

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

Version	Revision Date:	Date of last issue: 26.01.2015
05.00	03.11.2015	Date of first issue: 03.12.2001

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name : mikrozyd® AF liquid

1.2 Relevant identified uses of the substance or mixture and uses advised againstUse of the Sub-
stance/Mixture : Disinfectants and general biocidal products**1.3 Details of the supplier of the safety data sheet**

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
------------------------	---

E-mail address of person responsible for the SDS/Contact person	: Application Department HI +49 (0)40/ 521 00 544 ADHI@schuelke.com (Schülke & Mayr UK Ltd.: +44-1142543500)
---	---



1.4 Emergency telephone number

Emergency telephone number : UK Poisons Emergency number: 0870 600 6266

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)**

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	:	P102 Keep out of reach of children.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

schülke 

mikrozyd® AF liquid *No Change Service!*

Version
05.00

Revision Date:
03.11.2015

Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 P271	Avoid breathing vapours/ spray. Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves (e.g. Nitrile rubber) /eye protection.
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.

Special labelling of certain mixtures : Labelling according to Regulation (EC) No. 648/2004: (per-fumes)

Further information : Use biocides safely. Always read the label and product information before use.

2.3 Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). Vapours may form explosive mixtures with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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

Hazardous components

Chemical Name	Index-Number CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Propan-1-ol	603-003-00-0 71-23-8 200-746-9 01-2119486761-29-XXXX	Flam. Liq. 2; H225 Eye Dam. 1; H318 STOT SE 3; H336	35
Ethanol	603-002-00-5 64-17-5 200-578-6 01-2119457610-43-XXXX	Flam. Liq. 2; H225 Eye Irrit. 2; H319	25

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off all contaminated clothing immediately.
If inhaled : Move to fresh air. If symptoms persist, call a physician.

mikrozyd® AF liquid **No Change Service!**Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

- 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. If eye irritation persists, consult a specialist.
- If swallowed : Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Treat symptomatically.,

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media : Dry powder, Alcohol-resistant foam, Carbon dioxide (CO₂), Water spray jet
- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Cool closed containers exposed to fire with water spray.
- Specific risk from the substance or the product itself, its combustion products or evolved gases : Vapours may form explosive mixtures with air.

5.3 Advice for firefighters

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

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Personal precautions : Ensure adequate ventilation. Remove all sources of ignition.

6.2 Environmental precautions

- Environmental precautions : Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

- Methods for 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).

6.4 Reference to other sections

see Section 8 + 13

mikrozyd® AF liquid *No Change Service!*Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Use only in well-ventilated areas.
- Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking. The hot product gives off combustible vapours.
- Hygiene measures : Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : 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
- Advice on common storage : Do not store together with oxidising agents.

7.3 Specific end use(s)

- Specific use(s) : The product falls under the regulation on biocide products (EU) 528/2012.
Product type: 2

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethanol	64-17-5	Permissible exposure limit	500 ppm 960 mg/m ³	TRGS 900
		Ceiling Limit Value	1.000 ppm 1.920 mg/m ³	TRGS 900
		Permissible exposure limit	1.000 ppm 1.900 mg/m ³	OSHA
Propan-1-ol	71-23-8	Permissible exposure limit	200 ppm 500 mg/m ³	OSHA

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethanol	Workers	Inhalation	Acute effects, Local effects	1900 mg/m ³
	Workers	Skin contact	Chronic effects	343 mg/m ³
	Workers	Inhalation	Chronic effects	950 mg/m ³
Propan-1-ol	Workers	Skin contact	Long-term exposure, Systemic effects	136 mg/kg
	Workers	Inhalation	Long-term exposure, Systemic effects	268 mg/kg
	Workers	Inhalation	Short-term exposure, Systemic effects	1723 mg/kg

mikrozyd® AF liquid *No Change Service!*Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

Substance name	Environmental Compartment	Value
Propan-1-ol	Fresh water	10 mg/l
	Marine water	1 mg/l
	Soil	2,2 mg/l
	Marine sediment	2,28 mg/kg
	Fresh water sediment	22,8 mg/kg
	Effects on waste water treatment plants	96 mg/l
	Intermittent use/release	10 mg/l
Ethanol	Fresh water	0,96 mg/l
	Marine water	0,79 mg/l
	Fresh water sediment	3,6 mg/kg
	Soil	0,63 mg/kg

8.2 Exposure controls**Personal protective equipment**

- Eye protection : Safety glasses with side-shields conforming to EN166
- Hand protection : 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.
- 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.
- Protective measures : Avoid contact with skin and eyes.

SECTION 9: Physical and chemical properties**9.1 Information on basic 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 Regulation (EC) No. 1907/2006

schülke 

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

Version Revision Date: Date of last issue: 26.01.2015
05.00 03.11.2015 Date of first issue: 03.12.2001

Boiling point/boiling range	: ca. 80 °C
Flash point	: 27 °C, DIN 51755 Part 1
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper explosion limit	: Propan-1-ol: 17,5 %(V)
Lower explosion limit	: Propan-1-ol: 2,1 %(V)
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	: in all proportions , 20 °C
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: Propan-1-ol: 412 °C
Viscosity	
Viscosity, dynamic	: not determined
Flow time	: < 15 s at 20 °C, DIN 53211
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong acids and oxidizing agents,

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 15000 mg/kg, Estimation of acute oral toxicity, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)

Acute inhalation toxicity : Acute toxicity estimate: > 50 mg/l, in accordance with the cal-

mikrozyd® AF liquid *No Change Service!*Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

Acute dermal toxicity : culation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)
: Acute toxicity estimate: > 10000 mg/kg, in accordance with the calculation methode presented in the GHS (Globally Harmonized System), Part 3, Chapter 3.1)

Skin corrosion/irritation**Components:****Propan-1-ol:**

No skin irritation

Ethanol:

Rabbit, No skin irritation

Serious eye damage/eye irritation**Product:**

Causes serious eye irritation. The toxicological data has been taken from products of similar composition., Expert judgement

Respiratory or skin sensitisation**Components:****Propan-1-ol:**

Does not cause skin sensitisation. Guinea pig, Maximisation Test (GPMT)

Ethanol:

Did not cause sensitisation on laboratory animals. Maximisation Test (GPMT), Guinea pig

Germ cell mutagenicity**Components:****Propan-1-ol:**

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

Ethanol:

Genotoxicity in vitro : OECD Test Guideline 471, Not mutagenic in Ames Test

Genotoxicity in vivo : not mutagenic

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

Carcinogenicity**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**Components:****Propan-1-ol:**

Effects on fertility : Rat, Inhalation, NOAEL: 8,6 mg/l

Effects on foetal development : Rat, Inhalation, NOAEL: 8,6 mg/l

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

mikrozyd® AF liquid *No Change Service!*Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

Assessment

Ethanol:

Rat, Oral, NOAEL: 2.000 mg/kg

Reproductive toxicity - Assessment : In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance.

STOT - single exposure**Product:**

May cause drowsiness or dizziness.

STOT - repeated exposure**Components:****Propan-1-ol:**

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

Repeated dose toxicity**Components:****Ethanol:**

Rat, NOAEL: 1.730 mg/kg, LOAEL: 3.160 mg/kg, Oral90 d

Aspiration toxicity

No data available

Further information**Product:**

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

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

Toxicity to bacteria : EC50 : 68.750 mg/l , OECD 209

Components:**Propan-1-ol:**

Toxicity to fish : LC50 (Fish): 3.200 mg/l, 96 h
 Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.642 mg/l, 48 h
 Toxicity to algae : NOEC (Chlorella pyrenoidosa (aglae)): 1.150 mg/l, 48 h
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 100 mg/l , 21 d, Daphnia magna (Water flea), OECD Test Guideline 211

Ethanol:

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

mikrozyd® AF liquid *No Change Service!*Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001**12.2 Persistence and degradability****Product:**

Biodegradability : Readily biodegradable, OECD 301D / EEC 84/449 C6
 Chemical Oxygen Demand (COD) : 13.000 mg/l ,1% solution

Components:**Propan-1-ol:**

Biodegradability : Readily biodegradable

Ethanol:

Biodegradability : Readily biodegradable

12.3 Bioaccumulative potential**Components:****Propan-1-ol:**

Bioaccumulation : Bioaccumulation is unlikely.
 Partition coefficient: n-octanol/water : log Pow: 0,43

Ethanol:

Bioaccumulation : Bioaccumulation is unlikely.
 Partition coefficient: n-octanol/water : log Pow: -0,14, calculated

12.4 Mobility in soil**Components:****Propan-1-ol:**

Mobility : Mobile in soils

Ethanol:

Mobility : No data available

12.5 Results of PBT and vPvB assessment**Product:**

Assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

12.6 Other adverse effects**Product:**

Additional ecological information : none

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

Product : Dispose of the product according to the defined EWC (European Waste Code) No.
 Contaminated packaging : Take empty packaging to the recycling plant.
 Waste key for the unused product : EWC 070604
 Waste key for the unused product(Group) : Waste material of HZVA from fats, lubricants, soaps, detergents, disinfectants and personal protection products.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

schülke 

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

Version
05.00

Revision Date:
03.11.2015

Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

SECTION 14: Transport information

14.1 UN number

ADR : UN 1987
IMDG : UN 1987
IATA : UN 1987

14.2 UN proper shipping name

ADR : ALCOHOLS, N.O.S.
(Propan-1-ol, Ethanol)
IMDG : ALCOHOLS, N.O.S.
(Propan-1-ol, Ethanol)
IATA : Alcohols, n.o.s.
(Propan-1-ol, Ethanol)

14.3 Transport hazard class(es)

ADR : 3
IMDG : 3
IATA : 3

14.4 Packing group

ADR
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : D/E
IMDG
Packing group : III
Labels : 3
EmS Code : F-E, S-D
IATA
Packing instruction (cargo aircraft) : 366
Packing group : III
Labels : Flammable Liquid

14.5 Environmental hazards

ADR
Environmentally hazardous : no
IMDG
Marine pollutant : no

14.6 Special precautions for user

For personal protection see section 8.

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

Not applicable for product as supplied.

mikrozyd® AF liquid **No Change Service!**Version
05.00Revision Date:
03.11.2015Date of last issue: 26.01.2015
Date of first issue: 03.12.2001**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Legislation on the control of major-accident hazards involving dangerous substances : The product belongs to at least one of the categories 1 through 11 mentioned in Annex 1 of the Directive 1996/82/EC concerning the control of major accident hazards.

Volatile organic compounds : Volatile organic compounds (VOC) content: 60 %, Directive 2010/75/EC on the limitation of emissions of volatile organic compounds

15.2 Chemical Safety Assessment

Exempt

SECTION 16: Other information**Full text of H-Statements**

H225 : Highly flammable liquid and vapour.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H336 : May cause drowsiness or dizziness.

Full text of other abbreviations

Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
STOT SE : Specific target organ toxicity - single exposure

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

schülke -†

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

Version
05.00

Revision Date:
03.11.2015

Date of last issue: 26.01.2015
Date of first issue: 03.12.2001

Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information

|| Changes compared with the previous edition!!!

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.