

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 744601.1 NucleoMag DNA Swab (1x96) Page: 1/15
 Printing Date: 27.02.2020 Date of Issue: 03.06.2019

Section 1: Identification

1.1 Product Identifier / Product Name

REF 744601.1
 Product Name NucleoMag DNA Swab (1x96)
 -
 1 x 1.5 mL B-Beads
 1 x 50 mL FLB
 4 x 800 µL Liquid Proteinase K
 1 x 75 mL MB3
 1 x 75 mL MB4
 1 x 30 mL MB6
 2 x 40 mL MBL2

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 (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 WARNING

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

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

1.5 mL B-Beads

Signal Word Do not need labelling as hazardous
 -

No Hazard Class

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50 mL FLB

Signal Word Do not need labelling as hazardous
 -
 No Hazard Class

800 µL Liquid Proteinase K

Signal Word Do not need labelling as hazardous
 -
 No Hazard Class

75 mL MB3



Signal Word WARNING

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

75 mL MB4



Signal Word WARNING

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

30 mL MB6

Signal Word Do not need labelling as hazardous
 -
 No Hazard Class

40 mL MBL2



Signal Word WARNING

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

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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.

1.5 mL B-Beads

Do not need labelling as hazardous
Signal Word: -

50 mL FLB

Do not need labelling as hazardous
Signal Word: -

800 µL Liquid Proteinase K

Do not need labelling as hazardous
Signal Word: -

75 mL MB3



GHS02 GHS07

Signal Word: WARNING

75 mL MB4



GHS02 GHS07

Signal Word: WARNING

30 mL MB6

Do not need labelling as hazardous
Signal Word: -

40 mL MBL2



GHS02 GHS07

Signal Word: WARNING

2.3 Other Hazards

Possible Hazards from physicochemical Properties

Flammable properties. ---

Information pertaining to particular Risks to Human and possible Symptoms

Cause after oral intake, impairments of health when ingested in small quantities.

Kit contains small amounts of enzymes, which may cause sensitization by direct and repeated contact. ---

Information pertaining to particular Risks to the Environment

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Other Hazards

Section 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

1.5 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 - <15 %
 acc. GHS: The criteria for classification are not fulfilled.

50 mL FLB

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Chemical Formula: CH₆ ClN₃
 Synonyms: guanidinium chloride
 TSCA Inventory: listed
 RTECS: MF4300000 MFCD: 00013026
 EC No.: 200-002-3 Indice No.: 607-148-00-0
 Weight Percent: 3 - <10 %
 acc. GHS: The criteria for classification are not fulfilled.

800 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-61
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
 Chemical Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
 TSCA Inventory: listed (CAS 102925-54-2)
 RTECS: - MFCD: 00132129
 EC No.: 254-457-8 Indice No.: 647-014-00-9
 Weight Percent: 1 - <3 %
 acc. GHS: The criteria for classification are not fulfilled.

Chemical: *glycerole* CAS No.: 56-81-5
 Classification: No criteria for classification or naming of chemical is not required.
 Chemical Formula: C₃ H₈ O₃
 Synonyms: glycerin, 1,2,3-propanetriol
 TSCA Inventory: listed (1,2,3-Propanetriol)
 RTECS: MA8050000 MFCD: 00004722
 EC No.: 200-289-5 Indice No.: n/a
 Weight Percent: 50 - <80 %
 acc. GHS: The criteria for classification are not fulfilled.

75 mL MB3

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Chemical Formula: C₂ H₆ O; C₂ H₅ 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: 20 - <35 %
 acc. GHS: H226, Flam. Liq. 3

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Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Chemical Formula: NaClO₄
 TSCA Inventory: listed
 RTECS: SC9800000 MFCD: -
 EC No.: 231-511-9 Indice No.: 017-010-00-6
 Weight Percent: 15 - <40 %
 acc. GHS: H302, Acute Tox. 4 oral

75 mL MB4

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Chemical Formula: C₂H₆O; C₂H₅OH
 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: 20 - <35 %
 acc. GHS: H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Chemical Formula: NaClO₄
 TSCA Inventory: listed
 RTECS: SC9800000 MFCD: -
 EC No.: 231-511-9 Indice No.: 017-010-00-6
 Weight Percent: 15 - <40 %
 acc. GHS: H302, Acute Tox. 4 oral

30 mL MB6

Chemical: *chemicals/mixture < 1%* CAS No.: -
 Classification: No criteria for classification or naming of chemical is not required.
 TSCA Inventory: all listed, <1%
 Weight Percent: 0,1 - <1 %
 acc. GHS: The criteria for classification are not fulfilled.

40 mL MBL2

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Chemical Formula: C₂H₆O; C₂H₅OH
 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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Chemical Formula: NaClO₄
 TSCA Inventory: listed
 RTECS: SC9800000 MFCD: -
 EC No.: 231-511-9 Indice No.: 017-010-00-6
 Weight Percent: 15 - <40 %
 acc. GHS: H302, Acute Tox. 4 oral

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 with eye washing bottle, eye douche or running water (protect intact eye).

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 should be drunk after it has been ingested.

4.2 Most important Symptoms and Effects, both acute and delayed

4.3 Indication of any immediate Medical Attention and Special Treatment needed

No additionally recommendations. ---

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. Formation of hazardous and caustic vapor-air mixtures possible. ---

5.3 Advice for Firefighters

No, for listed product. Product package burns like paper or plastic.

5.4 Additional Information

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. 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 sewer.

6.4 Reference to other Sections

Section 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.

Storage class (VCI): 3

Water hazard class (DE): 1

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7.2.1 Conditions for Safe Storage, including any Incompatibilities
 Keep original product packages tightly closed during handling and storage.

7.3 Specific End Use(s)
 Product for analytical use.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

1.5 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -

50 mL FLB

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

DNEL: [inh] 3.5 mg/m³
 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

800 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l

Chemical: *glycerole* CAS No.: 56-81-5

DNEL: [inh] 56 mg/m³
 DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 0.885 mg/L
 PNEC = Predicted No Effect Concentration

75 mL MB3

Chemical: *ethanol* CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

NIOSH: [TWA] 1000 ppm / 1900 mg/m³
 [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/m³

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

75 mL MB4

Chemical: *ethanol* CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

NIOSH: [TWA] 1000 ppm / 1900 mg/m³
 [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/m³

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

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30 mL MB6

Chemical: *chemicals/mixture < 1%*

CAS No.: -

40 mL MBL2

Chemical: *ethanol*

CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

NIOSH: [TWA] 1000 ppm / 1900 mg/m³
 [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/m³

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

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

Not necessary.

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

1.5 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(ether=1) : | 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(air=1) : | 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: | --- | |

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50 mL FLB

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	7.5 - 8.5	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate _(ether=1) :	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 _(air=1) :	data not available	
m)	Specific Gravity:	1.03 g/cm ³	
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:	---	

800 µL Liquid Proteinase K

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	7-8	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate _(ether=1) :	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 _(air=1) :	data not available	
m)	Specific Gravity:	1.1 g/cm ³	
n)	Soluble in Water:	0-100 %	
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:	---	

75 mL MB3

a)	Appearance: liquid	Color: colorless	b) Odor: alcoholic
c)	Odor Threshold:	data not available	
d)	pH:	4.5-5.5	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	26 °C	
h)	Evaporation Rate _(ether=1) :	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 _(air=1) :	data not available	
m)	Specific Gravity:	1.06 g/cm ³	
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:	---	

75 mL MB4

a)	Appearance: liquid	Color: colorless	b) Odor: alcoholic
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- c) Odor Threshold: data not available
- d) pH: 4.5-5.5
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: 26 °C
- h) Evaporation Rate_(ether=1): 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_(air=1): data not available
- m) Specific Gravity: 1.06 g/cm³
- 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: ---

30 mL MB6

- a) Appearance: liquid Color: colorless b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: 8-9
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: data not available
- h) Evaporation Rate_(ether=1): 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_(air=1): data not available
- m) Specific Gravity: 1.0 g/cm³
- 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: ---

40 mL MBL2

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- c) Odor Threshold: data not available
- d) pH: 5-6
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: 24 °C
- h) Evaporation Rate_(ether=1): 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_(air=1): 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: ---

9.2 Other Information

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

Relevant Properties of Substance Group

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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

Can form very reactive substances with oxidizing agents. No further data available.

10.4 Conditions to avoid

10.5 Incompatible Materials

Not necessary. Avoid contact with strong acids or alkalines. ---

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.

1.5 mL B-Beads

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

CAS No.: -

50 mL FLB

Chemical: *guanidine hydrochloride*
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50_{orl rat}: 475-907 mg/kg
 LC50_{ihl rat}: [4h] 3181-7655 µg/m³
 LD50_{drm rbt}: 2000 mg/kg

CAS No.: 50-01-1

800 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)*
 TSCA Inventory: listed (CAS 102925-54-2)

CAS No.: 39450-01-61

Chemical: *glycerole*
 TSCA Inventory: listed (1,2,3-Propanetriol)
 Exposure Routes: inhalation, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, kidneys
 Symptoms: irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury
 LD50_{orl rat}: 12.6 g/kg
 LD50_{drm rbt}: >18.7 g/kg

CAS No.: 56-81-5

75 mL MB3

Chemical: *ethanol*
 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_{orl rat}: 6200 mg/kg
 LC_{LoWihl gpg}: 21.9 g/m³
 LC_{LoWorl hmn}: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg

CAS No.: 64-17-5

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Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL Yes
 LD50_{orl rat}: 2100 mg/kg
 LD50_{ipr mus}: 551 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

75 mL MB4

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_{orl rat}: 6200 mg/kg
 LC_{LoWihl} gpg: 21.9 g/m³
 LC_{LoWorl} hmn: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL Yes
 LD50_{orl rat}: 2100 mg/kg
 LD50_{ipr mus}: 551 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

30 mL MB6

Chemical: *chemicals/mixture < 1%* CAS No.: -
 TSCA Inventory: all listed, <1%

40 mL MBL2

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_{orl rat}: 6200 mg/kg
 LC_{LoWihl} gpg: 21.9 g/m³
 LC_{LoWorl} hmn: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL Yes
 LD50_{orl rat}: 2100 mg/kg
 LD50_{ipr mus}: 551 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

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Section 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

1.5 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -

50 mL FLB

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

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

LC50_{leuciscus idus/96h} : 1759 mg/L
LC50_{fish/96h} : [4d] 690-1850; [48h] 1758-2420 mg/L
EC50_{daphnia/48h} : 70.2 mg/L
EC10_{pseudomonas putita/16h} : [72h] 11.8-33.5 mg/L

800 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l

Chemical: *glycerole* CAS No.: 56-81-5

PNEC(fresh water) : 0.885 mg/L
PNEC = Predicted No Effected Concentration

LC50_{fish/96h} : >5000_{24h} mg/L
EC50_{daphnia/48h} : >10_{24h} g/L
IC50_{scenedesmus quadricauda/72h} : IC57_d >10 g/L
EC10_{pseudomonas putita/16h} : EC5 : >10 g/L
Partition Coefficient (o-w): -1.76

75 mL MB3

Chemical: *ethanol* CAS No.: 64-17-5

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

LC50_{daphnia magna/48h} : >100 mg/L
LC50_{pimephales promelas/96h} : 13400 - 15100 mg/L
LC50_{leuciscus idus/96h} : [48h] 8140 mg/L
LC50_{fish/96h} : 13 g/L
EC50_{daphnia/48h} : 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
Partition Coefficient (o-w): -0.31

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

75 mL MB4

Chemical: *ethanol* CAS No.: 64-17-5

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

LC50_{daphnia magna/48h} : >100 mg/L
LC50_{pimephales promelas/96h} : 13400 - 15100 mg/L
LC50_{leuciscus idus/96h} : [48h] 8140 mg/L
LC50_{fish/96h} : 13 g/L
EC50_{daphnia/48h} : 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
Partition Coefficient (o-w): -0.31

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

30 mL MB6

Chemical: *chemicals/mixture < 1%* CAS No.: -

40 mL MBL2

Chemical: *ethanol* CAS No.: 64-17-5

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

LC50_{daphnia magna/48h} : >100 mg/L

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LC50 _{pimephales promelas/96h} :	13400 - 15100 mg/L
LC50 _{leuciscus idus/96h} :	[48h] 8140 mg/L
LC50 _{fish/96h} :	13 g/L
EC50 _{daphnia/48h} :	9.3-14.2 g/L
IC50 _{scenedesmus quadricauda/72h} :	[7d] 5000 mg/L
EC10 _{pseudomonas putita/16h} :	[EC5] 6500 mg/L
Partition Coefficient (o-w):	-0.31

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

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 (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 mixture)

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

Transportation by Road

Classification code: F1

Limited Quantity: 1 L

Tunnel restriction code: E

Excepted Quantity: E 2

Special instructions: 640C

Air Transportation

PAX: 353

max. weight PAX: 5 L

CAO: 364

max. weight CAO: 60 L

Maritime Transport

EmS: F-E, S-E Storage Category: B

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

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 & Health Topics

TSCA Inventory

U.S. State Regulations

www.mn-net.com

MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6-8 · 52355 Düren · Germany

DE/international:

CH:

FR:

US:

Tel.: +49 24 21 969-0

Tel.: +41 62 388 55 00

Tel.: +33 388 68 22 68

Tel.: +1 484 821 0984

Fax: +49 24 21 969-199

Fax: +41 62 388 55 05

Fax: +33 388 51 76 88

Fax: +1 484 821 1272

E-mail: info@mn-net.com

E-mail: sales-ch@mn-net.com

E-mail: sales-fr@mn-net.com

E-mail: sales-us@mn-net.com

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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)

MN Leaflet/User manual, also see 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

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.

16.1.2 List of relevant P Phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P264W Wash with water thoroughly after handling.
P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.

16.2 Training Advice

Regular safety training.

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

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

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]