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

1.1 Product identifier

Trade name : Bacillol AF

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

Use of the Substance/Mixture : In-door use
Disinfectants and general biocidal products, For further information, refer to the product technical data sheet.

1.3 Details of the supplier of the safety data sheet

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

Responsible Department : Scientific Affairs
KundenService-SiDa@bode-chemie.de

1.4 Emergency telephone number

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

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.
Serious eye damage , Category 1	H318: Causes serious eye damage.
Specific target organ toxicity - single exposure , Category 3, Central nervous system	H336: May cause drowsiness or dizziness.

Classification (67/548/EEC, 1999/45/EC)

Flammable	R10: Flammable.
Irritant	R41: Risk of serious damage to eyes.
	R67: Vapours may cause drowsiness and dizziness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.

Precautionary statements	:	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
		P102	Keep out of reach of children.
		Prevention:	
		P261	Avoid breathing vapours.
		P280	Wear eye protection/ face protection.
		Response:	
		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 or doctor/ physician.
		Disposal:	
		P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
Propan-1-ol (CAS: 71-23-8)

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Propan-1-ol	71-23-8 200-746-9 01-2119486761-29	F; R11 Xi; R41 R67	Flam. Liq.2; H225 Eye Dam.1; H318 STOT SE3; H336	>= 30 - < 50
Propan-2-ol	67-63-0 200-661-7 01-2119457558-25	F; R11 Xi; R36 R67	Flam. Liq.2; H225 Eye Irrit.2; H319 STOT SE3; H336	>= 20 - < 30
Ethanol	64-17-5 200-578-6 01-2119457610-43	F; R11	Flam. Liq.2; H225	>= 1 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	If you feel unwell, seek medical advice (show the label where possible).
If inhaled	:	Move to fresh air.
In case of skin contact	:	Wash off with plenty of water.

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If swallowed	:	Rinse mouth with water. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

no data available

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	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	none

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	No hazardous combustion products are known

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Use personal protective equipment.

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	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece).

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	For personal protection see section 8.
Advice on protection against fire and explosion	:	Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Provide sufficient air exchange and/or exhaust in work rooms.
Hygiene measures	:	Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Do not get in eyes.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store at room temperature in the original container. Keep tightly closed.
Advice on common storage	:	Keep away from food and drink.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Propan-1-ol	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 136 mg/kg End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 268 mg/m3 End Use: Workers Exposure routes: Inhalation Potential health effects: Short-term exposure Value: 1723 mg/m3 End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 81 mg/kg End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 80 mg/m3 End Use: Consumers Exposure routes: Inhalation Potential health effects: Short-term exposure Value: 1036 mg/m3 End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 61 mg/kg
Propan-2-ol	:	End Use: Workers

Exposure routes: Skin contact
Potential health effects: Chronic effects
Value: 888 mg/kg
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Chronic effects
Value: 500 mg/m3
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Chronic effects
Value: 319 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Chronic effects
Value: 89 mg/m3
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Chronic effects
Value: 26 mg/kg

Ethanol : End Use: Consumers
Exposure routes: Ingestion
Value: 87 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Propan-1-ol : Fresh water
Value: 10 mg/l

Soil
Value: 2,2 mg/kg

Marine water
Value: 1 mg/l

Fresh water sediment
Value: 22,8 mg/kg

Marine sediment
Value: 2,28 mg/kg

Propan-2-ol : Fresh water
Value: 140,9 mg/l

Marine water
Value: 140,9 mg/l

Fresh water sediment
Value: 552 mg/kg

Marine sediment
Value: 552 mg/kg

Soil
Value: 28 mg/kg

Ethanol : Fresh water
Value: 0,96 mg/l

Fresh water sediment
Value: 3,6 mg/kg

Marine water
Value: 0,76 mg/l

Soil
Value: 0,63 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	colourless
Odour	:	alcohol-like
pH	:	6, (20 °C)
Boiling point/boiling range	:	no data available
Flash point	:	25 °C Method: DIN 51755 Part 1
Flammability (solid, gas)	:	no data available
Lower explosion limit	:	2 %(V)
Vapour pressure	:	40 hPa (20 °C)
Density	:	0,86 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	soluble

9.2 Other information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Heat.
Strong sunlight for prolonged periods.

10.5 Incompatible materials

Materials to avoid : None.

10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product:

Acute toxicity

no data available

Skin corrosion/irritation

Result: No skin irritation

Serious eye damage/eye irritation

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Result: Does not cause skin sensitisation.

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT - single exposure

no data available

STOT - repeated exposure

no data available

Aspiration toxicity

no data available

Components:

Acute toxicity

Propan-1-ol (CAS: 71-23-8):

Acute oral toxicity	:	LD50 Oral rat: 8.000 mg/kg
Acute inhalation toxicity	:	LC50 rat: > 33,8 mg/l Exposure time: 4 h Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 Dermal rabbit: 4.032 mg/kg Method: Calculation method

Propan-2-ol (CAS: 67-63-0):

Acute oral toxicity	:	LD50 Oral rat: > 2.000 mg/kg
Acute inhalation toxicity	:	LC50 rat: > 20 mg/l Exposure time: 8 h
Acute dermal toxicity	:	LD50 Dermal rabbit: > 2.000 mg/kg

Ethanol (CAS: 64-17-5):

Acute oral toxicity	:	LD50 Oral rat: 6.200 mg/kg
Acute inhalation toxicity	:	LC50 rat: 124,7 mg/l Exposure time: 4 h

Skin corrosion/irritation

Propan-1-ol (CAS: 71-23-8):
Species: rabbit
Result: No skin irritation

Propan-2-ol (CAS: 67-63-0):
Species: rabbit
Result: No skin irritation

Ethanol (CAS: 64-17-5):
Species: rabbit
Exposure time: 24 h
Result: Mild skin irritation
Method: Draize Test

Serious eye damage/eye irritation

Propan-1-ol (CAS: 71-23-8):
Species: rabbit
Result: Irreversible effects on the eye

Propan-2-ol (CAS: 67-63-0):
Species: rabbit
Result: Eye irritation

Ethanol (CAS: 64-17-5):
Species: rabbit

Exposure time: 24 h
Result: Mild eye irritation
Method: Draize Test

Respiratory or skin sensitisation

Propan-1-ol (CAS: 71-23-8):
Test Method: Maximisation Test
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 406

Propan-2-ol (CAS: 67-63-0):
Test Method: Buehler Test
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Propan-1-ol (CAS: 71-23-8):

Genotoxicity in vitro	:	Type: in vitro assay Result: negative

Propan-2-ol (CAS: 67-63-0):

Genotoxicity in vitro	:	Type: Ames test Metabolic activation: with and without metabolic activation Result: negative

SECTION 12: Ecological information

12.1 Toxicity

Components:
Propan-1-ol (CAS: 71-23-8):

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 4.555 mg/l Exposure time: 96 h Test Method: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.644 mg/l Exposure time: 48 h Method: DIN 38412
Toxicity to algae	:	NOEC (Chlorella vulgaris (Fresh water algae)): 1.150 mg/l Exposure time: 48 h
Toxicity to bacteria	:	IC50 (Bacteria): > 1.000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Propan-2-ol (CAS: 67-63-0):

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h

Toxicity to algae	:	EC50 (Scenedesmus capricornutum (fresh water algae)): > 100 mg/l Exposure time: 72 h

Ethanol (CAS: 64-17-5):

Toxicity to fish	:	LC50 (Fish): 13.000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 12.340 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 5.000 mg/l Exposure time: 72 h

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of as hazardous waste in compliance with local and national regulations. The following Waste Codes are only suggestions:
Waste Code EU	:	070601* aqueous washing liquids and mother liquors
Contaminated packaging	:	Empty remaining contents. Store containers and offer for recycling of material when in accordance with the local regulations.

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. (n-propanol, isopropanol)
IMDG	:	ALCOHOLS, N.O.S. (n-propanol, isopropanol)
IATA	:	ALCOHOLS, N.O.S. (n-propanol, isopropanol)

14.3 Transport hazard class

ADR	:	3
IMDG	:	3
IATA	:	3

14.4 Packaging group

ADR		
Packaging group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
Tunnel restriction code	:	D/E
IMDG		
Packaging group	:	III
Labels	:	3
EmS Number	:	F-E, S-D
IATA		
Packaging group	:	III
Labels	:	3

14.5 Environmental hazards

ADR		
Environmentally hazardous	:	no
IMDG		
Marine pollutant	:	no
IATA		
Environmentally hazardous	:	no

14.6 Special precautions for user

not applicable

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

not applicable

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

		Quantity1	Quantity2
6	Flammable.	5.000 t	50.000 t

Volatile organic compounds : Directive 1999/13/EC
74,73 %
VOC content excluding water

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of R-Phrases

R11	Highly flammable.
R36	Irritating to eyes.
R41	Risk of serious damage to eyes.
R67	Vapours may cause drowsiness and dizziness.

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

Safety datasheet sections which have been updated:

2. Hazards identification

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.