

Safety Data Sheet

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

REF: 744210.1

NucleoMag Pathogen (1x96)

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Printing date: 12.05.2021

Date of issue: 28.08.2020

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

1.1 Product identifier

REF 744210.1
 Product name NucleoMag Pathogen (1x96)

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 2.5 mL B-Beads
- 1 x 500 µL Carrier RNA Buffer
- 1 x 0.09-1.0 mg Carrier RNA
- 1 x 110 mL NPB2
- 1 x 30 mL NPE5
- 1 x 30 mL NPL1
- 1 x 75 mL NPW3
- 1 x 75 mL NPW4
- 1 x 8 mL PB
- 1 x 75 mg Proteinase K (lyo)

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 (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

2.0 Classification of the complete product



Signal word DANGER

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H412	Aquatic Chronic 3

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2.1 Classification of the substance or mixture

2.5 mL B-Beads

Signal word Do not need labelling as hazardous
-
No hazard class

500 µL Carrier RNA Buffer



Signal word GHS07
WARNING

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H412	Aquatic Chronic 3

0.09-1.0 mg Carrier RNA

Signal word Do not need labelling as hazardous
-
No hazard class

110 mL NPB2



Signal word GHS02 GHS07
WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral

30 mL NPE5

Signal word Do not need labelling as hazardous
-
No hazard class

30 mL NPL1



Signal word GHS07
WARNING

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H319	Eye Irrit. 2

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75 mL NPW3



GHS02 GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral

75 mL NPW4



GHS02 GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral

8 mL PB

Signal word Do not need labelling as hazardous
-

No hazard class

75 mg Proteinase K (Iyo)



GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H334	Resp. Sens. 1

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). This labelling exemption is NOT valid for sensiblizing substances.

2.5 mL B-Beads

Do not need labelling as hazardous
Signal word: -

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500 µL Carrier RNA Buffer



GHS07

Signal word: WARNING

H412

Harmful to aquatic life with long lasting effects.

0.09-1.0 mg Carrier RNA

Do not need labelling as hazardous

Signal word: -

110 mL NPB2



GHS02



GHS07

Signal word: WARNING

30 mL NPE5

Do not need labelling as hazardous

Signal word: -

30 mL NPL1



GHS07

Signal word: WARNING

75 mL NPW3



GHS02



GHS07

Signal word: WARNING

75 mL NPW4



GHS02



GHS07

Signal word: WARNING

8 mL PB

Do not need labelling as hazardous

Signal word: -

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75 mg Proteinase K (Iyo)



GHS07



GHS08

Signal word: DANGER

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P342+311

Avoid breathing dust/vapours. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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. 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 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.). ---

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: May cause allergy or asthma symptoms or breathing difficulties if inhaled. -

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

2.5 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

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

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

Concentration: 1 - <15 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

500 µL Carrier RNA Buffer

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

Formula: C₂ H₆ N₄ S

Pseudonym: guanidine rhodanide

TSCA Inventory: listed

REACH Reg. No.: 01-2120735072-65-0001

EC No.: 209-812-1

Indice No.:

615-004-00-3

RTECS: XL1225000

MFCD:

00013027

KE No.: not listed

Concentration: 30 - <45 %

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

0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-6

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

TSCA Inventory: listed (CAS 9001-99-4)

RTECS: -

MFCD:

00131937

KE No.: KE-30341

Concentration: 90 - <100 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

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110 mL NPB2

Chemical: *ethanol* (denaturated with 1%IPA/1%MEK, acc.2016/1867/EU) CAS No.: 64-17-5
 Classification: H225, Flam. Liq. 2
 Formula: C₂ H₆ O; C₂ H₅ OH
 Pseudonym: ethyl alcohol, methylated spirit
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6 Index No.: 603-002-00-5
 RTECS: KQ6300000 MFCD: 00003568
 KE No.: KE-13217
 Concentration: 35 - <55 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Formula: NaClO₄
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9 Index No.: 017-010-00-6
 RTECS: SC9800000 MFCD: -
 KE No.: KE-31569
 Concentration: 15 - <40 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral

30 mL NPE5

Chemical: *chemicals/mixture < 1%* CAS No.: -
 Classification: No criteria for classification or naming of chemical not required.
 TSCA Inventory: all listed, <1%
 KE No.: listed
 Concentration: 0.1 - <1 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

30 mL NPL1

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: CH₆ ClN₃
 Pseudonym: guanidinium chloride
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3 Index No.: 607-148-00-0
 RTECS: MF4300000 MFCD: 00013026
 KE No.: KE-18111
 Concentration: 36 - <50 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H319, Eye Irrit. 2

Chemical: *polyoxyethylene sorbitan monolaurate (Tween® 20)* CAS No.: 9005-64-5
 Classification: No criteria for classification or naming of chemical not required.
 Formula: C₅₈ H₁₁₄ O₂₆
 Pseudonym: Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.
 TSCA Inventory: listed
 RTECS: TR7400000 MFCD: 00165986
 KE No.: KE-31681
 Concentration: 10 - <20 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

75 mL NPW3



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Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym: ethyl alcohol, methylated spirit
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6 Index No.: 603-002-00-5
 RTECS: KQ6300000 MFCD: 00003568
 KE No.: KE-13217
 Concentration: 20 - <35 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Formula: NaClO₄
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9 Index No.: 017-010-00-6
 RTECS: SC9800000 MFCD: -
 KE No.: KE-31569
 Concentration: 15 - <40 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral

75 mL NPW4

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym: ethyl alcohol, methylated spirit
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6 Index No.: 603-002-00-5
 RTECS: KQ6300000 MFCD: 00003568
 KE No.: KE-13217
 Concentration: 20 - <35 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Formula: NaClO₄
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9 Index No.: 017-010-00-6
 RTECS: SC9800000 MFCD: -
 KE No.: KE-31569
 Concentration: 15 - <40 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral

8 mL PB

Chemical: *glycerole* CAS No.: 56-81-5
 Classification: No criteria for classification or naming of chemical not required.
 Formula: C₃H₈O₃
 Pseudonym: glycerin, 1,2,3-propanetriol
 TSCA Inventory: listed (1,2,3-Propanetriol)
 REACH Reg. No.: 01-2119471987-18-xxxx
 EC No.: 200-289-5 Index No.: n/a
 RTECS: MA8050000 MFCD: 00004722
 KE No.: KE-29297
 Concentration: 10 - <50 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

75 mg Proteinase K (Iyo)



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Chemical:	<i>proteïnase K (origin: tritirachium album)</i>	CAS No.:	39450-01-6
Classification:	H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1		
Formula:	Enzyme Comm. No. 3.4.21.64, origin: tritirachium album		
TSCA Inventory:	listed (CAS 102925-54-2)		
EC No.:	254-457-8	Indice No.:	647-014-00-9
RTECS:	-	MFCD:	00132129
KE No.:	not listed		
Concentration:	90 - <100 %		
acc. CLP (GHS):	H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1		

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. Take to a doctor, in a raised position if there are breathing difficulties.

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 vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---

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

Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. ---

4.3 Indication of any immediate medical attention and special treatment needed

Inform patient respectively further measures and the possibility of long-term damages. ---

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

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-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 procedures

Do not breathe vapours. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

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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 hazardous chemicals.
Clean any contaminated equipment and floors with plenty of water.
Collect small amounts of leaked liquid and flush with water into drains.

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. 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.

Storage class (VCI): 3
Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

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

2.5 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

500 µL Carrier RNA Buffer

Chemical: *guanidinium thiocyanate*

CAS No.: 593-84-0

DNEL: [inh] 1092 µg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 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

0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-6

110 mL NPB2

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

TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
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/m³

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)

TRGS 900 (DE): -
E/e respirable

NIOSH: not listed

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[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

30 mL NPE5

Chemical: *chemicals/mixture < 1%*

CAS No.: -

30 mL NPL1

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

Chemical: *polyoxyethylene sorbitan monolaurate (Tween® 20)*

CAS No.: 9005-64-5

75 mL NPW3

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

TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
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/m³

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)

TRGS 900 (DE): -
E/e respirable

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 NPW4

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

TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
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/m³

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)

TRGS 900 (DE): -
E/e respirable

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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8 mL PB

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

TRGS 900 (DE): 200 E mg/m³

E/e respirable

Short-term exposure factor: 2 (I), Y

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 50 e* mg/m³

75 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)*

CAS No.: 39450-01-6

SUVA(CH) MAK value: 0,00006_{15min} mg/m³

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

Use for open access of these substances for example a protection filter, class A/AX. No additional recommendations.

8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.

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 to avoid contamination with these hazards.

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

2.5 mL B-Beads

Appearance: liquid

Colour: colourless

Odor: odorless

500 µL Carrier RNA Buffer

Appearance: liquid

Colour: colourless

Odor: fusty, mouldy

pH: 5.5-6

Specific gravity: 1.08 g/cm³

0.09-1.0 mg Carrier RNA

Appearance: solid (lyoph.)

Colour: colourless

Odor: odorless

110 mL NPB2

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH: 5-6

Boiling point: 83,6 °C

Flash point: 24 °C

30 mL NPE5

Appearance: liquid

Colour: colourless

Odor: odorless

pH: 8-9

Specific gravity: 1.0 g/cm³

30 mL NPL1

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Appearance: liquid	Colour: slightly yellow	Odor: odorless
pH:	3.5-4	
Specific gravity:	1.15 g/cm ³	

75 mL NPW3

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH:	4.5-5.5	
Boiling point:	83,6 °C	
Flash point:	26 °C	
Specific gravity:	1.06 g/cm ³	

75 mL NPW4

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH:	4.5-5.5	
Boiling point:	83,6 °C	
Flash point:	26 °C	
Specific gravity:	1.06 g/cm ³	

8 mL PB

Appearance: liquid	Colour: colourless	Odor: alcoholic
Specific gravity:	1.11 g/cm ³	

75 mg Proteinase K (Iyo)

Appearance: solid (Iyoph.)	Colour: slightly grey	Odor: odorless
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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

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

Note: Can form very reactive substances with oxidizing agents. Possible: Contact with acids liberates toxic gas. No further data available.

10.4 Conditions to avoid

Not necessary. ---

10.5 Incompatible materials

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 substances. Quantitative data on the toxicity of this product are not available.

2.5 mL B-Beads

Chemical:	<i>magnetic particles, suspended in water</i>	CAS No.: -
TSCA Inventory:	listed (CAS 1309-38-2)	

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500 µL Carrier RNA Buffer

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 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: not listed
 LD50_{orl rat}: 593 mg/kg
 LC50_{drm rbt}: >2000 mg/m³
 LC50_{ihl rat}: [4h] 5.319 mg/L
 LD50_{ipr mus}: 300 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA* CAS No.: 26763-19-6
 TSCA Inventory: listed (CAS 9001-99-4)
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-30341

110 mL NPB2

Chemical: *ethanol* 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_{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
 TRGS 905 (DE): K5, M5, Rf C

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 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-31569
 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 NPE5

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

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30 mL NPL1

Chemical: *guanidine hydrochloride* 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_{orl rat}: 475-907 mg/kg
 LC50_{ihl rat}: [4h] 3181-7655 µg/m³
 LD50_{drm rbt}: 2000 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

Chemical: *polyoxyethylene sorbitan monolaurate (Tween® 20)* CAS No.: 9005-64-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-31681

75 mL NPW3

Chemical: *ethanol* 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_{orl rat}: 6200 mg/kg
 LC_{LoWhl 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
 TRGS 905 (DE): K5, M5, R_F C

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 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-31569
 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 NPW4

Chemical: *ethanol* 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_{orl rat}: 6200 mg/kg
 LC_{LoWhl gpg}: 21.9 g/m³
 LC_{Loworl hmn}: 1400 mg/kg

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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

TRGS 905 (DE): K5, M5, R_F C

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 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-31569
 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.

8 mL PB

Chemical: *glycerole* CAS No.: 56-81-5
 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
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-29297
 LD50_{orl rat} : 12.6 g/kg
 LD50_{drm rbt} : >18.7 g/kg
 TRGS 905 (DE): R_F C

75 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)* CAS No.: 39450-01-6
 TSCA Inventory: listed (CAS 102925-54-2)
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: not listed
 Acute Effects: Cause after impairments of health when ingested in small quantities.
 Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

2.5 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -
 Storage class (VCI): 12

500 µL Carrier RNA Buffer

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
 Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
 PNEC_(fresh water) : 42.4 µg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h} : [4d] 89.1 mg/L
 EC50_{daphnia/48h} : 42.4 mg/L
 IC50_{scenedesmus quadricauda/72h} : 130 mg/L
 EC10_{pseudomonas putida/16h} : [10d] 200 mg/L
 Water hazard class (DE): 3
 Dispersion coefficient_(octanol-water) : [pH 5.1] -1.11
 Storage class (VCI): 12

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0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-6

110 mL NPB2

Chemical: *ethanol*

CAS No.: 64-17-5

PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effected Concentration
 LC50daphnia magna/48h : >100 mg/L
 LC50pimephales promelas/96h : 13400 - 15100 mg/L
 LC50leuciscus idus/96h : [48h] 8140 mg/L
 LC50fish/96h : 13 g/L
 EC50daphnia/48h : 9.3-14.2 g/L
 IC50scenedesmus quadricauda/72h : [7d] 5000 mg/L
 EC10pseudomonas putita/16h : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient(octanol-water) : -0.31
 Storage class (VCI): 3

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

30 mL NPE5

Chemical: *chemicals/mixture < 1%*

CAS No.: -

Water hazard class (DE): 1
 Storage class (VCI): 12-13

30 mL NPL1

Chemical: *guanidine hydrochloride*

CAS No.: 50-01-1

PNEC(fresh water) : -
 PNEC = Predicted No Effected Concentration
 LC50leuciscus idus/96h : 1759 mg/L
 LC50fish/96h : [4d] 690-1850; [48h] 1758-2420 mg/L
 EC50daphnia/48h : 70.2 mg/L
 EC10pseudomonas putita/16h : [72h] 11.8-33.5 mg/L
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

Chemical: *polyoxyethylene sorbitan monolaurate (Tween® 20)*

CAS No.: 9005-64-5

Water hazard class (DE): 1
 Storage class (VCI): 10-11

75 mL NPW3

Chemical: *ethanol*

CAS No.: 64-17-5

PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effected Concentration
 LC50daphnia magna/48h : >100 mg/L
 LC50pimephales promelas/96h : 13400 - 15100 mg/L
 LC50leuciscus idus/96h : [48h] 8140 mg/L
 LC50fish/96h : 13 g/L
 EC50daphnia/48h : 9.3-14.2 g/L
 IC50scenedesmus quadricauda/72h : [7d] 5000 mg/L
 EC10pseudomonas putita/16h : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient(octanol-water) : -0.31
 Storage class (VCI): 3

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

75 mL NPW4

Chemical: *ethanol*

CAS No.: 64-17-5

PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effected Concentration
 LC50daphnia magna/48h : >100 mg/L
 LC50pimephales promelas/96h : 13400 - 15100 mg/L



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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
Water hazard class (DE):	1 WGK No.: 0096
Dispersion coefficient _(octanol-water) :	-0.31
Storage class (VCI):	3

Chemical:	<i>sodium perchlorate</i>	CAS No.: 7601-89-0
Water hazard class (DE):	1 WGK No.: 0382	
Storage class (VCI):	12	

8 mL PB

Chemical:	<i>glycerole</i>	CAS No.: 56-81-5
PNEC _(fresh water) :	0.885 mg/L	
PNEC = Predicted No Effect Concentration		
LC50 _{fish/96h} :	>5000 _{24h} mg/L	
EC50 _{daphnia/48h} :	>10 _{24h} g/L	
IC50 _{scenedesmus quadricauda/72h} :	IC50 _{7d} >10 g/L	
EC10 _{pseudomonas putita/16h} :	EC5: >10 g/L	
Water hazard class (DE):	0	
Dispersion coefficient _(octanol-water) :	-1.76	
Storage class (VCI):	10	

75 mg Proteinase K (Iyo)

Chemical:	<i>proteinase K (origin: tritirachium album)</i>	CAS No.: 39450-01-6
Water hazard class (DE):	1	
Storage class (VCI):	13	

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 (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 number:	1993	14.2 UN proper shipping name:	Flammable liquid, n.o.s. (ethanol mixture)
14.3 Class:	3	14.4 Packing group:	II
<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>			

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EmS: F-E, S-E 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

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
 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

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.
P261sh	Avoid breathing dust/vapours.
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.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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 (f. ex. 94/33/EC or DE § 22 JArbSchG)!
 Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
 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

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 1480/2018/EU, 4th 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

TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011

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