

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 1/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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

1.1 Product identifier

REF 744550.1
Product name NucleoMag cfDNA (1x48)

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.

2 x 1.4 mL Liquid Proteinase K
1 x 60 mL MCF1
1 x 125 mL MCF2
1 x 60 mL MCF3
1 x 25 mL MCF4
1 x 13 mL MCF5
2 x 0.9 mL P-Beads

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
H318	Eye Dam. 1
H319	Eye Irrit. 2
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

2.1 Classification of the substance or mixture

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 2/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

1.4 mL Liquid Proteinase K

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

60 mL MCF1



Signal word GHS07
WARNING

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2

125 mL MCF2



Signal word GHS02 GHS05 GHS07 GHS09
DANGER

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H318	Eye Dam. 1
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

60 mL MCF3



Signal word GHS02 GHS07
WARNING

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

25 mL MCF4

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

13 mL MCF5

Do not need labelling as hazardous

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 3/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

Signal word -

No hazard class

0.9 mL P-Beads

Do not need labelling as hazardous

Signal word -

No hazard class

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).

1.4 mL Liquid Proteinase K

Do not need labelling as hazardous

Signal word: -

60 mL MCF1



GHS07

Signal word: WARNING

125 mL MCF2



GHS02



GHS05



GHS07



GHS09

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

60 mL MCF3



GHS02



GHS07

Signal word: WARNING

25 mL MCF4

Do not need labelling as hazardous

Signal word: -

Safety Data Sheet

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

REF: 744550.1	NucleoMag cfDNA (1x48)	Page: 4/15
Printing date: 12.05.2021	Date of issue: 20.04.2021	

13 mL MCF5

Do not need labelling as hazardous
Signal word: -

0.9 mL P-Beads

Do not need labelling as hazardous
Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. 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

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapours especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs. Cause after oral intake, impairments of health when ingested in small quantities. Kit contains small amounts of enzymes: In liquid form no hazard H334. -

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

1.4 mL Liquid Proteinase K

Chemical:	<i>proteinase K, liquid (origin: tritirachium album)</i>	CAS No.:	39450-01-6l
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:	1 - <3 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>glycerole</i>	CAS No.:	56-81-5
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	C ₃ H ₈ O ₃		
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	Indice No.:	n/a
RTECS:	MA8050000	MFCD:	00004722
KE No.:	KE-29297		
Concentration:	50 - <80 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

60 mL MCF1

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 5/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: CH_6ClN_3
 Pseudonym: guanidinium chloride
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3
 RTECS: MF4300000
 KE No.: KE-18111
 Concentration: 50 - <66 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

Index No.: 607-148-00-0
 MFCD: 00013026

125 mL MCF2

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: $\text{C}_2\text{H}_6\text{N}_4\text{S}$
 Pseudonym: guanidine rhodanide
 TSCA Inventory: listed
 REACH Reg. No.: 01-2120735072-65-0001
 EC No.: 209-812-1
 RTECS: XL1225000
 KE No.: not listed
 Concentration: 30 - <45 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3

Index No.: 615-004-00-3
 MFCD: 00013027

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Formula: $\text{C}_2\text{H}_6\text{O}$; $\text{C}_2\text{H}_5\text{OH}$
 Pseudonym: ethyl alcohol, methylated spirit
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 RTECS: KQ6300000
 KE No.: KE-13217
 Concentration: 35 - <55 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Index No.: 603-002-00-5
 MFCD: 00003568

Chemical: *Triton® X-114* CAS No.: 9036-19-5
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1
 Formula: $\text{C}_{30}\text{H}_{54}\text{O}_9$
 Pseudonym: Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-
 TSCA Inventory: listed
SVHC listed: listed
 EC No.: 232-658-1
 RTECS: RI0720000
 KE No.: KE-33567
 Concentration: 2.5 - <10 %
 acc. CLP (GHS): H318, Eye Dam. 1, H411, Aquatic Chronic 2

60 mL MCF3

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: CH_6ClN_3
 Pseudonym: guanidinium chloride
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3
 RTECS: MF4300000
 KE No.: KE-18111
 Concentration: 24 - <36 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral

Index No.: 607-148-00-0
 MFCD: 00013026

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 6/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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

25 mL MCF4

Chemical:	<i>chemicals/mixture < 1%</i>	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.		

13 mL MCF5

Chemical:	<i>chemicals/mixture < 1%</i>	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.		

0.9 mL P-Beads

Chemical:	<i>magnetic particles, suspended in water</i>	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.		

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. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

4.1.1 After SKIN Contact

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

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

4.1.3 After INHALATION of vapours

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

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested. ---

4.2 Most important symptoms and effects, both acute and delayed

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 7/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

4.3 Indication of any immediate medical attention and special treatment needed

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

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. Wear eye protection, respectively face protection. 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 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.

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. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1.4 mL Liquid Proteinase K

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

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

CAS No.: 39450-01-61

Chemical: *glycerole*

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

CAS No.: 56-81-5

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Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 8/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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

60 mL MCF1

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

125 mL MCF2

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

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: *Triton® X-114* CAS No.: 9036-19-5

60 mL MCF3

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: *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



Safety Data Sheet

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

REF: 744550.1	NucleoMag cfDNA (1x48)	Page: 9/15
Printing date: 12.05.2021	Date of issue: 20.04.2021	

25 mL MCF4		
Chemical: <i>chemicals/mixture < 1%</i>		CAS No.: -
13 mL MCF5		
Chemical: <i>chemicals/mixture < 1%</i>		CAS No.: -
0.9 mL P-Beads		
Chemical: <i>magnetic particles, suspended in water</i>		CAS No.: -

8.2 Exposure controls

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

8.2.1 Respiratory protection

No additional recommendations.

8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, 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 or face 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

1.4 mL Liquid Proteinase K

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 7-8		
Specific gravity: 1.1 g/cm ³		
Solubility in water: 0-100 %		

60 mL MCF1

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 4.5-5.2		
Specific gravity: 1.18 g/cm ³		

125 mL MCF2

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 5-7		
Flash point: 26 °C		
Specific gravity: 1.01 g/cm ³		

60 mL MCF3

Appearance: liquid	Colour: colourless	Odor: alcoholic
Flash point: 25 °C		

25 mL MCF4

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 7-8		
Specific gravity: 1.00 g/cm ³		

13 mL MCF5

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 8-9		
Specific gravity: 1.0 g/cm ³		

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 10/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

0.9 mL P-Beads

Appearance: liquid

Colour: colourless

Odor: odorless

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.

1.4 mL Liquid Proteinase KChemical: *proteinase K, liquid (origin: tritirachium album)*

CAS No.: 39450-01-61

TSCA Inventory: listed (CAS 102925-54-2)

Japan CSCL/PRTR: not listed

Japan ISHL: not listed

Korea Exist.Chem.Inventory: not listed

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/kgLD50_{drm rbt}: >18.7 g/kgTRGS 905 (DE): R_F C**60 mL MCF1**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/kgLC50_{ihl rat}: [4h] 3181-7655 µg/m³LD50_{drm rbt}: 2000 mg/kg

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Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 11/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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

125 mL MCF2

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.

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, R_F C

Chemical: *Triton® X-114* CAS No.: 9036-19-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-33567

60 mL MCF3

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: *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

Safety Data Sheet

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

REF: 744550.1	NucleoMag cfDNA (1x48)	Page: 12/15
Printing date: 12.05.2021	Date of issue: 20.04.2021	

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

25 mL MCF4

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

13 mL MCF5

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

0.9 mL P-Beads

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

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1.4 mL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l
 Water hazard class (DE): 1
 Storage class (VCI): 13

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}: 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

60 mL MCF1

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
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

125 mL MCF2

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 13/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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 putita/16h} : [10d] 200 mg/L
 Water hazard class (DE): 3
 Dispersion coefficient_(octanol-water) : [pH 5.1] -1.11
 Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
 PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effect 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
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

Chemical: *Triton® X-114* CAS No.: 9036-19-5
 Toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
 Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

60 mL MCF3

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 PNEC(fresh water) : -
 PNEC = Predicted No Effect 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
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
 PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effect 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
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

25 mL MCF4

Chemical: *chemicals/mixture < 1%* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

13 mL MCF5

Chemical: *chemicals/mixture < 1%* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13



Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 14/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

0.9 mL P-Beads

Chemical: *magnetic particles, suspended in water*
Storage class (VCI): 12

CAS No.: -

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. Empty containers of corrosive reagents prior to disposal, rinse with water.

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: III

Road transport

Classification code: F1

Limited Quantity: 5 L

Excepted Quantity: E 1

Air transport

PAX: 355

CAO: 366

Maritime transport

EmS: F-E, S-E

Tunnel restriction code: E

Special instructions: 640E

max. weight PAX: 60 L

max. weight CAO: 220 L

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

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.

Safety Data Sheet

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

REF: 744550.1

NucleoMag cfDNA (1x48)

Page: 15/15

Printing date: 12.05.2021

Date of issue: 20.04.2021

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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
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.
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.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.

16.2 Training advice

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

16.3 Recommended restriction on use

Only for professional user.

Look about employee restrictions for young people (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

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