1. PRODUCT AND COMPANY IDENTIFICATION

Product name : mikrozid® sensitive wipes

Manufacturer or supplier's details

Manufacturer/ Supplier : Schülke & Mayr GmbH
Robert-Koch-Str. 2

22851 Norderstedt
Germany
Telephone: +49 (0)40/ 52100-0
Telefax: +49 (0)40/ 52100318
mail@schuelke.com
www.schuelke.com

Emergency telephone number : Carechem 24 International: +44 1865 407333 (only English)

Recommended use of the chemical and restrictions on use

Recommended use : Disinfectants

Restrictions on use : For professional users only.

2. HAZARDS IDENTIFICATION

GHS Classification

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : None

Signal word : None

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

No hazards to be specially mentioned.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Aqueous containing solution on non-woven

Components

Chemical name	CAS-No.	Concentration (% w/w)
Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides	85409-23-0	>= 0,1 - < 0,25
didecyldimethylammonium chloride	7173-51-5	>= 0,1 - < 0,25
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	>= 0,1 - < 0,25

4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.

If inhaled : If symptoms persist, call a physician.

In case of skin contact : Wash with water and soap as a precaution.
If symptoms persist, call a physician.

In case of eye contact : Flush eyes with water as a precaution.
If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting.
Drink water as a precaution.
Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed : Treat symptomatically.

Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry powder
Carbon dioxide (CO2)
Water spray jet
Foam

Unsuitable extinguishing media : Do NOT use water jet.

Hazardous combustion products : No hazardous combustion products are known

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Use mechanical handling equipment.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	No special protective measures against fire required.
Advice on safe handling	:	No special precautions required.
Conditions for safe storage	:	Store at room temperature in the original container.
Further information on storage conditions	:	Keep container tightly closed. Protect from frost, heat and sunlight. Recommended storage temperature: 15 - 25°C
Materials to avoid	:	Keep away from food and drink.

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		
Directive	:	The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Remarks	:	Prolonged contact: Nitrile rubber gloves e.g. Camatril (>480 Min., layer thickness: 0,40 mm) or butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0,70 mm) made by KCL or gloves from other manufacturers offering the same protection.
Protective measures	:	Avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Aqueous containing solution on non-woven
Colour	:	colourless

Odour	:	characteristic
Odour Threshold	:	not determined
pH	:	5 - 8 (20 °C) Concentration: 100 % of the active solution
Melting point/freezing point	:	ca. 0 °C of the active solution
Decomposition temperature		Not applicable
Boiling point/boiling range	:	ca. 100 °C of the active solution
Flash point	:	Not applicable
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	Not applicable
Density	:	ca. 1,00 g/cm3 (20 °C) of the active solution
Solubility(ies)		
Water solubility	:	completely soluble (20 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	not determined
Explosive properties	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Metal corrosion rate	:	None reasonably foreseeable.

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	None reasonably foreseeable.
Conditions to avoid	:	Protect from frost, heat and sunlight.
Incompatible materials	:	None reasonably foreseeable.
Hazardous decomposition products	:	None reasonably foreseeable.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Product:

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

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Acute oral toxicity	:	LD50 (Rat): 344 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): 2.300 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials

didecyldimethylammonium chloride:

Acute oral toxicity	:	LD50 (Rat): 238 mg/kg Method: OECD Test Guideline 401 Assessment: Toxic if swallowed.
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): 3.342 mg/kg

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Acute oral toxicity	:	LD50 (Rat): > 300 - 2.000 mg/kg Method: OECD Test Guideline 401 Assessment: Harmful if swallowed.

Acute inhalation toxicity	:	LC50 (Rat): > 2 mg/l Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat): 1.100 mg/kg Assessment: Harmful in contact with skin.

Skin corrosion/irritation

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Species	:	Rabbit
Result	:	Corrosive after 3 minutes to 1 hour of exposure

didecyldimethylammonium chloride:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 3 minutes to 1 hour of exposure

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Species	:	Rabbit
Result	:	Corrosive after 3 minutes to 1 hour of exposure
GLP	:	no

Serious eye damage/eye irritation

Not classified based on available information.

Components:

didecyldimethylammonium chloride:

Result	:	Irreversible effects on the eye

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Result	:	Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

didecyldimethylammonium chloride:

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

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

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

Germ cell mutagenicity

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes Remarks: Based on data from similar materials

didecyldimethylammonium chloride:

Genotoxicity in vitro	:	Test system: Salmonella typhimurium Metabolic activation: Metabolic activation Method: OECD Test Guideline 471 Result: Not mutagenic in Ames Test
Genotoxicity in vivo	:	Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: Oral Method: OECD Test Guideline 475 Result: negative
Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: Not mutagenic in Ames Test
Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Species: Mouse (male and female) Application Route: Oral Method: OECD Test Guideline 474 GLP: yes

Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Remarks	:	No data available

didecyldimethylammonium chloride:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral General Toxicity - Parent: NOAEL: 51 - 102 mg/kg body weight General Toxicity F1: NOAEL: 51 - 102 mg/kg body weight GLP: yes

didecyldimethylammonium chloride:

Reproductive toxicity - Assessment	:	No data available

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral General Toxicity - Parent: NOAEL: 51 - 102 mg/kg body weight General Toxicity F1: NOAEL: 41 - 83 mg/kg body weight Fertility: NOAEL: 139 - 198 mg/kg body weight Method: OECD Test Guideline 416 Result: Animal testing did not show any effects on fertility. GLP: yes
Effects on foetal development	:	Species: Rat Application Route: Oral General Toxicity Maternal: NOAEL: 8,1 mg/kg body weight

Developmental Toxicity: NOAEL: 81 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes
Remarks: Animal testing did not show any effects on foetal development.

STOT - single exposure

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Remarks : No data available

didecyldimethylammonium chloride:

Remarks : No data available

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Remarks : No data available

STOT - repeated exposure

Not classified based on available information.

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Remarks : No data available

didecyldimethylammonium chloride:

Remarks : No data available

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Remarks : No data available

Repeated dose toxicity

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Remarks : No data available

didecyldimethylammonium chloride:

Remarks : No data available

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Species	:	Rat, male
NOAEL	:	31 mg/kg
Application Route	:	Oral
Exposure time	:	90-day
Method	:	OECD Test Guideline 408
GLP	:	yes

Species	:	Rat
NOAEL	:	214 mg/kg
Application Route	:	Oral
Exposure time	:	14-days
Method	:	OECD Test Guideline 407

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks	:	No data is available on the product itself.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Toxicity to fish	:	LC50 (Fish): 1,06 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,015 mg/l Exposure time: 48 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,032 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,00415 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) GLP: yes
M-Factor (Chronic aquatic toxicity)	:	1

didecyldimethylammonium chloride:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0,19 mg/l Exposure time: 96 h GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,062 mg/l Exposure time: 48 h GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,026 mg/l

		Exposure time: 96 h Method: OECD Test Guideline 201 GLP: yes
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: Expert judgement and weight of evidence determination.
M-Factor (Chronic aquatic toxicity)	:	1

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,85 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 0,015 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50: 0,03 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,032 mg/l Exposure time: 34 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0042 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	1

Persistence and degradability

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 95,5 % Exposure time: 28 d Method: OECD Test Guideline 301B Remarks: Based on data from similar materials

didecyldimethylammonium chloride:

Biodegradability	:	Concentration: 10 mg/l Result: Readily biodegradable. Biodegradation: 72 % Exposure time: 28 d Method: OECD 301B/ ISO 9439/ EEC 84/449 C5 GLP: yes

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Biodegradability	:	Concentration: 5 mg/l Result: Readily biodegradable. Biodegradation: 95,5 % Exposure time: 28 d Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

didecyldimethylammonium chloride:

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Exposure time: 46 d Bioconcentration factor (BCF): 81

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Bioaccumulation	:	Exposure time: 35 d Concentration: 0,076 mg/l Bioconcentration factor (BCF): 79 GLP: yes Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: 2,75 (20 °C)

Mobility in soil

Components:

Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides:

Mobility	:	Medium: Soil Remarks: immobile

didecyldimethylammonium chloride:

Mobility	:	Remarks: Mobile in soils

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Mobility	:	Remarks: No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Can be incinerated or landfilled together with household waste in compliance with the regulations, and after consultation with the waste disposal services.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR
Not regulated as a dangerous good

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

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

This information is not available.

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides

ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Full text of other abbreviations

AIIC - 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.