



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Mikroclean Plus D

Version number: 2.0
Replaces version of: 2020-09-10 (1)

Revision: 2021-04-30
First version: 2020-09-10

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

1.1 Product identifier

Trade name	<u>Mikroclean Plus D</u>
Registration number (REACH)	Not relevant (mixture).
CAS number	not relevant (mixture)

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

Relevant identified uses	Disinfectant Disinfectant for suction installations Professional use
Uses advised against	Do not use for squirting or spraying Do not use for products which come into direct contact with the skin

1.3 Details of the supplier of the safety data sheet

PLIWA Hygiene GmbH Pliwa-Straße 2 34323 Malsfeld-Ostheim Germany	Telephone: +495661 / 7317 0 Telefax: +495661 / 7317 10 e-mail: info@pliwa.de Website: www.pliwa.de
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e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact PLIWA Hygiene GmbH.

1.4 Emergency telephone number

Emergency information service	PLIWA Hygiene GmbH +49 5661 / 7317 0 This number is only available during the following office hours: Monday-Friday 07:00 - 16:00.
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As above or nearest toxicological information centre.

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.2	skin corrosion/irritation	1	Skin Corr. 1	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS05, GHS07,
GHS09



Hazard statements

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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Precautionary statements

- 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 CENTER/doctor.
- P403+P233** Store in a well-ventilated place. Keep container tightly closed.
- P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

2-aminoethanol
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.





SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
2-aminoethanol	CAS No 141-43-5 EC No 205-483-3 Index No 603-030-00-8 REACH Reg. No 01-2119486455-28-xxxx	10 - < 25	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Aquatic Chronic 3 / H412	 	GHS-HC IOELV
propan-2-ol	CAS No 67-63-0 EC No 200-661-7 Index No 603-117-00-0	5 - < 10	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	 	GHS-HC

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Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	CAS No 68424-85-1 EC No 270-325-2 939-253-5	1 – <5	Acute Tox. 4 / H302 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		-
trisodium nitrilotriacetate	CAS No 5064-31-3 EC No 225-768-6 Index No 607-620-00-6 REACH Reg. No 01-2119519239-36-xxxx	1 – <5	Acute Tox. 4 / H302 Eye Irrit. 2 / H319 Carc. 2 / H351		GHS-HC

Notes

GHS- Harmonised classification (the classification of the substance corresponds to the entry in the list according to HC: 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
2-aminoethanol	STOT SE 3; H335: C ≥ 5 %	-	1,089 mg/kg 1,010 mg/kg 11 mg/l/4h	oral dermal inhalation: vapour
propan-2-ol	-	-	-	inhalation: vapour
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	-	M-factor (acute) = 10.0	344 mg/kg	oral
trisodium nitrilotriacetate	Carc. 2; H351: C ≥ 5 %	-	1,740 mg/kg	oral

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

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Following inhalation

Provide fresh air.

In case of respiratory tract irritation, consult a physician.

Following skin contact

After contact with skin, wash immediately with plenty of water.

Call a physician immediately. Causes poorly healing wounds.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a doctor.

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Cough, pain, choking, and breathing difficulties.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

self-contained breathing apparatus (EN 133)

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Do not get in eyes, on skin, or on clothing.

Do not breathe vapour/spray.

Special danger of slipping by leaking/spilling product.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Handling of incompatible substances or mixtures

Do not mix with acids.

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Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

frost

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
EU	2-aminoethanol	141-43-5	IOELV	1	2.5	3	7.6	-	2006/15/EC
GB	2-aminoethanol	141-43-5	WEL	1	2.5	3	7.6	-	EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250	-	EH40/2005

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-aminoethanol	141-43-5	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
2-aminoethanol	141-43-5	DNEL	0.51 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
2-aminoethanol	141-43-5	DNEL	3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	500 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	DNEL	3.96 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	DNEL	5.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
trisodium nitrilotriacetate	5064-31-3	DNEL	3.2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
2-aminoethanol	141-43-5	PNEC	0.07 mg/l	freshwater
2-aminoethanol	141-43-5	PNEC	0.007 mg/l	marine water
2-aminoethanol	141-43-5	PNEC	100 mg/l	sewage treatment plant (STP)
2-aminoethanol	141-43-5	PNEC	0.357 mg/kg	freshwater sediment
2-aminoethanol	141-43-5	PNEC	0.036 mg/kg	marine sediment
2-aminoethanol	141-43-5	PNEC	1.29 mg/kg	soil
propan-2-ol	67-63-0	PNEC	140.9 mg/l	water
propan-2-ol	67-63-0	PNEC	140.9 mg/l	marine water

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
propan-2-ol	67-63-0	PNEC	2,251 mg/l	sewage treatment plant (STP)
propan-2-ol	67-63-0	PNEC	552 mg/kg	freshwater sediment
propan-2-ol	67-63-0	PNEC	552 mg/kg	marine sediment
propan-2-ol	67-63-0	PNEC	140.9 mg/l	freshwater
propan-2-ol	67-63-0	PNEC	28 mg/kg	soil
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.001 mg/l	freshwater
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.001 mg/l	marine water
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.4 mg/l	sewage treatment plant (STP)
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	12.27 mg/kg	freshwater sediment
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	13.09 mg/kg	marine sediment
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	7 mg/kg	soil
trisodium nitrilotriacetate	5064-31-3	PNEC	0.93 mg/l	freshwater
trisodium nitrilotriacetate	5064-31-3	PNEC	0.093 mg/l	marine water
trisodium nitrilotriacetate	5064-31-3	PNEC	270 mg/l	sewage treatment plant (STP)
propan-2-ol: PNEC Oral - Predators - Secondary poisoning - 160 mg/kg				

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>120 minutes (permeation: level 4)
FKM: fluoro-elastomer	≥ 0,5 mm	>120 minutes (permeation: level 4)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Type: A-P2 (combined filters against particles and organic gases and vapours, colour code: Brown/White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	100 °C
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	>60 °C
Auto-ignition temperature	>200 °C
Decomposition temperature	not relevant
pH (value)	12 – 13 (20 °C)
Kinematic viscosity	not determined
Dynamic viscosity	not determined

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Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient n-octanol/water (log value) not determined

Vapour pressure not determined

Density and/or relative density

Density not determined

Relative vapour density information on this property is not available

Particle characteristics not relevant
(liquid)

9.2 Other information

Information with regard to physical hazard classes hazard classes acc. to GHS (physical hazards):
not relevant

Other safety characteristics

Temperature class (EU, acc. to ATEX) T3
(maximum permissible surface temperature on the equipment: 200°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

acids, oxidisers, light metals (e.g. aluminium and magnesium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

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

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
2-aminoethanol	141-43-5	oral	LD50	1,089 mg/kg	rat	OECD Guideline 401	ECHA
2-aminoethanol	141-43-5	dermal	LD50	2,504 mg/kg	rabbit, male	OECD Guideline 402	ECHA
propan-2-ol	67-63-0	oral	LD50	5,840 mg/kg	rat	OECD Guideline 401	ECHA
propan-2-ol	67-63-0	dermal	LD50	13,100 mg/kg	rabbit	OECD Guideline 402	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	oral	LD50	344 mg/kg	rat	-	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	dermal	LD50	3,412 mg/kg	rabbit	EPA OPPTS 870.1200	ECHA
trisodium nitrilotriacetate	5064-31-3	oral	LD50	1,740 mg/kg	rat	OECD Guideline 401	ECHA

Skin corrosion/irritation

Causes burns.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

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Respiratory or skin sensitisation

Skin sensitisation

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

Respiratory sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
2-aminoethanol	141-43-5	LC50	349 mg/l	96 h	carp (cyprinus carpio)	EU method C.1	ECHA
2-aminoethanol	141-43-5	EC50	2.1 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA

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Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
2-aminoethanol	141-43-5	EC50	27.04 mg/l	48 h	daphnia magna	EU method C.2	ECHA
2-aminoethanol	141-43-5	ErC50	2.8 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
2-aminoethanol	141-43-5	EbC50	2.1 mg/l	48 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
propan-2-ol	67-63-0	LC50	9,640 mg/l	96 h	fathead minnow (Pimephales promelas)	OECD Guideline 203	ECHA
propan-2-ol	67-63-0	LC50	>10,000 mg/l	24 h	daphnia magna	OECD Guideline 202	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LC50	0.515 mg/l	96 h	bluegill (Lepomis macrochirus)	EPA OPP 72-1	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	EC50	0.016 mg/l	48 h	daphnia magna	EU method C.2	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	ErC50	0.03 mg/l	96 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
trisodium nitrotriacetate	5064-31-3	LC50	114 mg/l	96 h	fathead minnow (Pimephales promelas)	-	ECHA
trisodium nitrotriacetate	5064-31-3	ErC50	>91.5 mg/l	72 h	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
trisodium nitrotriacetate	5064-31-3	EC50	98 mg/l	96 h	Gammarus pseudolimnaeus	-	ECHA

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Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
trisodium nitrilotriacetate	5064-31-3	EbC50	>91,5 mg/l	48 h	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA

Aquatic toxicity (chronic)

Toxic to aquatic life with long lasting effects.

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
2-aminoethanol	141-43-5	EC50	2.5 mg/l	21 d	daphnia magna	OECD Guideline 202	ECHA
2-aminoethanol	141-43-5	NOEC	0.85 mg/l	21 d	daphnia magna	OECD Guideline 202	ECHA
2-aminoethanol	141-43-5	NOEC	1 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
2-aminoethanol	141-43-5	NOEC	1.24 mg/l	41 d	japanese ricefish/medaka (Oryzias latipes)	OECD Guideline 210	ECHA
2-aminoethanol	141-43-5	LOEC	3.55 mg/l	41 d	japanese ricefish/medaka (Oryzias latipes)	OECD Guideline 210	ECHA
2-aminoethanol	141-43-5	growth (Eb-Cx) 10%	>1,000 mg/l	30 min	microorganisms	OECD Guideline 209	ECHA
2-aminoethanol	141-43-5	growth rate (ErCx) 10%	0.7 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LC50	94 µg/l	28 d	fathead minnow (Pimephales promelas)	EPA OPP 72-4	ECHA

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Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	EC50	7.75 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	EC50	11 mg/l	30 min	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	NOEC	<-1.2 µg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	NOEC	≥4.15 µg/l	21 d	daphnia magna	EPA OPP 72-4	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	NOEC	>32.2 µg/l	28 d	fathead minnow (Pimephales promelas)	EPA OPP 72-4	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	NOEC	1.6 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LOEC	0.003 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LOEC	0.025 mg/l	21 d	daphnia magna	OECD Guideline 211	ECHA

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Name of substance	CAS No	Endpoint	Value	Exposure time	Species	Method	Source
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	growth (Eb-Cx) 10%	0.002 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	growth (Eb-Cx) 10%	4 mg/l	30 min	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	growth (Eb-Cx) 20%	5 mg/l	30 min	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	growth (Eb-Cx) 80%	24 mg/l	30 min	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	growth rate (ErCx) 10%	0.003 mg/l	72 h	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
trisodium nitrotriacetate	5064-31-3	NOEC	1.43 mg/l	72 h	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
trisodium nitrotriacetate	5064-31-3	NOEC	9.3 mg/l	147 d	Gammarus pseudolimnaeus	-	ECHA
trisodium nitrotriacetate	5064-31-3	NOEC	>54 mg/l	229 d	fathead minnow (Pimephales promelas)	EPA OPP 72-5	ECHA
trisodium nitrotriacetate	5064-31-3	growth (Eb-Cx) 10%	22.8 mg/l	72 h	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
trisodium nitrotriacetate	5064-31-3	growth rate (ErCx) 10%	74.8 mg/l	72 h	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA

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12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
2-aminoethanol	141-43-5	DOC removal	>90 %	21 d	OECD Guideline 301 A	ECHA
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d	EU method C.5	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	oxygen depletion	63 %	28 d	OECD Guideline 301 D	ECHA
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	carbon dioxide generation	95.5 %	28 d	OECD Guideline 301 B	ECHA
trisodium nitrotriacetate	5064-31-3	DOC removal	100 %	14 d	OECD Guideline 301 E	ECHA

Biodegradation

The relevant substances of the mixture are readily biodegradable.
Test data are not available for the complete mixture.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
2-aminoethanol	141-43-5	2.5	-
quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	79	0.004 (20 °C)

12.4 Mobility in soil

No data available.

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12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 2

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN UN1903

IMDG-Code UN1903

ICAO-TI UN1903

14.2 UN proper shipping name

ADR/RID/ADN DISINFECTANT, LIQUID, CORROSIVE, N.O.S.

IMDG-Code DISINFECTANT, LIQUID, CORROSIVE, N.O.S.

ICAO-TI Disinfectant, liquid, corrosive, n.o.s.

Technical name (hazardous ingredients) benzalkonium chloride, ethanolamine

14.3 Transport hazard class(es)

ADR/RID/ADN 8

IMDG-Code 8

ICAO-TI 8

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14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment) benzalkonium chloride

14.6 Special precautions for user

-

14.7 Maritime transport in bulk according to IMO - instruments

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information

Particulars in the transport document UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S., (contains: benzalkonium chloride, ethanohamine), 8, III, (E), environmentally hazardous

Classification code C9

Danger label(s) 8, fish and tree



Environmental hazards yes
(hazardous to the aquatic environment)

Special provisions (SP) 274

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

Transport category (TC) 3

Tunnel restriction code (TRC) E

Hazard identification No 80

Emergency Action Code 2X

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant yes
(hazardous to the aquatic environment)
(benzalkonium chloride)

Danger label(s) 8, fish and tree

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Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	8



Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	CAS No	Restriction
Mikroclean Plus D	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	-	R3
propan-2-ol	flammable / pyrophoric	-	R40

Legend

- R3
- Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 - Articles not complying with paragraph 1 shall not be placed on the market.
 - Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
 - Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).

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Legend

5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
- (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;
- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - 'whoopee' cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: 'For professional users only'.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

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Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
3.2	-	Hazardous ingredients: change in the listing (table)
8.1	-	Relevant DNELs of components of the mixture: change in the listing (table)
8.1	-	Relevant PNECs of components of the mixture: change in the listing (table)
14.8	Marine pollutant: yes (hazardous to the aquatic environment)	Marine pollutant: yes (hazardous to the aquatic environment) (benzalkonium chloride)
14.8	Proper shipping name: UN1903, Disinfectant, liquid, corrosive, n.o.s., (contains: benzalkonium chloride, ethanolamine), 8, III	-

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard

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Abbr.	Descriptions of used abbreviations
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008

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Abbr.	Descriptions of used abbreviations
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

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Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.