

**Safety Data Sheet
ZETA 5 POWER ACT****Revision nr. 4
Dated 28/02/2023****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Mixture identification:
Product Name: ZETA 5 POWER ACT
Code: C810038, C810040

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

For professional use only. Disinfectant for aspiration circuits.

1.3. Details of the supplier of the safety data sheet

Name
Zhermack S.p.a
Via Bovazecchino 100
45021 Badia Polesine (RO)
Italy
tel. +39 0425-597611
fax +39 0425-597689

Competent person responsible for the safety data sheet:
msds@zhermack.com

1.4. Emergency telephone number

UK Emergency number: 999 (24 hours)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

EC regulation criteria 1272/2008 (CLP)

Met. Corr. 1, H290 May be corrosive to metals.
Skin Corr. 1B, H314 Causes severe skin burns and eye damage.
Eye Dam. 1, H318 Causes serious eye damage.
Aquatic Acute 1, H400 Very toxic to aquatic life.
Aquatic Chronic 1, H410 Very toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P273 Avoid release to the environment.
P280 Wear protective gloves and eye/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water.
P310 Immediately call a POISON CENTER.

Safety Data Sheet

ZETA 5 POWER ACT

Special Provisions:

None

Contains

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate
potassium hydroxide; caustic potash

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

Classification of the mixture, with an extreme pH value, is based on the results of an in vitro test carried out on a similar mixture in accordance with OECD guidelines (OECD Guidelines for the Testing of Chemicals, Part 435, adopted 28. Jul. 2015 "In vitro membrane Barrier Test Method for Skin Corrosion") and GLP certified - Good Laboratory Practices. For more information refer to section 11.

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
$\geq 3\%$ - $< 5\%$	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	CAS: 2372-82-9 EC: 219-145-8 REACH No.: 01-21199805 92-29-XXXX	Eye Dam. 1 H318 Causes serious eye damage. STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure. Aquatic Acute 1 H400 Very toxic to aquatic life. M=10. Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects. M=1. Acute Tox. 3 H301 Toxic if swallowed. Skin Corr. 1A H314 Causes severe skin burns and eye damage. Acute Toxicity Estimate: ATE - Oral 243,6 mg/kg bw
$\geq 3\%$ - $< 5\%$	N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate	CAS: 94667-33-1 REACH No.: 01-21199503 27-36-XXXX	Aquatic Acute 1 H400 Very toxic to aquatic life. M=10. Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects. M=10. Acute Tox. 4 H302 Harmful if swallowed. Skin Corr. 1B H314 Causes

Safety Data Sheet

ZETA 5 POWER ACT

			severe skin burns and eye damage. Acute Toxicity Estimate: ATE - Oral 1157 mg/kg bw
>= 0,5% - < 2,5%	potassium hydroxide; caustic potash	Index number: 019-002-00-8 CAS: 1310-58-3 EC: 215-181-3 REACH No.: 01-21194871 36-33-XXXX	Met. Corr. 1 H290 May be corrosive to metals. Acute Tox. 4 H302 Harmful if swallowed. Skin Corr. 1A H314 Causes severe skin burns and eye damage. Specific Concentration Limits: 2% <= C < 5%: Skin Corr. 1B H314 2% <= C < 5%: Skin Corr. 1C H314 0,5% <= C < 2%: Skin Irrit. 2 H315 C >= 2%: Eye Dam. 1 H318 0,5% <= C < 2%: Eye Irrit. 2 H319 Acute Toxicity Estimate: ATE - Oral 333 mg/kg bw
>= 0,5% - < 2,5%	Alcohols, C12-14, ethoxylated propoxylated	CAS: 68439-51-0	Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
>= 0,5% - < 2,5%	ethanediol; ethylene glycol	Index number: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3 REACH No.: 01-21194568 16-28-XXXX	STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure. Acute Tox. 4 H302 Harmful if swallowed. Acute Toxicity Estimate: ATE - Oral 2000 mg/kg bw
>= 0,3% - < 0,5%	N-dodecylpropane-1,3-diamine	CAS: 5538-95-4 EC: 226-902-6	Aquatic Acute 1 H400 Very toxic to aquatic life. M=1. Acute Tox. 4 H302 Harmful if swallowed. Skin Corr. 1A H314 Causes severe skin burns and eye damage. Acute Toxicity Estimate: ATE - Oral 500 mg/kg bw
<0,1%	Dodecylamine	CAS: 124-22-1 EC: 204-690-6	Asp. Tox. 1 H304 May be fatal if swallowed and enters airways. STOT SE 3 H335 May cause respiratory irritation. STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure. Aquatic Acute 1 H400 Very toxic to aquatic life. M=10. Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects. M=10. Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Safety Data Sheet

ZETA 5 POWER ACT

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.
- Remove contaminated clothing immediately and dispose off safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do NOT induce vomiting.

In case of Inhalation:

- Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed

None

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Safety Data Sheet

ZETA 5 POWER ACT

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

See section 10.5.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ZETA 5 POWER ACT

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
MAK	0.05 mg/m ³		8h	0.4 mg/m ³		15min	Inhalable	SWITZERLAND
MAK	0.05 mg/m ³		8h	0.4 mg/m ³		15min	Inhalable	GERMANY

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate - CAS: 94667-33-1

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

potassium hydroxide; caustic potash - CAS: 1310-58-3

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
VLA	1 mg/m ³		8h	4 mg/m ³		15min	Respirable	SPAIN
VME/VLE	2 mg/m ³		8h				Inhalable	SWITZERLAND
AK	2 mg/m ³		8h	2 mg/m ³		15min		HUNGARY
GVI/KGVI				2 mg/m ³		15min		CROATIA
HTP				2 mg/m ³		15min		FINLAND

Safety Data Sheet

ZETA 5 POWER ACT

MAK	2 mg/m ³		8h				Inhalable	AUSTRIA
NDS/NDSch	0.5 mg/m ³		8h	1 mg/m ³		15min		POLAND
NGV/KGV	1 mg/m ³		8h	2 mg/m ³		15min	Inhalable	SWEDEN
OELV				2 mg/m ³		15min		IRELAND
TLV	2 mg/m ³		8h					ESTONIA
TLV	2 mg/m ³		8h					NORWAY
TLV	1 mg/m ³		8h	2 mg/m ³		15min		CZECH REPUBLIC
TLV				2 mg/m ³		15min		DENMARK
TLV	2 mg/m ³		8h					BULGARIA
TLV	2 mg/m ³		8h	2 mg/m ³		15min		GREECE
TLV-ACGIH				Ceiling 2 mg/m ³		15min	URT, eye & skin irr	
VLEP				2 mg/m ³		15min		FRANCE
VLEP				2 mg/m ³		15min		BELGIUM
WEL				2 mg/m ³		15min		UNITED KINGDOM
MAK	2 mg/m ³		8h				Inhalable	SWITZERLAND
ACGIH				Ceiling 2 mg/m ³			URT, eye, and skin irr	

Alcohols, C12-14, ethoxylated propoxylated - CAS: 68439-51-0

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

ethanediol; ethylene glycol - CAS: 107-21-1

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
AGW	26 mg/m ³	10 ppm	8h	52 mg/m ³	20 ppm	15min	Inhalable fraction and vapour	GERMANY
MAK	26 mg/m ³	10 ppm	8h	52 mg/m ³	20 ppm	15min	Inhalable fraction and vapour	GERMANY
VME/VLE	26	10 ppm	8h	52	20 ppm	15min		SWITZERLAND

Safety Data Sheet

ZETA 5 POWER ACT

	mg/m3			mg/m3				ND
HTP	50 mg/m3	20 ppm	8h	100 mg/m3	40 ppm	15min		FINLAND
MAK	26 mg/m3	10 ppm	8h	52 mg/m3	20 ppm	15min		AUSTRIA
NDS/NDSch	15 mg/m3		8h	50 mg/m3		15min		POLAND
NGV/KGV	25 mg/m3	10 ppm	8h	104 mg/m3	40 ppm	15min		SWEDEN
OELV	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min		IRELAND
TGG	52 mg/m3		8h	104 mg/m3		15min		NETHERLANDS
TLV	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min		ROMANIA
TLV	26 mg/m3	10 ppm	8h	52 mg/m3	20 ppm	15min		DENMARK
VLEP	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min	Skin	FRANCE
VLEP	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min	Skin	ITALY
VLEP	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min		BELGIUM
WEL	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm	15min		UNITED KINGDOM
EU	52 mg/m3	20 ppm	8h	104 mg/m3	40 ppm		Skin	
TLV-ACGIH		25 ppm	8h		50 ppm	15min	(V), A4 - URT irr	
TLV-ACGIH				10 mg/m3		15min	(I, H), A4 - URT irr	
ACGIH		25 ppm	8h		50 ppm		(V), A4 - URT irr	
ACGIH				10 mg/m3			(I, H), A4 - URT irr	

N-dodecylpropane-1,3-diamine - CAS: 5538-95-4

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

Dodecylamine - CAS: 124-22-1

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

DNEL Exposure Limit Values

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

Consumer: 0.2 mg/kg/d - Exposure: Human Oral - Frequency: Short Term, systemic effects

Consumer: 0.7 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Safety Data Sheet
ZETA 5 POWER ACT

Worker Professional: 2.35 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 0.54 mg/cm² - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Worker Professional: 0.92 mg/kg/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate - CAS: 94667-33-1

Worker Professional: 0.5 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 0.7 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 0.12 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 0.35 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 0.35 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

potassium hydroxide; caustic potash - CAS: 1310-58-3

Worker Professional: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects

ethanediol; ethylene glycol - CAS: 107-21-1

Worker Professional: 35 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

Consumer: 7 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 106 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 53 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

Target: Fresh Water - Value: 0.001 mg/l

Target: Marine water - Value: 0 mg/l

Target: Freshwater sediments - Value: 8.5 mg/kg

Target: Marine water sediments - Value: 0.85 mg/kg

Target: intermittent release - Value: 0 mg/l

Target: Microorganisms in sewage treatments - Value: 1.33 mg/l

Target: Soil (agricultural) - Value: 45.34 mg/kg

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate - CAS: 94667-33-1

Target: Fresh Water - Value: 0.001 mg/l

Target: Microorganisms in sewage treatments - Value: 0.118 mg/l

Target: Freshwater sediments - Value: 5.3 mg/kg

Target: Soil (agricultural) - Value: 2.83 mg/kg

ethanediol; ethylene glycol - CAS: 107-21-1

Target: Fresh Water - Value: 10 mg/l

Target: Marine water - Value: 1 mg/l

Target: intermittent release - Value: 10 mg/l

Target: Microorganisms in sewage treatments - Value: 199.5 mg/l

Target: Marine water sediments - Value: 3.7 mg/kg

Target: Freshwater sediments - Value: 37 mg/kg

8.2. Exposure controls

Precautionary measures:

Give adequate ventilation to the premises where the product is stored and/or handled.

Eye protection:

Safety Data Sheet

ZETA 5 POWER ACT

Wear airtight protective goggles (EN 166).

Protection for skin:

Wear professional overalls and safety footwear (EN 14605).

Protection for hands:

Classes: A/ K/ G. Recommended materials: PVC or fluorine rubber (EN 374).

The following should be considered when choosing work glove material (EN 374): compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

Respiratory protection:

Mask with filter "A" , brown colour

Mask with filter "P" , white colour

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered (e.g. TLV-TWA).

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Physical state:	Liquid	--	--
Colour:	Yellow	--	--
Odour:	Characteristic	--	--
Melting point/freezing point:	Not available	--	--
Boiling point or initial boiling point and boiling range:	Not available	--	--
Flammability:	Not available	--	--
Lower and upper explosion limit:	Not available	--	--
Flash point:	> 130 ° C	EN ISO 3679	--
Auto-ignition temperature:	Not available	--	--
Decomposition temperature:	Not available	--	--
pH:	Not available	--	--
Kinematic viscosity:	Not available	--	--
Solubility in water:	Soluble	--	--
Solubility in oil:	Not available	--	--
Partition coefficient n-octanol/water (log value):	Not Relevant	--	--
Vapour pressure:	Not available	--	--
Density and/or relative density:	1.057 g/cm ³	--	--
Relative vapour density:	Not available	--	--

Particle characteristics:

Safety Data Sheet

ZETA 5 POWER ACT

Particle size:	Not available	--	--
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9.2. Other information

Properties	Value	Method:	Notes
Viscosity:	8 cP	Brookfield (ULA; 23°C)	--

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

Heat, direct sunlight.

10.5. Incompatible materials

Strong acids and alkalis, peroxides, metal powders, strong oxidants and free radical initiators.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

ZETA 5 POWER ACT

a) acute toxicity

Not classified

b) skin corrosion/irritation

The product is classified: Skin Corr. 1B H314

Test: In vitro - Notes: Cat. 1B - Skin Corrosive - Source: (OECD 435, "Bridge principle", study report 2016).

c) serious eye damage/irritation

The product is classified: Eye Dam. 1 H318

Test: In vitro - Eye Corrosive - Source: (OECD 435, "Bridge principle", study report 2016).

d) respiratory or skin sensitisation

Not classified

e) germ cell mutagenicity

Not classified

f) carcinogenicity

Not classified

g) reproductive toxicity

Not classified

h) STOT-single exposure

Not classified

**Safety Data Sheet
ZETA 5 POWER ACT**

- i) STOT-repeated exposure
Not classified
- j) aspiration hazard
Not classified

Toxicological information of the main substances found in the product:

N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

a) acute toxicity

ATE - Oral 500 mg/kg bw (table 3.1.2-LP)

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

a) acute toxicity

ATE - Oral 243,6 mg/kg bw

Test: LD50 - Route: Skin - Species: Rat > 600 mg/kg - Source: (OECD TG 402, MSDS supplier).

Test: LD50 - Route: Oral - Species: Rat 243.6 mg/kg - Source: (OECD TG 401, MSDS supplier).

b) skin corrosion/irritation:

Species: Rabbit - Skin Corrosive - Source: (OECD 404, MSDS supplier).

c) serious eye damage/irritation:

Species: Rabbit - Eye Corrosive - Source: (OECD 405, MSDS supplier).

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Species: Guinea pig - Negative - Source: (OECD 406, Buehler Test, MSDS supplier).

e) germ cell mutagenicity:

Test: In vitro - Negative - Source: (OECD 471, 476, 473; MSDS supplier).

f) carcinogenicity:

Species: Rat - Negative - Source: (OECD 453, MSDS supplier).

g) reproductive toxicity:

Species: Rat - Negative - Source: (MSDS supplier).

i) STOT-repeated exposure:

Test: NOAEL - Route: Oral - Species: Rat 9 mg/kg - Source: (OECD TG 408, MSDS supplier).

Test: NOAEL - Route: Skin - Species: Rat 15 mg/kg - Source: (US-EPA, MSDS supplier).

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate - CAS: 94667-33-1

a) acute toxicity

ATE - Oral 1157 mg/kg bw

Test: LD50 - Route: Oral - Species: Rat 1157 mg/kg - Source: (OECD 401, ECHA dossier).

b) skin corrosion/irritation:

Species: Rabbit - Skin Corrosive - Source: (OECD 404, ECHA dossier).

c) serious eye damage/irritation:

Species: Rabbit - Eye Corrosive - Source: (OECD 405, ECHA dossier).

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Species: Guinea pig - Based on available data, the classification criteria are not met - Source: (OECD 406, ECHA dossier).

e) germ cell mutagenicity:

Test: In vitro - Species: Rat - Negative - Source: (OECD 471, 472, 476, 473; ECHA dossier).

Test: In vivo - Negative - Source: (OECD 475, ECHA dossier).

i) STOT-repeated exposure:

Test: NOAEL - Species: Rat 127 mg/kg - Source: (OECD 408, ECHA dossier).

potassium hydroxide; caustic potash - CAS: 1310-58-3

a) acute toxicity

ATE - Oral 333 mg/kg bw

**Safety Data Sheet
ZETA 5 POWER ACT**

- Test: LD50 - Route: Oral - Species: Rat 333 mg/kg - Source: (MSDS supplier).
- b) skin corrosion/irritation:
Skin Corrosive - Source: (MSDS supplier).
- c) serious eye damage/irritation:
Eye Corrosive - Source: (MSDS supplier).
- Alcohols, C12-14, ethoxylated propoxylated - CAS: 68439-51-0
- a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rat > 5000 mg/kg - Source: (MSDS supplier).
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Source: (OECD 401, MSDS supplier).
- b) skin corrosion/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (OECD 404, MSDS supplier).
- c) serious eye damage/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (Draize test, MSDS supplier).
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Guinea pig - Based on available data, the classification criteria are not met - Source: (OECD 406, Guinea pig maximization test, MSDS supplier).
- e) germ cell mutagenicity:
Test: In vitro - Negative - Source: (OECD 471, Ames test, MSDS supplier).
- f) carcinogenicity:
No data available for the product
- g) reproductive toxicity:
No data available for the product
- i) STOT-repeated exposure:
Route: Oral - Negative - Source: (MSDS supplier).
- ethanediol; ethylene glycol - CAS: 107-21-1
- a) acute toxicity
ATE - Oral 2000 mg/kg bw
Test: LD50 - Route: Skin - Species: Mouse > 3500 mg/kg - Source: (ECHA Dossier).
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Source: (ECHA Dossier).
- Dodecylamine - CAS: 124-22-1
- a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rat 2000 mg/kg - Source: (ECHA dossier).
Test: LD50 - Route: Oral - Species: Rat 2000 mg/kg - Source: (ECHA dossier).

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration \geq 0.1%

SECTION 12: Ecological information**12.1. Toxicity**

Adopt good working practices, so that the product is not released into the environment.

ZETA 5 POWER ACT

The product is classified: Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 0.073 mg/l - Duration h: 48h (US_EPA, Daphnia magna, MSDS supplier).

Endpoint: IC50 - Species: Algae 0.054 mg/l - Duration h: 72h (US-EPA, Pseudokirchneriella subcapitata, MSDS supplier).

Endpoint: LC50 - Species: Fish 0.68 mg/l - Duration h: 96h (OECD TG 203, Oncorhynchus mykiss, MSDS supplier).

**Safety Data Sheet
ZETA 5 POWER ACT**

Endpoint: NOEC - Species: Daphnia 0.024 mg/l (OECD TG 211, Daphnia magna, MSDS supplier).

Endpoint: NOEC - Species: Algae 0.0069 mg/l (OECD 201, Desmodesmus subspicatus, SDS supplier).

Endpoint: EC10 - Species: Algae 0.012 mg/l - Duration h: 72h (OECD 201, Desmodesmus subspicatus, SDS supplier).

N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate - CAS: 94667-33-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.52 mg/l - Duration h: 96h (Lepomis macrochirus, ECHA dossier).

Endpoint: EC50 - Species: Daphnia 0.039 mg/l - Duration h: 48h (OECD 202, Daphnia magna, ECHA dossier).

Endpoint: NOEC - Species: Fish 0.19 mg/l (Lepomis macrochirus, ECHA dossier).

Endpoint: NOEC - Species: Daphnia 0.0392 mg/l (OECD 202, Daphnia magna, ECHA dossier).

Endpoint: IC50 - Species: Algae 0.34 mg/l - Duration h: 72h (OECD 201, Scenedesmus subspicatus, ECHA dossier).

Endpoint: NOEC - Species: Algae 0.044 mg/l (OECD 201, Scenedesmus subspicatus, ECHA dossier).

potassium hydroxide; caustic potash - CAS: 1310-58-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 80 mg/l - Duration h: 96h (MSDS supplier).

Alcohols, C12-14, ethoxylated propoxylated - CAS: 68439-51-0

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia < 10 mg/l - Duration h: 24h (OECD 202 Part 1, Daphnia magna, SDS supplier).

Endpoint: EC50 - Species: Algae < 10 mg/l - Duration h: 72h (OECD 201, Desmodesmus subspicatus, SDS supplier).

Endpoint: LC50 - Species: Fish < 10 mg/l - Duration h: 48h (DIN 38412 Part 15, Leuciscus idus, SDS supplier).

Endpoint: EC10 - Species: Algae < 1 mg/l - Duration h: 72h (OECD 201, Desmodesmus subspicatus, SDS supplier).

ethanediol; ethylene glycol - CAS: 107-21-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 72860 mg/l - Duration h: 96h (Pimephales promelas, ECHA dossier).

Dodecylamine - CAS: 124-22-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.84 mg/l - Duration h: 96h (read-across, Danio rerio, ECHA dossier).

Endpoint: EC50 - Species: Daphnia 0.32 mg/l - Duration h: 48h (read-across, Daphnia magna, ECHA dossier).

12.2. Persistence and degradability

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine - CAS: 2372-82-9

Biodegradability: Readily biodegradable

Alcohols, C12-14, ethoxylated propoxylated - CAS: 68439-51-0

Biodegradability: Readily biodegradable

ethanediol; ethylene glycol - CAS: 107-21-1

Biodegradability: Readily biodegradable

Dodecylamine - CAS: 124-22-1

Biodegradability: Readily biodegradable

12.3. Bioaccumulative potential

Not available

12.4. Mobility in soil

Not available

12.5. Results of PBT and vPvB assessment

**Safety Data Sheet
ZETA 5 POWER ACT**

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting propertiesNo endocrine disruptor substances present in concentration \geq 0.1%**12.7. Other adverse effects**

None

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

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information**14.1. UN number or ID number**ADR-UN Number: 1903
IATA-UN Number: 1903
IMDG-UN Number: 1903**14.2. UN proper shipping name**ADR-Shipping Name: DISINFECTANT, LIQUID, CORROSIVE,
N.O.S.(N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine,
N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate)
IATA-Shipping Name: DISINFECTANT, LIQUID, CORROSIVE,
N.O.S.(N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine,
N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate)
IMDG-Shipping Name: DISINFECTANT, LIQUID, CORROSIVE,
N.O.S.(N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine,
N,n-didecyl-n-methyl-poly(oxyethyl)ammonium propionate)**14.3. Transport hazard class(es)**ADR-Class: 8
IATA-Class: 8
IATA-Label: 8
IMDG-Class: 8**14.4. Packing group**ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II**14.5. Environmental hazards**ADR-Environmental Pollutant: Yes
IMDG-Marine pollutant: Marine Pollutant
IMDG-EmS: F-A , S-B**14.6. Special precautions for user**ADR-Subsidiary hazards: -
ADR-S.P.: 274
ADR-Transport category (Tunnel restriction code): 2 (E)
ADR - Hazard identification number: 80
IATA-Passenger Aircraft: 851

**Safety Data Sheet
ZETA 5 POWER ACT**

IATA-Subsidiary hazards:	-
IATA-Cargo Aircraft:	855
IATA-S.P.:	A3 A803
IATA-ERG:	8L
IMDG-Subsidiary hazards:	-
IMDG-Stowage and handling:	Category B
IMDG-Segregation:	-

14.7. Maritime transport in bulk according to IMO instruments
Not Applicable**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restrictions related to the substances contained:

No restriction.

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

Product belongs to category: E1

Composition according to Annex VII.a of Reg. (EC) 648/2004:

5% = x < 15%: amphoteric surfactants;

< 5%: non-ionic surfactant, disinfectants, phosphonates.

WGK Classification (Water hazard class - Verwaltungsvorschrift wassergefährdende Stoffe)

WGK2 - Hazardous for water

Lagerklasse according to TRGS 510:

LGK 8A: Combustible corrosive substances

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

Safety Data Sheet

ZETA 5 POWER ACT

None.

California Proposition 65

Substance(s) listed under California Proposition 65:

None.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:
potassium hydroxide; caustic potash

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Acute Tox. 3	3.1/3/Oral	Acute toxicity (oral), Category 3
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Corr. 1C	3.2/1C	Skin corrosion, Category 1C
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2020/878.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Met. Corr. 1, H290	On basis of test data
Skin Corr. 1B, H314	Bridging principle "Dilution"
Eye Dam. 1, H318	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECHA – European Chemical Agency

**Safety Data Sheet
ZETA 5 POWER ACT**

GESTIS - Information system on hazardous substances of the German Social Accident Insurance

IARC – International Agency for Research on Cancer

IPCS INCHEM – International Programme on Chemical Safety

ISS – Istituto Superiore di Sanità

PubChem - open chemistry database at the National Institutes of Health (NIH)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.