

# Safety Data Sheet

according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

REF: 740323.1000  
Printing date: 12.05.2021

Buffer DB (1000 mL)  
Date of issue: 01.04.2019

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

### 1.1 Product identifier

REF 740323.1000  
Product name Buffer DB (1000 mL)

REACH Registration number(s): see SECTION 3.1/3.2 or  
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 1000 mL DB

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

#### Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0  
The exposure scenario is integrated into sections 1-16.

#### Uses advised against

not described

### 1.3 Details of the supplier of the safety data sheet

#### Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG  
Valenciener Str. 11, 52355 Düren, GERMANY  
Tel.: +49 2421 969 0

E-mail: [sds@mn-net.com](mailto:sds@mn-net.com) ([msds@mn-net.com](mailto:msds@mn-net.com))

### 1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.  
DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730

You find our current versions of SDS (22 languages) in Internet:

<http://www.mn-net.com/SDS>

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

1000 mL DB



GHS02

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H225

Flam. Liq. 2

### 2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identifier(s) (EU 1272/2008 Annex I - 1.5.1.2).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).

1000 mL DB



GHS02

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Signal word: DANGER

H225  
Highly flammable liquid and vapour.

P210, P233  
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed.

## 2.3 Other hazards

### Possible hazards from physicochemical properties

Flammable properties. Vapour forms explosive mixtures with air. ---

### Information pertaining to particular risks to human and possible symptoms

-

### Information pertaining to particular risks to the environment

PBT: not applicable  
vPvB: not applicable

### Other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 1000 mL DB

Chemical:	<i>guanidine hydrochloride</i>	CAS No.:	50-01-1
Classification:	H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2		
Formula:	CH <sub>6</sub> ClN <sub>3</sub>		
Pseudonym:	guanidinium chloride		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119977063-35-0005		
EC No.:	200-002-3	Indice No.:	607-148-00-0
RTECS:	MF4300000	MFC D:	00013026
KE No.:	KE-18111		
Concentration:	3 - <10 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>ethanol</i> (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5
Classification:	H225, Flam. Liq. 2		
Formula:	C <sub>2</sub> H <sub>6</sub> O; C <sub>2</sub> H <sub>5</sub> OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFC D:	00003568
KE No.:	KE-13217		
Concentration:	55 - <75 %		
acc. CLP (GHS):	H225, Flam. Liq. 2		

### 3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

#### 4.1.1 After SKIN Contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

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- 4.1.2 After EYE Contact**  
After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.
- 4.1.3 After INHALATION of vapours**  
After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. ---
- 4.1.4 After ORAL Intake**  
After oral intake lots of water should be drunk after it has been ingested. ---
- 4.2 Most important symptoms and effects, both acute and delayed**  
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- 4.3 Indication of any immediate medical attention and special treatment needed**  
After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. ---

## SECTION 5: Firefighting measures

- 5.1 Extinguishing media**  
Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.
- 5.2 Special hazards arising from the substance or mixture**  
DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---
- 5.3 Advice for firefighters**  
No, for listed product. The substance/mixture is highly flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting.
- 5.4 Additional information**  
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## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection. Keep product away from sources of ignition - No smoking. Regular staff training is necessary.
- 6.2 Environmental precautions**  
not necessary
- 6.3 Methods and material for containment and cleaning up**  
Bind any escaping liquid with inert absorbent.  
Collect small amounts of leaked liquid and flush with water into drains.
- 6.4 Reference to other sections**  
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## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**  
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.
- 7.2 Conditions for safe storage, including any incompatibilities**  
The original product package of MACHEREY-NAGEL allows a safe storage. Classification into storage class A.  
Storage class (VCI): 3  
Water hazard class (DE): 1
- 7.2.1 Requirements for stock rooms and containers**  
Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place. Use inbreakable container for transport of glass bottles.
- 7.3 Specific end use(s)**  
Product for analytical use.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**1000 mL DB**

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): -  
 PNEC = Predicted No Effect Concentration

NIOSH: not listed  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: not listed

Chemical: *ethanol*

CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): 0.96 mg/L  
 PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 mL/m<sup>3</sup> / 380 mg/m<sup>3</sup>  
 E/e respirable

Short-term exposure factor: 4 (II), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m<sup>3</sup>

NIOSH: [TWA] 1000 ppm / 1900 mg/m<sup>3</sup>  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 1000 ppm / 1900 mg/m<sup>3</sup>

### 8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

#### 8.2.1 Respiratory protection

No additional recommendations.

#### 8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC (f.ex. from Ansell or KCL).

#### 8.2.3 Eye protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

#### 8.2.4 Skin protection

Recommended.

#### 8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**1000 mL DB**

Appearance: liquid  
 Flash point:

Colour: colourless  
 22 °C

Odor: alcoholic

### 9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

**Relevant Properties of Substance Group**

Substances are very volatile and form flammable vapour-air mixtures. ---

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no further data available.

### 10.2 Chemical stability

No known instability.

### 10.3 Possibility of hazardous reactions

But avoid reactions with oxidizing agents. Note: Can form very reactive substances with oxidizing agents. No further data available.

### 10.4 Conditions to avoid

Not necessary. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

### 10.5 Incompatible materials

Avoid storage with oxidising substances.

### 10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

#### 1000 mL DB

Chemical:	<i>guanidine hydrochloride</i>	CAS No.:	50-01-1
TSCA Inventory:	listed	California Proposition 65 List:	not listed
Australia NICNAS:	not listed	Canada CEPA 1999:	DSL yes
Japan CSCL/PRTR:	not listed, Japan PDSCL:		not listed
Japan ISHL:	not listed		
South Korea TCCA:	not listed		
Korea Exist.Chem.Inventory:	KE-18111		
LD50 <sub>orl rat</sub> :	475-907 mg/kg		
LC50 <sub>ihl rat</sub> :	[4h] 3181-7655 µg/m <sup>3</sup>		
LD50 <sub>drm rbt</sub> :	2000 mg/kg		

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
TSCA Inventory:	listed	California Proposition 65 List:	not listed
ACGIH:	1000 ppm		
Exposure Routes:	inhalation, ingestion, skin and/or eye contact		
Target Organs:	Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system		
Symptoms:	irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic		
Australia NICNAS:	not listed	Canada CEPA 1999:	DSL yes
Japan CSCL/PRTR:	not listed, Japan PDSCL:		not listed
Japan ISHL:	listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)		
South Korea TCCA:	not listed		
Korea Exist.Chem.Inventory:	KE-13217		
LD50 <sub>orl rat</sub> :	6200 mg/kg		
LC <sub>LoWihl</sub> gpg :	21.9 g/m <sup>3</sup>		
LC <sub>Loworl</sub> hmn :	1400 mg/kg		
LC50 <sub>ihl mouse</sub> :	[4h] 39 g/m <sup>3</sup>		
LC50 <sub>ihl rat</sub> :	[10h] 20 g/m <sup>3</sup>		
LD50 <sub>drm rbt</sub> :	20 000 mg/kg		
LD50 <sub>oral mouse</sub> :	3450 mg/kg		
TRGS 905 (DE):	K5, M5, R <sub>F</sub> C		

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## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 1000 mL DB

Chemical:	<i>guanidine hydrochloride</i>	CAS No.:	50-01-1
PNEC(fresh water):	-		
PNEC = Predicted No Effect Concentration			
LC50 <sub>leuciscus idus/96h</sub> :	1759 mg/L		
LC50 <sub>fish/96h</sub> :	[4d] 690-1850; [48h] 1758-2420 mg/L		
EC50 <sub>daphnia/48h</sub> :	70.2 mg/L		
EC10 <sub>pseudomonas putita/16h</sub> :	[72h] 11.8-33.5 mg/L		
Water hazard class (DE):	1	WGK No.:	0788
Storage class (VCI):	12		

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
PNEC(fresh water):	0.96 mg/L		
PNEC = Predicted No Effect Concentration			
LC50 <sub>daphnia magna/48h</sub> :	>100 mg/L		
LC50 <sub>pimephales promelas/96h</sub> :	13400 - 15100 mg/L		
LC50 <sub>leuciscus idus/96h</sub> :	[48h] 8140 mg/L		
LC50 <sub>fish/96h</sub> :	13 g/L		
EC50 <sub>daphnia/48h</sub> :	9.3-14.2 g/L		
IC50 <sub>scenedesmus quadricauda/72h</sub> :	[7d] 5000 mg/L		
EC10 <sub>pseudomonas putita/16h</sub> :	[EC5] 6500 mg/L		
Water hazard class (DE):	1	WGK No.:	0096
Dispersion coefficient(octanol-water):	-0.31		
Storage class (VCI):	3		

### 12.2 Persistence and degradability

not necessary

### 12.3 Bioaccumulative potential

not necessary

### 12.4 Mobility in soil

not necessary

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

no additional data available

## SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

### 13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains.

## SECTION 14: Transport information

<b>14.1 UN number:</b>	<b>1993</b>	<b>14.2 UN proper shipping name:</b>	<b>Flammable liquid, n.o.s. (ethanol mixture)</b>
<b>14.3 Class:</b>	<b>3</b>	<b>14.4 Packing group:</b>	<b>II</b>
<i>Road transport</i>			
Classification code:	F1	Tunnel restriction code:	E
Limited Quantity:	1 L	Special instructions:	640C
Excepted Quantity:	E 2		
<i>Air transport</i>			
PAX:	353	max. weight PAX:	5 L
CAO:	364	max. weight CAO:	60 L
<i>Maritime transport</i>			
EmS:	F-E, S-E	Storage category:	B

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## 14.5 Environmental hazards

none, contains only small quantities of hazardous substances

## 14.6 Special precautions for user

not necessary

## 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

## SECTION 15: Regulatory information

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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013  
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC  
TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011  
MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)  
Look for your country-specific regulations.

### 15.2 Chemical safety assessment

not necessary for these small amounts ---

## SECTION 16: Other information

### 16.1 List of H and P phrases

#### 16.1.1 List of relevant H phrases

H225 Highly flammable liquid and vapour.

#### 16.1.2 List of relevant P phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.

### 16.2 Training advice

Multiple safety training of staffs about danger and protection by using hazards in working area.

### 16.3 Recommended restriction on use

Only for professional user.  
An individual package of this product or test kit has a moderate hazardous potential.

### 16.4 Further information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.  
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### 16.5 Sources of key data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS  
Regulation 487/2013/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
Regulation 669/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
Regulation 1480/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019  
SUVA .CH, Limits in air at work 2009, revised on 01.2009  
Directive 1999/92/EC Minimum requirements for improving the safety and health protection of workers at risk from potentially explosive atmospheres  
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

#### Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU  
2017-08 Adaption of new ethanol denaturation 2016/1867/EU  
2017-11 Adaption of ECHA Registration dossier