

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid **No Change Service!**

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : mikrozid® AF liquid

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 and general biocidal products

2. HAZARDS IDENTIFICATION


GHS Classification

Flammable liquids : Category 3

Serious eye damage/eye irritation : Category 2A

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS label elements

Hazard pictograms : 

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection.

Response:

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke -†

mikrozid® AF liquid **No Change Service!**

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Disposal:

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

Other hazards which do not result in classification

Vapours may form explosive mixtures with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Solution of the following substances with harmless additives.

Components

Chemical name	CAS-No.	Concentration (% w/w)
propan-1-ol	71-23-8	>= 30 - < 50
ethanol	64-17-5	>= 20 - < 30

4. FIRST AID MEASURES

General advice : Take off all contaminated clothing immediately.

If inhaled : Move to fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash off with plenty of water.
If symptoms persist, call a physician.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed : Do NOT induce vomiting.
Clean mouth with water and drink afterwards plenty of water.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : Treat symptomatically.
Causes serious eye irritation.
May cause drowsiness or dizziness.

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

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry powder

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid **No Change Service!**

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

Alcohol-resistant foam
Carbon dioxide (CO₂)
Water spray jet

Unsuitable extinguishing media : Do NOT use water jet.

Specific hazards during fire-fighting : Vapours may form flammable mixture with air
Cool closed containers exposed to fire with water spray.

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 : Ensure adequate ventilation.
Remove all sources of ignition.

Environmental precautions : Avoid subsoil penetration.

Methods and materials for containment and cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.
The hot product gives off combustible vapours.

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Conditions for safe storage : Store at room temperature in the original container.
Do not store at temperatures above 30°C.

Further information on storage conditions : Keep container tightly closed.
Keep away from direct sunlight.
Recommended storage temperature: 15 - 25°C

Materials to avoid : Do not store together with oxidising agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propan-1-ol	71-23-8	TWA	100 ppm	ACGIH
ethanol	64-17-5	STEL	1.000 ppm	ACGIH

Personal protective equipment

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid **No Change Service!**

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

- Respiratory protection : No personal respiratory protective equipment normally required.
If the occupational exposure limits cannot be met, in exceptional cases suitable respiratory equipment should be worn only for a short period of time.
Recommended Filter type:
A-P2 or ABEK-P2
Respiratory protection complying with EN 141.
- Hand protection Directive : No personal respiratory protective equipment normally required.
- Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
- Remarks : Splash protection: disposable nitrile rubber gloves e.g. Dermatril (layer thickness: 0.11 mm) made by KCL or gloves from other manufacturers offering the same protection. Prolonged contact: Nitrile rubber gloves e.g. Camatril (>120 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.
- Eye protection : Safety glasses with side-shields conforming to EN166
- Skin and body protection : Work uniform or laboratory coat.
- Protective measures : Avoid contact with skin and eyes.
- Hygiene measures : Keep away from food and drink.
-

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : colourless
- Odour : alcohol-like
- Odour Threshold : not determined
- pH : Not applicable
- Melting point/freezing point : < -5 °C
- Decomposition temperature : No data available
-

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid **No Change Service!**

Version Revision Date: Date of last issue: 29.08.2022
06.02 13.11.2023

Boiling point/boiling range	:	ca. 80 °C
Flash point	:	27 °C
		Method: DIN 51755 Part 1
Evaporation rate	:	No data available
Flammability (liquids)	:	Flammable liquid and vapour.
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	17,5 %(V) Raw material
Lower explosion limit / Lower flammability limit	:	2,1 %(V) Raw material
Vapour pressure	:	ca. 50 hPa (20 °C)
Relative vapour density	:	No data available
Density	:	ca. 0,89 g/cm ³ (20 °C)
Solubility(ies)		
Water solubility	:	completely soluble (20 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	425 °C Raw material
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Flow time	:	< 15 s (20 °C) Method: DIN 53211
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.

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid *No Change Service!*

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

-
- Possibility of hazardous reactions : Vapours may form explosive mixture with air.
- Conditions to avoid : Heat, flames and sparks.
- Incompatible materials : Strong acids and oxidizing agents
- Hazardous decomposition products : No decomposition if stored and applied as directed.
-

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

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

Components:

propan-1-ol:

Acute oral toxicity : LD50 (Rat): ca. 8.000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 33,8 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 4.032 mg/kg
Method: literature value

ethanol:

Acute oral toxicity : LD50 (Mouse): 8.300 mg/kg

Acute inhalation toxicity : LC50 (Mouse): 39 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 20.000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

propan-1-ol:

Species : Rabbit
Result : No skin irritation

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid *No Change Service!*

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

ethanol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Method : Expert judgement
Result : irritating
Remarks : The toxicological data has been taken from products of similar composition.

Components:

propan-1-ol:

Species : Rabbit
Result : Irreversible effects on the eye

ethanol:

Method : OECD Test Guideline 405
Result : Eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

propan-1-ol:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

ethanol:

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

Germ cell mutagenicity

Not classified based on available information.

Components:

propan-1-ol:

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid *No Change Service!*

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

||

ethanol:

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

Carcinogenicity

Not classified based on available information.

Components:

propan-1-ol:

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

ethanol:

- Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Not classified based on available information.

Components:

propan-1-ol:

- Effects on foetal development : Species: Rat
Application Route: inhalation (vapour)
General Toxicity Maternal: NOAEL: 8,6 mg/l
- Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

ethanol:

- Effects on foetal development : Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 2.000 mg/kg body weight
- Reproductive toxicity - Assessment : Animal experiments showed mutagenic and teratogenic effects.

STOT - single exposure

May cause drowsiness or dizziness.

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid *No Change Service!*

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

Components:

propan-1-ol:

||Assessment : May cause drowsiness or dizziness.

ethanol:

||Remarks : No data available

STOT - repeated exposure

Not classified based on available information.

Components:

propan-1-ol:

||Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

ethanol:

||Remarks : No data available

Repeated dose toxicity

Components:

ethanol:

||Species : Rat
||NOAEL : 1.730 mg/kg
||LOAEL : 3.160 mg/kg
||Application Route : Oral
||Exposure time : 90 d

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to microorganisms : EC50: 68.750 mg/l
Method: OECD 209

Components:

propan-1-ol:

||Toxicity to fish : LC50 (Fish): 3.200 mg/l

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid *No Change Service!*

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

	Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 3.642 mg/l Exposure time: 48 h Method: DIN 38412
Toxicity to algae/aquatic plants	: NOEC (Chlorella pyrenoidosa (algae)): 1.150 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 68,3 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials

ethanol:

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): 8.140 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 5.000 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: IC50 (Scenedesmus quadricauda (Green algae)): > 100 mg/l Exposure time: 72 h

Persistence and degradability

Product:

Biodegradability	: Result: Readily biodegradable. Method: OECD 301D / EEC 84/449 C6
------------------	---

Components:

propan-1-ol:

Biodegradability	: aerobic Result: Readily biodegradable. Biodegradation: 75 % Exposure time: 20 d
------------------	--

ethanol:

Biodegradability	: aerobic Result: Readily biodegradable. Biodegradation: > 70 % Exposure time: 5 d Method: OECD 301D / EEC 84/449 C6
------------------	--

Bioaccumulative potential

Components:

propan-1-ol:

Bioaccumulation	: Bioconcentration factor (BCF): 0,88 Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-	: log Pow: 0,2 (25 °C)

SAFETY DATA SHEET

according to the Globally Harmonized System

schülke 

mikrozid® AF liquid **No Change Service!**

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

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

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

ACGIH / STEL : Short-term exposure limit

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

SAFETY DATA SHEET

according to the Globally Harmonized System



mikrozin® AF liquid ***No Change Service!***

Version
06.02

Revision Date:
13.11.2023

Date of last issue: 29.08.2022

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.