

## ZENITH 4T DETECTABLE BEER LINE CLEANER

Revision: 2020-12-21

Version: 01.0

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

#### 1.1 Product identifier

**Trade name:** ZENITH 4T DETECTABLE BEER LINE CLEANER

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

**Identified uses:**

For professional use only.

Non-industrial Cleaning In Place (CIP) 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 hydroxide (Sodium 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)		3-10
sodium hydroxide	215-185-5	1310-73-2	01-2119457892-27	Skin Corr. 1A (H314) Met. Corr. 1 (H290)		3-10
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

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

**SECTION 6: Accidental release measures**

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**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 <sup>3</sup>
sodium hydroxide		2 mg/m <sup>3</sup>

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 hydroxide	-	-	-	-
sodium hypochlorite	-	-	-	0.26

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)
potassium hydroxide	No data available	-	No data available	-

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sodium hydroxide	2 %	-	-	-
sodium hypochlorite	-	-	0.5 %	-

## 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 hydroxide	2 %	-	-	-
sodium hypochlorite	-	-	0.5 %	-

DNEL inhalatory exposure - Worker (mg/m<sup>3</sup>)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
potassium hydroxide	-	-	1	-
sodium hydroxide	No data available	-	1	-
sodium hypochlorite	3.1	3.1	1.55	1.55

DNEL inhalatory exposure - Consumer (mg/m<sup>3</sup>)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
potassium hydroxide	-	-	1	-
sodium hydroxide	-	-	1	-
sodium hypochlorite	3.1	3.1	1.55	1.55

## 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 hydroxide	-	-	-	-
sodium hypochlorite	0.00021	0.000042	0.00026	0.03

## Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m <sup>3</sup> )
potassium hydroxide	-	-	-	-
sodium hydroxide	-	-	-	-
sodium hypochlorite	-	-	-	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:**

If exposure to liquid particles or splashes cannot be avoided use: half mask (EN 140) with particle filter P2 (EN 143) or full-face mask (EN 136) with particle filter P1 (EN 143) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type

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providing similar protection may be chosen. Specific applications tools may be available to limit exposure. Please refer to the product information sheet for the possibilities.

**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):** 2.5

**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
<b>Physical State:</b> Liquid	
<b>Colour:</b> Translucent , Purple	
<b>Odour:</b> Chlorine	
<b>Odour threshold:</b> Not applicable	
<b>pH</b> > 11 (neat)	ISO 4316
<b>Dilution pH:</b> > 11 (2.5 %)	ISO 4316
<b>Melting point/freezing point (°C):</b> Not determined	Not relevant to classification of this product
<b>Initial boiling point and boiling range (°C):</b> 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 hydroxide	> 990	Method not given	
sodium hypochlorite	Product decomposes before boiling	Method not given	1013

	Method / remark
<b>Flammability (liquid):</b> Not flammable.	
<b>Flash point (°C):</b> Not applicable.	
<b>Sustained combustion:</b> Not applicable. ( UN Manual of Tests and Criteria, section 32, L.2 )	

<b>Evaporation rate:</b> Not determined	
<b>Flammability (solid, gas):</b> Not applicable to liquids	
<b>Lower and upper explosion limit/flammability limit (%)</b> 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
<b>Vapour pressure:</b> Not determined	See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
potassium hydroxide	Negligible	Method not given	
sodium hydroxide	< 1330	Method not given	20
sodium hypochlorite	Negligible .?		

	Method / remark
<b>Vapour density:</b> Not determined	Not relevant to classification of this product
<b>Relative density:</b> ≈ 1.10 (20 °C)	OECD 109 (EU A.3)

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**Solubility in / Miscibility with Water:** Fully miscible

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
potassium hydroxide	No data available		
sodium hydroxide	1000	Method not given	20
sodium hypochlorite	Soluble		

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

**Method / remark**

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

**9.2 Other information**

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

Not relevant to classification of this product  
 Weight of evidence

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 <sub>50</sub>	333	Rat	OECD 425		10000
sodium hydroxide		No data available				Not established
sodium hypochlorite	LD <sub>50</sub>	1100	Rat	OECD 401 (EU B.1)	90	Not established

Acute dermal toxicity

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	ATE
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		(mg/kg)			time (h)	(mg/kg)
potassium hydroxide		No data available				Not established
sodium hydroxide	LD <sub>50</sub>	1350	Rabbit	Method not given		Not established
sodium hypochlorite	LD <sub>50</sub>	> 20000	Rabbit	OECD 402 (EU B.3)		Not established

## Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hydroxide		No data available			
sodium hypochlorite	LC <sub>50</sub>	> 10.5 (vapour)	Rat	OECD 403 (EU B.2)	1

## 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 hydroxide	Not established	Not established	Not established	Not established
sodium hypochlorite	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 hydroxide	Corrosive	Rabbit	Method not given	
sodium hypochlorite	Corrosive	Rabbit	OECD 404 (EU B.4)	

## Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	Corrosive	Rabbit	Method not given	
sodium hydroxide	Corrosive	Rabbit	Method not given	
sodium hypochlorite	Severe damage	Rabbit	OECD 405 (EU B.5)	

## Respiratory tract irritation and corrosivity

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

## Sensitisation

## Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
potassium hydroxide	Not sensitising	Guinea pig	Method not given	
sodium hydroxide	Not sensitising		Human repeated patch test	
sodium hypochlorite	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	

## Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
potassium hydroxide	No data available			
sodium hydroxide	No data available			
sodium hypochlorite	Not sensitising			

## 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 hydroxide	No evidence for mutagenicity, negative test results	DNA repair test on rat hepatocytes OECD 473	No evidence for mutagenicity, negative test results	OECD 474 (EU B.12) OECD 475 (EU B.11)
sodium hypochlorite	No evidence for mutagenicity	OECD 471 (EU B.12/13)	No evidence for mutagenicity, negative test results	OECD 474 (EU B.12)

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## Carcinogenicity

Ingredient(s)	Effect
potassium hydroxide	No evidence for carcinogenicity, negative test results
sodium hydroxide	No evidence for carcinogenicity, weight-of-evidence
sodium hypochlorite	No evidence for carcinogenicity, negative test results

## Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
potassium hydroxide			No data available				No evidence for reproductive toxicity
sodium hydroxide			No data available				No evidence for developmental toxicity 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

## 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 hydroxide		No data available				
sodium hypochlorite	NOAEL	50	Rat	OECD 408 (EU B.26)	90	

## 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 hydroxide		No data available				
sodium hypochlorite		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 hydroxide		No data available				
sodium hypochlorite		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 hydroxide			No data available					
sodium hypochlorite			No data available					

## STOT-single exposure

Ingredient(s)	Affected organ(s)
potassium hydroxide	No data available
sodium hydroxide	No data available
sodium hypochlorite	Not applicable

## STOT-repeated exposure

Ingredient(s)	Affected organ(s)
potassium hydroxide	No data available
sodium hydroxide	No data available
sodium hypochlorite	Not applicable

## Aspiration hazard



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

### Potential adverse health effects and symptoms

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

## SECTION 12: Ecological information

### 12.1 Toxicity

No data is available on the mixture.

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

#### Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide	LC <sub>50</sub>	80	<i>Various species</i>	Weight of evidence	24
sodium hydroxide	LC <sub>50</sub>	35	<i>Various species</i>	Method not given	96
sodium hypochlorite	LC <sub>50</sub>	0.06	<i>Oncorhynchus mykiss</i>	Method not given	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide	EC <sub>50</sub>	30 - 1000	<i>Daphnia magna Straus</i>	Weight of evidence	-
sodium hydroxide	EC <sub>50</sub>	40.4	<i>Ceriodaphnia sp.</i>	Method not given	48
sodium hypochlorite	EC <sub>50</sub>	0.035	<i>Ceriodaphnia dubia</i>	OECD 202 (EU C.2)	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
potassium hydroxide		No data available			
sodium hydroxide	EC <sub>50</sub>	22	<i>Photobacterium phosphoreum</i>	Method not given	0.25
sodium hypochlorite	NOEC	0.0021	<i>Not specified</i>	Method not given	168

Aquatic short-term toxicity - marine species

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

Impact on sewage plants - toxicity to bacteria

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

#### 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 hydroxide		No data available				
sodium hypochlorite	NOEC	0.04	<i>Menidia pelinsulae</i>	Method not given	96 hour(s)	

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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 hydroxide		No data available				
sodium hypochlorite	NOEC	0.007	<i>Crassostrea virginica</i>	Method not given	15 day(s)	

## 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 hydroxide		No data available			-	
sodium hypochlorite		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 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 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 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 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 hydroxide		No data available			-	
sodium hypochlorite		No data available			-	

## ZENITH 4T DETECTABLE BEER LINE CLEANER

**12.2 Persistence and degradability****Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
sodium hydroxide	13 second(s)	Method not given	Rapidly photodegradable	
sodium hypochlorite	115 day(s)	Indirect photo-oxidation		

Abiotic degradation - hydrolysis, if available:

Abiotic degradation - other processes, if available:

**Biodegradation**

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT <sub>50</sub>	Method	Evaluation
potassium hydroxide					Not applicable (inorganic substance)
sodium hydroxide					Not applicable (inorganic substance)
sodium hypochlorite					Not applicable (inorganic substance)

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 K<sub>ow</sub>)

Ingredient(s)	Value	Method	Evaluation	Remark
potassium hydroxide	No data available		Not relevant, does not bioaccumulate	
sodium hydroxide	No data available		Not relevant, does not bioaccumulate	
sodium hypochlorite	-3.42	Method not given	No bioaccumulation expected	

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
potassium hydroxide	No data available				
sodium hydroxide	No data available				
sodium hypochlorite	No data available				

**12.4 Mobility in soil**

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log K <sub>oc</sub>	Desorption coefficient Log K <sub>oc</sub> (des)	Method	Soil/sediment type	Evaluation
potassium hydroxide	No data available				Low potential for adsorption to soil
sodium hydroxide	No data available				Mobile in soil
sodium hypochlorite	1.12				High potential for mobility in soil

**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:****European Waste Catalogue:****Empty packaging****Recommendation:****Suitable cleaning agents:**

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.

20 01 15\* - alkalines.

Dispose of observing national or local regulations.

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:** 1719**14.2 UN proper shipping name:**

Caustic alkali liquid, n.o.s. ( sodium 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: D8XD-N1CV-F007-H1KF

**Ingredients according to EC Detergents Regulation 648/2004**

phosphates, chlorine-based bleaching agents

&lt; 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:** MS1004870**Version:** 01.0**Revision:** 2020-12-21

**ZENITH 4T DETECTABLE BEER LINE CLEANER****Classification procedure**

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

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

- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.
- 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**