

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

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### Section 1: Identification

#### 1.1 Product Identifier / Product Name

REF	744220.4
Product Name	NucleoMag DNA/RNA Water (4x96)
-	1 x 12 mL B-Beads
	1 x 500 mL MWA1
	1 x 400 mL MWA2
	3 x 300 mL MWA3
	2 x 250 mL MWA4
	1 x 125 mL RNase-free H <sub>2</sub> O

#### 1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

**Relevant identified uses**  
 Product for Analytical Use.  
 The Exposure scenario is integrated into sections 1-16.  
**Uses advised against**  
 not described

#### 1.3 Details of the Supplier and of the Safety Data Sheet

**Manufactured by:**  
 MACHEREY-NAGEL GmbH & Co. KG  
 Neumann-Neander-Str. 6-8, 52355 Dueren, 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

For Chemical Emergency  
 Spill, Leak, Fire, Exposure, or Accident  
 Call CHEMTREC Day or Night (CCN685047)  
 Within USA and Canada: **1-800-424-9300**  
 Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

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

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

### Section 2: Hazard(s) Identification

#### 2.0 Classification of the complete Product



GHS02 GHS07

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H319	Eye Irrit. 2
H336	STOT SE 3
H412	Aquatic Chronic 3

#### 2.1 Classification of the Substance(s) or Mixture(s)

12 mL B-Beads

Signal Word

Do not need labelling as hazardous

No Hazard Class

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**500 mL MWA1**



GHS07

Signal Word **WARNING**

Hazard Identification	Hazard Classes/Categories
H302	Acute Tox. 4 oral
H412	Aquatic Chronic 3

**400 mL MWA2**



GHS02



GHS07

Signal Word **DANGER**

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3

**300 mL MWA3**



GHS02



GHS07

Signal Word **WARNING**

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral

**250 mL MWA4**



GHS02

Signal Word **DANGER**

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2

**125 mL RNase-free H<sub>2</sub>O**

Signal Word **Do not need labelling as hazardous**  
-

No Hazard Class

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### 2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

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) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

#### 12 mL B-Beads

Do not need labelling as hazardous  
Signal Word: -

#### 500 mL MWA1



GHS07

Signal Word: WARNING

H302, H412

Harmful if swallowed. Harmful to aquatic life with long lasting effects.

P264W, P273, P301+312, P330

Wash with water thoroughly after handling. Avoid release to the environment. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

#### 400 mL MWA2



GHS02



GHS07

Signal Word: DANGER

H225, H319, H336

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

P210, P233, P260D, P280sh

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Do not breathe vapors. Wear protective gloves/eye protection.

#### 300 mL MWA3



GHS02



GHS07

Signal Word: WARNING

H226, H302

Flammable liquid and vapor. Harmful if swallowed.

P210, P264W, P301+312, P330

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash with water thoroughly after handling. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

#### 250 mL MWA4

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GHS02

Signal Word: DANGER

H225

Highly flammable liquid and vapor.

P210, P233

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

### 125 mL RNase-free H<sub>2</sub>O

Do not need labelling as hazardous

Signal Word: -

## 2.3 Other Hazards

### Possible Hazards from physicochemical Properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. Vapor forms explosive mixtures with air. For guanidine thiocyanate CAS 593-84-0: The properties H314, H332 «Causes severe skin burns and eye damage. Harmful if inhaled.» are not relevant, because the mixture solution is buffered to pH 4-9. ---

### Information pertaining to particular Risks to Human and possible Symptoms

Cause after oral intake, impairments of health when ingested in small quantities. May cause drowsiness or dizziness. -

### Information pertaining to particular Risks to the Environment

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

PBT: not applicable

vPvB: not applicable

### Other Hazards

---

## Section 3: Composition/Information on Ingredients

### 3.1 Substances or 3.2 Mixtures

#### 12 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

Classification: No criteria for classification or naming of chemical is not required.

TSCA Inventory: listed (CAS 1309-38-2)

Weight Percent: 1 - &lt;15 %

acc. GHS: The criteria for classification are not fulfilled.

#### 500 mL MWA1

Chemical: *guanidinium thiocyanate*

CAS No.: 593-84-0

Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3

Chemical Formula: C<sub>2</sub> H<sub>6</sub> N<sub>4</sub> S

Synonyms: guanidine rhodanide

TSCA Inventory: listed

RTECS: XL1225000

MFCD: 00013027

EC No.: 209-812-1

Indice No.: 615-004-00-3

Weight Percent: 45 - &lt;60 %

acc. GHS: H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3

#### 400 mL MWA2

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Chemical: *2-propanol* CAS No.: 67-63-0  
 Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3  
 Chemical Formula: C<sub>3</sub>H<sub>8</sub>O  
 Synonyms: isopropanol, IPA, propan-2-ol  
 TSCA Inventory: listed  
 RTECS: NT8050000 MFCD: 00011674  
 EC No.: 200-661-7 Indice No.: 603-117-00-0  
 Weight Percent: 95 - <100 %  
 acc. GHS: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3

### 300 mL MWA3

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1  
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2  
 Chemical Formula: CH<sub>6</sub>ClN<sub>3</sub>  
 Synonyms: guanidinium chloride  
 TSCA Inventory: listed  
 RTECS: MF4300000 MFCD: 00013026  
 EC No.: 200-002-3 Indice No.: 607-148-00-0  
 Weight Percent: 24 - <36 %  
 acc. GHS: H302, Acute Tox. 4 oral

Chemical: *ethanol* CAS No.: 64-17-5  
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)  
 Classification: H225, Flam. Liq. 2  
 Chemical Formula: C<sub>2</sub>H<sub>6</sub>O; C<sub>2</sub>H<sub>5</sub>OH  
 Synonyms: ethyl alcohol, methylated spirit  
 TSCA Inventory: listed  
 RTECS: KQ6300000 MFCD: 00003568  
 EC No.: 200-578-6 Indice No.: 603-002-00-5  
 Weight Percent: 35 - <55 %  
 acc. GHS: H226, Flam. Liq. 3

### 250 mL MWA4

Chemical: *ethanol* CAS No.: 64-17-5p  
 (pure, not denatured)  
 Classification: H225, Flam. Liq. 2  
 Chemical Formula: C<sub>2</sub>H<sub>6</sub>O  
 TSCA Inventory: listed  
 RTECS: KQ6300000 MFCD: 00003568  
 EC No.: 200-578-6 Indice No.: 603-002-00-5  
 Weight Percent: 75 - <90 %  
 acc. GHS: H225, Flam. Liq. 2

### 125 mL RNase-free H<sub>2</sub>O

Chemical: *water* CAS No.: 7732-18-5  
 Classification: No criteria for classification or naming of chemical is not required.  
 Chemical Formula: H<sub>2</sub>O  
 TSCA Inventory: listed  
 RTECS: ZC0110000  
 EC No.: 231-791-2  
 Weight Percent: 90 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.

## 3.3 Remarks

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

List of Hazard and Precaution phrases: see section 16.1

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### 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.

##### 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 Vapors

After inhalation of foam or vapor fresh air should be inhaled. Keep airways free.

##### 4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement 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. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive substance. Further treatment must to be carried out by an eye specialist. ---

### Section 5: Fire-Fighting Measures

#### 5.1 Extinguishable 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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

#### 5.2 Special Hazards arising from the Substance or Mixture

WARNING: Flammable. May form explosive vapor-air mixtures. DANGER: Highly flammable. Forms explosive vapor-air mixtures. Formation of hazardous and caustic vapor-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. Spray any vapors released with water. Retent fire water. Use only acid-resistant safety equipment. For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

#### 5.4 Additional Information

Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances. ---

### Section 6: Accidental Release Measures

#### 6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. 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, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

#### 6.2 Environmental Precautions

not necessary, contains only small amounts of these substances

#### 6.3 Methods and Material for Containment and Cleaning up

Bind any escaping liquid with inert absorbent.

And dispose in accordance to local regulations for the disposal of hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

#### 6.4 Reference to other Sections

see information in section 5.4 ---

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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 (Flammable).

Storage class (VCI): 3

Water hazard class (DE): 3

#### 7.2.1 Conditions for Safe Storage, including any Incompatibilities

Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 77°F (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.

### Section 8: Exposure Controls/Personal Protection

#### 8.1 Control Parameters

##### 12 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

##### 500 mL MWA1

Chemical: *guanidinium thiocyanate*

CAS No.: 593-84-0

DNEL: [inh] 1092 µg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 42.4 µg/L

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

##### 400 mL MWA2

Chemical: *2-propanol*

CAS No.: 67-63-0

DNEL: [inh] 500 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 140.9 mg/L

PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 400 ppm / 980 mg/m<sup>3</sup>

NIOSH STEL: 500 ppm / 1225 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] 400 ppm / 980 mg/m<sup>3</sup>

##### 300 mL MWA3

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<sub>(fresh water)</sub>: -

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<sub>(fresh water)</sub>: 0.96 mg/L

PNEC = Predicted No Effect Concentration

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>



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**250 mL MWA4**

Chemical: *ethanol* CAS No.: 64-17-5p  
 DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)  
 PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
PNEC = Predicted No Effect Concentration  
 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>

**125 mL RNase-free H<sub>2</sub>O**

Chemical: *water* CAS No.: 7732-18-5

### 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 (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

#### 8.2.3 Eye/Face Protection

Yes, Splash Goggles.

#### 8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Hygiene Measures

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

**12 mL B-Beads**

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	data not available	
d) pH:	data not available	
e) Melting Point:	data not available	
f) Boiling Point:	data not available	
g) Flash Point:	data not available	
h) Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i) Flammability (solid, gas):	data not available	
j) Explosive Limits:	data not available	
k) Vapor Pressure (68°F):	data not available	
l) Vapor Density <sub>(air=1)</sub> :	data not available	
m) Specific Gravity:	data not available	
n) Soluble in Water:	data not available	
o) Partition Coefficient (o-w):	data not available	
p) Autoignition Temperature:	data not available	
q) Decomposition temperature:	data not available	
r) Viscosity:	data not available	
s) Explosive properties:	data not available	
t) Oxidizing properties:	---	

**500 mL MWA1**

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	data not available	
d) pH:	6.5-7.5	
e) Melting Point:	data not available	
f) Boiling Point:	data not available	
g) Flash Point:	data not available	
h) Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i) Flammability (solid, gas):	data not available	





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- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density<sub>(air=1)</sub>: data not available
- m) Specific Gravity: 1.13 g/cm<sup>3</sup>
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

### 400 mL MWA2

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- c) Odor Threshold: data not available
- d) pH: data not available
- e) Melting Point: -90 °C
- f) Boiling Point: 82 °C
- g) Flash Point: 12 °C
- h) Evaporation Rate<sub>(ether=1)</sub>: data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: 2-12.7 Vol%
- k) Vapor Pressure (68°F): 43 hPa
- l) Vapor Density<sub>(air=1)</sub>: 2.08
- m) Specific Gravity: 0.78 g/cm<sup>3</sup>
- n) Soluble in Water: 0-100 %
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: 425 °C
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

### 300 mL MWA3

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- c) Odor Threshold: data not available
- d) pH: 5-5.5
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: 23 °C
- h) Evaporation Rate<sub>(ether=1)</sub>: data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density<sub>(air=1)</sub>: data not available
- m) Specific Gravity: 0.98 g/cm<sup>3</sup>
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

### 250 mL MWA4

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- c) Odor Threshold: 19-93 mg/m<sup>3</sup>
- d) pH: 7
- e) Melting Point: -114 °C
- f) Boiling Point: 78 °C
- g) Flash Point: 14 °C
- h) Evaporation Rate<sub>(ether=1)</sub>: data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: 3.2-15 Vol%
- k) Vapor Pressure (68°F): 59 hPa
- l) Vapor Density<sub>(air=1)</sub>: 1.59
- m) Specific Gravity: 0.82 g/cm<sup>3</sup>

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n)	Soluble in Water:	0-100 %
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	425
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

### 125 mL RNase-free H<sub>2</sub>O

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	6-8	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	1.0 g/cm <sup>3</sup>	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

## 9.2 Other Information

Data for the other parameters of the mixtures are not available.

### Relevant Properties of Substance Group

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

## 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. Can form very reactive substances with oxidizing agents. Possibility: Contact with acids liberates toxic gas. 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 contact with strong acids or alkalines. Avoid storage with oxidizing 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 chemicals. Quantitative data on the toxicity of this product are not available.

#### 12 mL B-Beads

Chemical: *magnetic particles, suspended in water*  
 TSCA Inventory: listed (CAS 1309-38-2)

CAS No.: -

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### 500 mL MWA1

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 Canada CEPA 1999: DSL yes  
 LD50<sub>orl rat</sub>: 593 mg/kg  
 LC50<sub>drm rbt</sub>: >2000 mg/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: [4h] 5.319 mg/L  
 LD50<sub>ipr mus</sub>: 300 mg/kg  
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

### 400 mL MWA2

Chemical: *2-propanol* CAS No.: 67-63-0  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 ACGIH: 1230 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system  
 Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis  
 Canada CEPA 1999: DSL yes  
 LD50<sub>orl rat</sub>: 5045 mg/kg  
 LC<sub>Loworl hmn</sub>: 3570 mg/kg  
 LC50<sub>ihl rat</sub>: 164h g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub>: 12.8 g/kg

### 300 mL MWA3

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 Canada CEPA 1999: DSL yes  
 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  
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

Chemical: *ethanol* CAS No.: 64-17-5  
 TSCA Inventory: listed California Prop. 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  
 Canada CEPA 1999: DSL yes  
 LD50<sub>orl rat</sub>: 6200 mg/kg  
 LC<sub>Lowihl gpg</sub>: 21.9 g/m<sup>3</sup>  
 LC<sub>Loworl hmn</sub>: 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

### 250 mL MWA4

Chemical: *ethanol* CAS No.: 64-17-5p  
 TSCA Inventory: listed California Prop. 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  
 Canada CEPA 1999: DSL yes  
 LD50<sub>orl rat</sub>: 6200 mg/kg  
 LC<sub>Lowihl gpg</sub>: 21.9 g/m<sup>3</sup>  
 LC<sub>Loworl hmn</sub>: 1400 mg/kg  
 LC50<sub>ihl mouse</sub>: [4h] 39 g/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: [4h] 8 / [10h] 20 g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub>: 20 000 mg/kg  
 LD50<sub>oral mouse</sub>: 3450 mg/kg

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### 125 mL RNase-free H<sub>2</sub>O

Chemical: *water*  
TSCA Inventory: listed

CAS No.: 7732-18-5

## Section 12: Ecological Information

### 12.1 Toxicity

Following information is valid for pure chemicals.

#### 12 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

#### 500 mL MWA1

Chemical: *guanidinium thiocyanate*

CAS No.: 593-84-0

Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.

Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).

PNEC(fresh water) : 42.4 µg/L

PNEC = Predicted No Effect Concentration

LC50<sub>fish/96h</sub> : [4d] 89.1 mg/L

EC50<sub>daphnia/48h</sub> : 42.4 mg/L

IC50<sub>scenedesmus quadricauda/72h</sub> : 130 mg/L

EC10<sub>pseudomonas putita/16h</sub> : [10d] 200 mg/L

Partition Coefficient (o-w): [pH 5.1] -1.11

#### 400 mL MWA2

Chemical: *2-propanol*

CAS No.: 67-63-0

PNEC(fresh water) : 140.9 mg/L

PNEC = Predicted No Effect Concentration

LC50<sub>fish/96h</sub> : 1400 mg/L

EC50<sub>daphnia/48h</sub> : 13.3 g/L

IC50<sub>scenedesmus quadricauda/72h</sub> : >1000 mg/L

EC10<sub>pseudomonas putita/16h</sub> : EC5: 1050 mg/L

Partition Coefficient (o-w): 0.05

#### 300 mL MWA3

Chemical: *guanidine hydrochloride*

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

Chemical: *ethanol*

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

Partition Coefficient (o-w): -0.31

#### 250 mL MWA4

Chemical: *ethanol*

CAS No.: 64-17-5p

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

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Partition Coefficient (o-w): -0.31

125 mL RNase-free H<sub>2</sub>O

Chemical: water

CAS No.: 7732-18-5

### 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

Do not collect in acidic waste. May form toxic gases.

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 (RCRA Code D002/D003, EU 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

14.1. UN/NA: 1993 14.2. Proper Shipping Name: Flammable liquid, n.o.s. (ethanol, 2-propanol mixture)

14.3. Hazard Class: 3 14.4. Packing Group: II

*Transportation by Road*

Classification code: F1

Limited Quantity: 1 L

Excepted Quantity: E 2

*Air Transportation*

PAX:

CAO:

*Maritime Transport*

EmS:

F-E, S-E

Tunnel restriction code: E

Special instructions: 640C

max. weight PAX: 5 L

max. weight CAO: 60 L

Storage Category: B

### 14.5 Environmental Hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these 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

#### U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety &amp; Health Topics

TSCA Inventory

#### U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

#### Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

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MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)

### 15.2 Chemical Safety Assessment

not necessary for these small amounts ---

## Section 16: Other Information

### 16.1 List of Hazard and Precaution Phrases

#### 16.1.1 List of relevant H Phrases

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

#### 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.
P260D	Do not breathe vapors.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.

### 16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

### 16.3 Recommended Restriction on Use

Only for Professional User.

Look about employee restrictions for young people!

Look about employee restrictions for pregnant women and nursing women!

An individual package of this product or test kit has a moderate hazardous potential.

### 16.4 Further Information

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### 16.5 Sources of Key Data

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC

SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets

EU-Directive 1999/92/EC Minimum Requirements for Improving the Safety and Health Protection of Workers at Risk from potentially Explosive Atmospheres

KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

#### Revisions/Updates

Reason for Revision: 2016-03 Adaptation of European Regulation 1221/2015/EU

You find our current Versions of SDS in Internet:

<http://www.mn-net.com/SDS> [U.S. English]