E CHLORINATED MACHINE DETERGENT

Revision: 2020-12-20

Version: 01.0

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

1.1 Product identifier

Trade name: ZENITH 1E CHLORINATED MACHINE DETERGENT

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

Identified uses:

For professional use only.

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 Ltd, Weston Favell Centre, Northampton NN3 8PD, United Kingdom

Contact details

Zenith Hygiene Group
A1M Business Centre Dixons Hill Road Welham Green
Herts AL9 7JE
www.zhgplc.com
01707 270260
helpdesk@zhgplc.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

EUH031

Skin Corr. 1A (H314)

Eye Dam. 1 (H318)

Aquatic Acute 1 (H400)

Aquatic Chronic 2 (H411)

Met. Corr. 1 (H290)

2.2 Label elements



Signal word: Danger.

Contains potassium hydroxide (Potassium Hydroxide), sodium hypochlorite (Sodium Hypochlorite)

Hazard statements:

EUH031 - Contact with acids liberates toxic gas.

H314 - Causes severe skin burns and eye damage.

H410 - Very toxic to aquatic life with long lasting effects.

H290 - May be corrosive to metals.

Precautionary statements:

P260 - Do not breathe vapours.

P280 - Wear protective gloves, protective clothing and eye or face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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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.

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
potassium hydroxide	215-181-3	1310-58-3	01-2119487136-33	Skin Corr. 1A (H314) Acute Tox. 4 (H302) Met. Corr. 1 (H290)		10-20
sodium hypochlorite	231-668-3	7681-52-9	01-2119488154-34	EUH031 Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Met. Corr. 1 (H290)		1-3
tetrapotassium (1-hydroxyethylidene)bisphosphonate	238-928-5	[1]	[1]	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)		1-3

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.

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

ATE, if available, are listed in section 11.

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

If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

Inhalation:

Get medical attention or advice if you feel unwell.

Skin contact:

Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.

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. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

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:**

May cause bronchospasm in chlorine sensitive individuals.

Skin contact:

Causes severe burns.

Eye contact:

Causes severe or permanent damage.

Ingestion:

Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

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.

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SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Do not breathe dust or vapour. In case of an incident in a confined area wear suitable respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

6.2 Environmental precautions

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

Ensure adequate ventilation. Dyke to collect large liquid spills. Absorb onto dry sand or similar inert material. 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:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe vapours. Use only with adequate ventilation. Do not mix with other products. 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.

Seveso - Lower Tier requirements (tonnes): 100

Seveso - Upper Tier requirements (tonnes): 200

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)
potassium hydroxide		2 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
potassium hydroxide	-	-	-	-
sodium hypochlorite	-	-	-	0.26
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available	No data available	No data available	No data available

DNEL dermal exposure - Worker

Ingredient(s)	Short term - Local	Short term - Systemic	Long term - Local	Long term - Systemic

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	effects	effects (mg/kg bw)	effects	effects (mg/kg bw)
potassium hydroxide	No data available	-	No data available	-
sodium hypochlorite	-	-	0.5 %	-
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available	No data available	No data available	No data available

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)
potassium hydroxide	No data available	-	No data available	-
sodium hypochlorite	-	-	0.5 %	-
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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
potassium hydroxide	-	-	1	-
sodium hypochlorite	3.1	3.1	1.55	1.55
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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
potassium hydroxide	-	-	1	-
sodium hypochlorite	3.1	3.1	1.55	1.55
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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)
potassium hydroxide	-	-	-	-
sodium hypochlorite	0.00021	0.00042	0.00026	0.03
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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)
potassium hydroxide	-	-	-	-
sodium hypochlorite	-	-	-	No data available
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available	No data available	No data available	No data available

8.2 Exposure controls

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

Recommended safety measures for handling the undiluted product:

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

Appropriate engineering controls: 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. Where possible: use in automated/closed system and cover open containers. Transport over pipes. Filling with automatic systems. Use tools for manual handling of product.

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). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

Hand protection:

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection:

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection:

Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or

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aerosols should be avoided.

Environmental exposure controls: Should not reach sewage water or drainage ditch undiluted.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 0.4

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

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

Personal protective equipment

Eye / face protection: 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: Should not reach sewage water or drainage ditch undiluted.

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: Chlorine	
Odour threshold: Not applicable	
pH > 11 (neat)	ISO 4316
Dilution pH: ≈ 11 (0.4 %)	ISO 4316
Melting point/freezing point (°C): 99	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)
potassium hydroxide	Not applicable to solids or gases	Method not given	
sodium hypochlorite	Product decomposes before boiling	Method not given	1013
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available		

	Method / remark
Flammability (liquid): Not flammable.	
Flash point (°C): Not applicable.	
Sustained combustion: The product does not sustain combustion (UN Manual of Tests and Criteria, section 32, L.2)	Weight of evidence
Evaporation rate: Not determined	Not relevant to classification of this product
Flammability (solid, gas): Not applicable to liquids	
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)
sodium hypochlorite	-	-

	Method / remark
Vapour pressure: Not determined	See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
potassium hydroxide	Negligible	Method not given	
sodium hypochlorite	Negligible .?		
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available		

	Method / remark
Vapour density: Not determined	Not relevant to classification of this product
Relative density: ≈ 1.16 (20 °C)	OECD 109 (EU A.3)
Solubility in / Miscibility with Water: Fully miscible	

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Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
potassium hydroxide	No data available		
sodium hypochlorite	Soluble		
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available		

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

Method / remark

Autoignition temperature: 99**Decomposition temperature:** Not applicable.**Viscosity:** Not determined**Explosive properties:** Not explosive.**Oxidising properties:** Not oxidising.**9.2 Other information****Surface tension (N/m):** Not determined

Not relevant to classification of this product

Corrosion to metals: Corrosive

Substance data, dissociation constant, if available:

Ingredient(s)	Value	Method	Temperature (°C)
sodium hypochlorite	7.53 (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 releasing toxic chlorine gas. Keep away from acids.

10.6 Hazardous decomposition products

Chlorine.

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

Mixture data:.

Relevant calculated ATE(s):

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)
potassium hydroxide	LD ₅₀	333	Rat	OECD 425		Not established
sodium hypochlorite	LD ₅₀	1100	Rat	OECD 401 (EU B.1)	90	Not established
tetrapotassium (1-hydroxyethylidene)bisphosphonate	LD ₅₀	No data available	Rat	OECD 401 (EU B.1)		Not established

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE (mg/kg)
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potassium hydroxide		No data available				Not established
sodium hypochlorite	LD ₅₀	> 20000	Rabbit	OECD 402 (EU B.3)		Not established
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available				Not established

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hypochlorite	LC ₅₀	> 10.5 (vapour)	Rat	OECD 403 (EU B.2)	1
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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)
potassium hydroxide	Not established	Not established	Not established	Not established
sodium hypochlorite	Not established	Not established	Not established	Not established
tetrapotassium (1-hydroxyethylidene)bisphosphonate	Not established	Not established	Not established	Not established

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	Corrosive	Rabbit	Draize test	
sodium hypochlorite	Corrosive	Rabbit	OECD 404 (EU B.4)	
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	Corrosive	Rabbit	Method not given	
sodium hypochlorite	Severe damage	Rabbit	OECD 405 (EU B.5)	
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	No data available			
sodium hypochlorite	Irritating to respiratory tract			
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
potassium hydroxide	Not sensitising	Guinea pig	Method not given	
sodium hypochlorite	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	No data available			
sodium hypochlorite	Not sensitising			
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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)
potassium hydroxide	No evidence for mutagenicity, negative test results	Method not given	No data available	
sodium hypochlorite	No evidence for mutagenicity	OECD 471 (EU B.12/13)	No evidence for mutagenicity, negative test results	OECD 474 (EU B.12)
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available		No data available	

Carcinogenicity

Ingredient(s)	Effect
potassium hydroxide	No evidence for carcinogenicity, negative test results

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sodium hypochlorite	No evidence for carcinogenicity, negative test results
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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
potassium hydroxide			No data available				No evidence for reproductive toxicity
sodium hypochlorite	NOAEL	Developmental toxicity Impaired fertility	5 (Cl)	Rat	OECD 414 (EU B.31), oral OECD 415 (EU B.34), oral		No evidence for reproductive toxicity
tetrapotassium (1-hydroxyethylidene)bisphosphonate			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
potassium hydroxide		No data available				
sodium hypochlorite	NOAEL	50	Rat	OECD 408 (EU B.26)	90	
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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
potassium hydroxide		No data available				
sodium hypochlorite		No data available				
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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
potassium hydroxide			No data available					
sodium hypochlorite			No data available					
tetrapotassium (1-hydroxyethylidene)bisphosphonate			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
potassium hydroxide	No data available
sodium hypochlorite	Not applicable
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
potassium hydroxide	No data available
sodium hypochlorite	Not applicable
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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.

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)
potassium hydroxide	LC ₅₀	80	<i>Various species</i>	Weight of evidence	24
sodium hypochlorite	LC ₅₀	0.06	<i>Oncorhynchus mykiss</i>	Method not given	96
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide	EC ₅₀	30 - 1000	<i>Daphnia magna Straus</i>	Weight of evidence	-
sodium hypochlorite	EC ₅₀	0.035	<i>Ceriodaphnia dubia</i>	OECD 202 (EU C.2)	48
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hypochlorite	NOEC	0.0021	<i>Not specified</i>	Method not given	168
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
potassium hydroxide		No data available			-
sodium hypochlorite	EC ₅₀	0.026	<i>Crassostrea virginica</i>	Method not given	2
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
potassium hydroxide	EC ₅₀	22	<i>Photobacterium phosphoreum</i>	Method not given	15 minute(s)
sodium hypochlorite		0.375	<i>Activated sludge</i>	Method not given	
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
potassium hydroxide		No data available				
sodium hypochlorite	NOEC	0.04	<i>Menidia pelinsulae</i>	Method not given	96 hour(s)	
tetrapotassium (1-hydroxyethylidene)bisphosphonate		No data available				

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Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
potassium hydroxide		No data available				
sodium hypochlorite	NOEC	0.007	<i>Crassostrea virginica</i>	Method not given	15 day(s)	
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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
potassium hydroxide		No data available			-	
sodium hypochlorite		No data available			-	
tetrapotassium (1-hydroxyethylidene)bisphosphonate		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
potassium hydroxide		No data available			-	
sodium hypochlorite		No data available			-	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
potassium hydroxide		No data available			-	
sodium hypochlorite		No data available			-	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
potassium hydroxide		No data available			-	
sodium hypochlorite		No data available			-	

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
potassium hydroxide		No data available			-	
sodium hypochlorite		No data available			-	

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
potassium hydroxide		No data available			-	
sodium hypochlorite		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 hypochlorite	115 day(s)	Indirect photo-oxidation		

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
potassium hydroxide					Not applicable (inorganic substance)
sodium hypochlorite					Not applicable (inorganic substance)
tetrapotassium (1-hydroxyethylidene)bisphosphonate					No data available

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
potassium hydroxide	No data available		Not relevant, does not bioaccumulate	
sodium hypochlorite	-3.42	Method not given	No bioaccumulation expected	
tetrapotassium (1-hydroxyethylidene)bisphosphonate	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
potassium hydroxide	No data available				
sodium hypochlorite	No data available				
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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
potassium hydroxide	No data available				Low potential for adsorption to soil
sodium hypochlorite	1.12				High potential for mobility in soil
tetrapotassium (1-hydroxyethylidene)bisphosphonate	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 15* - alkalines.

Empty packaging**Recommendation:**

Dispose of observing national or local regulations.

Suitable cleaning agents:

Water, if necessary with cleaning agent.

SECTION 14: Transport information

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**Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)****14.1 UN number:** 1719**14.2 UN proper shipping name:**

Caustic alkali liquid, n.o.s. (potassium hydroxide , sodium hypochlorite)

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 8

14.4 Packing group: II**14.5 Environmental hazards:**

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6 Special precautions for user: None known.**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:** The product is not transported in bulk tankers.**Other relevant information:****ADR**

Classification code: C5

Tunnel restriction code: E

Hazard identification number: 80

IMO/IMDG

EmS: F-A, S-B

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

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: KXRD-81K8-F00H-HVFF

Ingredients according to EC Detergents Regulation 648/2004

chlorine-based bleaching agents, phosphonates

< 5 %

Seveso - Classification: E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1**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: MS1004853**Version:** 01.0**Revision:** 2020-12-20**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

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for toxicological information and section 12 for ecological information.

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

- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H319 - Causes serious eye irritation.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.
- EUH031 - Contact with acids liberates toxic gas.

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