

# SAFETY DATA SHEET

according to the Globally Harmonized System

## Mikrobac plus

Version 1.0      Revision Date: 04.04.2024      SDS Number: R12021      Date of last issue: -  
Date of first issue: 04.04.2024

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Manufacturer or supplier's details

Manufacturer : BODE Chemie GmbH  
Melanchthonstraße 27  
22525 Hamburg (Germany)  
Tel.: +49 (0)40 / 54 00 60

Supplier : Paul Hartmann AG  
Paul-Hartmann-Str. 12  
89522 Heidenheim  
Deutschland  
Tel.: +49 (0)7321 / 36 - 0

Responsible Department : Scientific Affairs  
sds@bode-chemie.de

Emergency telephone number : Poison Center Göttingen  
24h-Phone +49 (0)551 / 1 92 40

#### Recommended use of the chemical and restrictions on use

Recommended use : In-door use  
Disinfectants and algacides not intended for direct application to humans or animals  
Food and feed area disinfectants  
For further information, refer to the product technical data sheet.

Restrictions on use : Restricted to professional users.

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Sub-category 1B

Serious eye damage/eye irritation : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 2

#### Other hazards which do not result in classification

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
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Didecyldimethylammonium chloride	7173-51-5	>= 10 - < 25
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	>= 5 - < 10
Alcohols, C12-18(even numbered), ethoxylated	68213-23-0	>= 3 - < 10

### 4. FIRST AID MEASURES

- General advice : Do not leave the victim unattended.  
Move the victim to fresh air.  
Symptoms of poisoning may appear several hours later.  
Get medical attention.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
If on skin, rinse well with water.  
Call a physician if irritation develops or persists.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- If swallowed : Do not induce vomiting. Drink water. Call physician immediately.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.  
Causes serious eye damage.  
Causes severe burns.

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction.
- Hazardous combustion products : No hazardous combustion products are known
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Use non-slip safety shoes in areas where spills or leaks can occur.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
- Methods and materials for containment and cleaning up : Clean-up methods - large spillage  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Clean-up methods - small spillage  
Wipe up with absorbent material (e.g. cloth, fleece).

### 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : The product is not flammable.  
No special protective measures against fire required.

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- Conditions for safe storage : Store in original container.  
Keep tightly closed in a dry and cool place.
- Materials to avoid : Keep away from food and drink.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection  
Nitrile rubber Material : Protective gloves complying with EN 374.  
Break through time : > 240 min  
Glove thickness : 0,35 mm
- Eye protection : Safety glasses with side-shields conforming to EN166
- Skin and body protection : Long sleeved clothing
- Hygiene measures : Avoid contact with eyes.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Odour : amine-like
- pH : > 11
- Boiling point/boiling range : 100 °C
- Flash point : Not applicable
- Vapour pressure : 23 hPa
- Density : 1,01 g/cm<sup>3</sup>
- Solubility(ies)  
Water solubility : soluble

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### 10. STABILITY AND REACTIVITY

- Reactivity : None reasonably foreseeable.
- Chemical stability : The product is chemically stable.
- Possibility of hazardous reactions : None reasonably foreseeable.
- Incompatible materials : Acids

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Hazardous decomposition products : No hazardous decomposition products are known.

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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 969,08 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5.000 mg/kg  
Method: Calculation method

#### Components:

##### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Acute oral toxicity : LD50 Oral (Rat): 238 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 3.342 mg/kg

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

Acute oral toxicity : LD50 Oral (Rat): 261 mg/kg  
Method: OECD Test Guideline 401

#### Skin corrosion/irritation

Causes severe burns.

#### Components:

##### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Species : Rabbit  
Exposure time : 3 min  
Method : OECD Test Guideline 404  
Result : Corrosive after 3 minutes or less of exposure

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

Species : Rabbit  
Exposure time : 3 min  
Method : OECD Test Guideline 404  
Result : Corrosive after 3 minutes to 1 hour of exposure

#### Serious eye damage/eye irritation

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Components:

##### **Alcohols, C12-18(even numbered), ethoxylated (CAS: 68213-23-0):**

Result : Risk of serious damage to eyes.

#### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified due to lack of data.

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### Respiratory sensitisation

Not classified due to lack of data.

#### Components:

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

Test Type : Buehler Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Did not cause sensitisation on laboratory animals.

### Germ cell mutagenicity

Not classified due to lack of data.

#### Components:

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

Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

### Carcinogenicity

Not classified due to lack of data.

### Reproductive toxicity

Not classified due to lack of data.

### STOT - single exposure

Not classified due to lack of data.

### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### Components:

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

Assessment : May cause damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

#### Components:

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

Species : Rat  
NOAEL : 8 mg/kg  
Application Route : Oral  
Exposure time : 90 d

Species : Dog  
NOAEL : 18 mg/kg  
Application Route : Oral  
Exposure time : 90 d

Species : Rat  
NOAEL : 14 mg/kg  
Application Route : Dermal  
Exposure time : 90 d

### Aspiration toxicity

Not classified due to lack of data.

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### Experience with human exposure

No data available

### Experience with human exposure

No data available

### Neurological effects

No data available

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0,19 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,062 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 0,026 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 10
- Toxicity to fish (Chronic toxicity) : NOEC: 0,032 mg/l  
Exposure time: 34 d  
Species: Danio rerio (zebra fish)  
Method: OECD Test Guideline 210
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,014 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

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

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,68 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,073 mg/l  
Exposure time: 48 h  
Test Type: Immobilization
- Toxicity to algae/aquatic plants : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 0,054 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition
- NOEC ( Desmodesmus subspicatus (green algae)): 0,0069 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 10
- Toxicity to microorganisms : (Bacteria): 18 mg/l

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Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,32 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

### Persistence and degradability

#### Components:

#### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Biodegradability : Method: OECD Test Guideline 301B  
Remarks: Readily biodegradable, according to appropriate OECD test.

### Bioaccumulative potential

#### Components:

#### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Partition coefficient: n-octanol/water : log Pow: 2,8 (20 °C)

### Mobility in soil

No data available

### Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Empty remaining contents.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## 14. TRANSPORT INFORMATION

### ADR

UN number : UN 1903  
Proper shipping name : DISINFECTANT, LIQUID, CORROSIVE, N.O.S.  
(didecyldimethylammonium chloride, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)  
Class : 8  
Packing group : III  
Labels : 8  
Hazard Identification Number : 80  
Tunnel restriction code : (E)  
Limited quantity (LQ) : 5,00 L

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Environmentally hazardous : yes

### UNRTDG

UN number : UN 1903  
Proper shipping name : DISINFECTANT, LIQUID, CORROSIVE, N.O.S.  
(didecyldimethylammonium chloride, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)  
Class : 8  
Packing group : III  
Labels : 8  
Environmentally hazardous : no

### IATA-DGR

UN/ID No. : UN 1903  
Proper shipping name : Disinfectant, liquid, corrosive, n.o.s.  
(didecyldimethylammonium chloride, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)  
Class : 8  
Packing group : III  
Labels : Corrosive  
Packing instruction (cargo aircraft) : 856  
Packing instruction (passenger aircraft) : 852

### IMDG-Code

UN number : UN 1903  
Proper shipping name : DISINFECTANT, LIQUID, CORROSIVE, N.O.S.  
(didecyldimethylammonium chloride, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)  
Class : 8  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Limited quantity (LQ) : 5,00 L  
Marine pollutant : yes

### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## 15. REGULATORY INFORMATION

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

### Other international regulations

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

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## 16. OTHER INFORMATION

Revision Date : 04.04.2024

Date format : yyyy/mm/dd

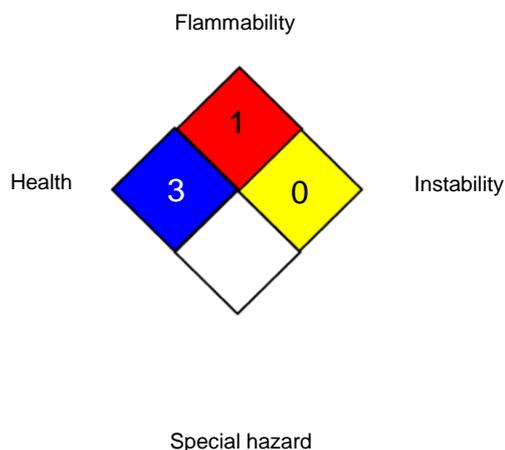
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### Further information

#### NFPA:



#### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

AIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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TC / EN