

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 1/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### Section 1: Identification

#### 1.1 Product Identifier / Product Name

REF	744210.1
Product Name	NucleoMag Pathogen (1x96)
-	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.  
 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



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

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

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 2/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 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

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 3/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 75 mL NPW3



GHS02 GHS07

Signal Word

WARNING

**Hazard Identification**

**Hazard Classes/Categories**

H226  
H302

Flam. Liq. 3  
Acute Tox. 4 oral

### 75 mL NPW4



GHS02 GHS07

Signal Word

WARNING

**Hazard Identification**

**Hazard Classes/Categories**

H226  
H302

Flam. Liq. 3  
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  
H319  
H334

Skin Irrit. 2  
Eye Irrit. 2  
Resp. Sens. 1

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

According to 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. This labelling exemption is NOT valid for sensibilizing substances.

### 2.5 mL B-Beads

Do not need labelling as hazardous  
Signal Word: -

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 4/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 500 µL Carrier RNA Buffer



GHS07

Signal Word: WARNING

### 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: -

### 75 mg Proteinase K (lyo)

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 5/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019



GHS07



GHS08

Signal Word: DANGER

H334

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

P261sh, P342+311

Avoid breathing dust/vapors. 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. ---

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

Cause after oral intake, impairments of health when ingested in small quantities. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

#### Information pertaining to particular Risks to the 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 is not required.

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

Weight Percent: 1 - <15 %

acc. 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

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: 30 - <45 %

acc. 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 is not required.

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

RTECS: -

MFCD: 00131937

Weight Percent: 90 - <100 %

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

#### 110 mL NPB2

**Safety Data Sheet**

**SDS acc. Hazard Communication Standard**

REF: 744210.1	NucleoMag Pathogen (1x96)	Page: 6/19
Printing Date: 01.10.2019	Date of Issue: 26.08.2019	

Chemical: *ethanol* (denatured with 1%IPA/1%MEK, acc.2016/1867/EU) CAS No.: 64-17-5  
 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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0  
 Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral  
 Chemical Formula: NaClO<sub>4</sub>  
 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 NPE5**

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.

**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  
 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: 36 - <50 %  
 acc. 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 is not required.  
 Chemical Formula: C<sub>58</sub>H<sub>114</sub>O<sub>26</sub>  
 Synonyms: Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.  
 TSCA Inventory: listed  
 RTECS: TR7400000 MFCD: 00165986  
 Weight Percent: 10 - <20 %  
 acc. GHS: The criteria for classification are not fulfilled.

**75 mL NPW3**

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

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 7/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

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

### 75 mL NPW4

Chemical:	<i>ethanol</i> (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5
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	MFCN:	00003568
EC No.:	200-578-6	Indice No.:	603-002-00-5
Weight Percent:	20 - <35 %		
acc. GHS:	H226, Flam. Liq. 3		

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

### 8 mL PB

Chemical:	<i>glycerole</i>	CAS No.:	56-81-5
Classification:	No criteria for classification or naming of chemical is not required.		
Chemical Formula:	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>		
Synonyms:	glycerin, 1,2,3-propanetriol		
TSCA Inventory:	listed (1,2,3-Propanetriol)		
RTECS:	MA8050000	MFCN:	00004722
EC No.:	200-289-5	Indice No.:	n/a
Weight Percent:	10 - <50 %		
acc. GHS:	The criteria for classification are not fulfilled.		

### 75 mg Proteinase K (Iyo)

Chemical:	<i>proteinase K (origin: tritirachium album)</i>	CAS No.:	39450-01-6
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:	-	MFCN:	00132129
EC No.:	254-457-8	Indice No.:	647-014-00-9
Weight Percent:	90 - <100 %		
acc. 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 Hazard and Precaution 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

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1	NucleoMag Pathogen (1x96)	Page: 8/19
Printing Date: 01.10.2019	Date of Issue: 26.08.2019	

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. 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: 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, 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**  
---

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





# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 9/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 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/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

#### 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/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>

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m<sup>3</sup>

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

#### 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/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: *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/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>

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 10/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

Chemical: *sodium perchlorate* CAS No.: 7601-89-0  
 DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m<sup>3</sup>  
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 NPW4

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 Effected 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>

Chemical: *sodium perchlorate* CAS No.: 7601-89-0  
 DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m<sup>3</sup>  
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 mL PB

Chemical: *glycerole* CAS No.: 56-81-5  
 DNEL: [inh] 56 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)  
 PNEC<sub>(fresh water)</sub>: 0.885 mg/L  
PNEC = Predicted No Effected Concentration

### 75 mg Proteinase K (Iyo)

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

## 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 vapor/dust respirator, class A/AX. 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

#### 2.5 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 <sub>(ether=1)</sub> :	data not available	

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 11/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

- 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 µL Carrier RNA Buffer

- a) Appearance: liquid Color: colorless
- c) Odor Threshold: data not available
- d) pH: 5.5-6
- 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: 1.08 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: ---

b) Odor: fusty, mouldy

### 0.09-1.0 mg Carrier RNA

- a) Appearance: solid (lyoph.) Color: colorless
- 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: ---

b) Odor: odorless

### 110 mL NPB2

- a) Appearance: liquid Color: colorless
- 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<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

b) Odor: alcoholic

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 12/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

- 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: ---

### 30 mL NPE5

- 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<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: ---

### 30 mL NPL1

- a) Appearance: liquid Color: slightly yellow b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: 3.5-4
- 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: 1.15 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: ---

### 75 mL NPW3

- 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<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: 1.06 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

**Safety Data Sheet**

**SDS acc. Hazard Communication Standard**

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 13/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

**75 mL NPW4**

- 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<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: ---

**8 mL PB**

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- 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: 1.11 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: ---

**75 mg Proteinase K (Iyo)**

- a) Appearance: solid (lyoph.) Color: slightly grey 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: ---

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 14/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 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. Possibility: 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 chemicals. Quantitative data on the toxicity of this product are not available.

#### 2.5 mL B-Beads

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

CAS No.: -

#### 500 µL Carrier RNA Buffer

Chemical: *guanidinium thiocyanate*  
 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.

CAS No.: 593-84-0

#### 0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*  
 TSCA Inventory: listed (CAS 9001-99-4)

CAS No.: 26763-19-6

#### 110 mL NPB2

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<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

CAS No.: 64-17-5

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# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1 NucleoMag Pathogen (1x96) Page: 15/19  
 Printing Date: 01.10.2019 Date of Issue: 26.08.2019

LD50<sub>oral mouse</sub> : 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<sub>orl rat</sub> : 2100 mg/kg  
 LD50<sub>ipr mus</sub> : 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%

### 30 mL NPL1

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: *polyoxyethylene sorbitan monolaurate (Tween® 20)* CAS No.: 9005-64-5  
 TSCA Inventory: listed

### 75 mL NPW3

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</sub> gpg : 21.9 g/m<sup>3</sup>  
 LC<sub>LoWorl</sub> hmn : 1400 mg/kg  
 LC50<sub>ihl mouse</sub> : [4h] 39 g/m<sup>3</sup>  
 LC50<sub>ihl rat</sub> : [10h] 20 g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub> : 20 000 mg/kg  
 LD50<sub>oral mouse</sub> : 3450 mg/kg

Chemical: *sodium perchlorate* CAS No.: 7601-89-0  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 Canada CEPA 1999: DSL Yes  
 LD50<sub>orl rat</sub> : 2100 mg/kg  
 LD50<sub>ipr mus</sub> : 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 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</sub> gpg : 21.9 g/m<sup>3</sup>  
 LC<sub>LoWorl</sub> hmn : 1400 mg/kg  
 LC50<sub>ihl mouse</sub> : [4h] 39 g/m<sup>3</sup>  
 LC50<sub>ihl rat</sub> : [10h] 20 g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub> : 20 000 mg/kg  
 LD50<sub>oral mouse</sub> : 3450 mg/kg



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 16/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

Chemical: *sodium perchlorate* CAS No.: 7601-89-0  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 Canada CEPA 1999: DSL Yes  
 LD50<sub>orl rat</sub>: 2100 mg/kg  
 LD50<sub>ipr mus</sub>: 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  
 LD50<sub>orl rat</sub>: 12.6 g/kg  
 LD50<sub>drm rbt</sub>: >18.7 g/kg

### 75 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)* CAS No.: 39450-01-6  
 TSCA Inventory: listed (CAS 102925-54-2)  
 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 chemicals.

#### 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  
 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

#### 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 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

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

#### 30 mL NPE5

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



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 17/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

### 30 mL NPL1

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1  
 PNEC(fresh water) : -  
 PNEC = Predicted No Effected 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: *polyoxyethylene sorbitan monolaurate (Tween® 20)* CAS No.: 9005-64-5

### 75 mL NPW3

Chemical: *ethanol* CAS No.: 64-17-5  
 PNEC(fresh water) : 0.96 mg/L  
 PNEC = Predicted No Effected 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

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

### 75 mL NPW4

Chemical: *ethanol* CAS No.: 64-17-5  
 PNEC(fresh water) : 0.96 mg/L  
 PNEC = Predicted No Effected 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

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

### 8 mL PB

Chemical: *glycerole* CAS No.: 56-81-5  
 PNEC(fresh water) : 0.885 mg/L  
 PNEC = Predicted No Effected Concentration  
 LC50<sub>fish/96h</sub> : >5000<sub>24h</sub> mg/L  
 EC50<sub>daphnia/48h</sub> : >10<sub>24h</sub> g/L  
 IC50<sub>scenedesmus quadricauda/72h</sub> : IC57<sub>d</sub> >10 g/L  
 EC10<sub>pseudomonas putita/16h</sub> : EC5: >10 g/L  
 Partition Coefficient (o-w): -1.76

### 75 mg Proteinase K (Iyo)

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

## 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

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1	NucleoMag Pathogen (1x96)	Page: 18/19
Printing Date: 01.10.2019	Date of Issue: 26.08.2019	

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

<b>14.1. UN/NA:</b> 1993	<b>14.2. Proper Shipping Name:</b> Flammable liquid, n.o.s. (ethanol mixture)
<b>14.3. Hazard Class:</b> 3	<b>14.4. Packing Group:</b> III
<i>Transportation by Road</i>	
Classification code: F1	Tunnel restriction code: E
Limited Quantity: 5 L	Special instructions: 640E
Excepted Quantity: E 1	
<i>Air Transportation</i>	
PAX: 355	max. weight PAX: 60 L
CAO: 366	max. weight CAO: 220 L
<i>Maritime Transport</i>	
EmS: F-E, S-E	Storage Category: A

### 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 & 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)

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

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H315	Causes skin irritation.

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 744210.1

NucleoMag Pathogen (1x96)

Page: 19/19

Printing Date: 01.10.2019

Date of Issue: 26.08.2019

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/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.  
 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!  
 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  
 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]