

Safety Data Sheet

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

REF: 744660.1	NucleoMag DNA Forensic (1x96)	Page: 1/17
Printing date: 12.05.2021	Date of issue: 17.02.2021	

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

1.1 Product identifier

REF 744660.1
 Product name NucleoMag DNA Forensic (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 1.5 mL F-Beads
 1 x 100 mL FOB
 1 x 13 mL FOE
 1 x 50 mL FOL
 1 x 80 mL FOW1
 1 x 25 mL FOW2
 1 x 1250 µL Liquid Proteinase K
 1 x 14 mg TCEP

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
 Valencienner 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
H225	Flam. Liq. 2
H226	Flam. Liq. 3
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H336	STOT SE 3
H412	Aquatic Chronic 3
H413	Aquatic Chronic 4

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 2/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

2.1 Classification of the substance or mixture

1.5 mL F-Beads

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

100 mL FOB



GHS02 GHS07

Signal word DANGER

Hazard identification

Hazard classes/categories

H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3
H412	Aquatic Chronic 3

13 mL FOE

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

50 mL FOL

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

80 mL FOW1



GHS02

Signal word WARNING

Hazard identification

Hazard classes/categories

H226	Flam. Liq. 3
H412	Aquatic Chronic 3
H413	Aquatic Chronic 4

25 mL FOW2

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

1250 µL Liquid Proteinase K

Do not need labelling as hazardous

Safety Data Sheet

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

REF: 744660.1	NucleoMag DNA Forensic (1x96)	Page: 3/17
Printing date: 12.05.2021	Date of issue: 17.02.2021	

Signal word -

No hazard class

14 mg TCEP



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

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).

1.5 mL F-Beads

Do not need labelling as hazardous
Signal word: -

100 mL FOB



GHS02



GHS07

Signal word: DANGER

H412
Harmful to aquatic life with long lasting effects.

13 mL FOE

Do not need labelling as hazardous
Signal word: -

50 mL FOL

Do not need labelling as hazardous
Signal word: -

80 mL FOW1



GHS02

Signal word: WARNING

H412
Harmful to aquatic life with long lasting effects.

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 4/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

25 mL FOW2

Do not need labelling as hazardous
Signal word: -

1250 µL Liquid Proteinase K

Do not need labelling as hazardous
Signal word: -

14 mg TCEP



GHS07

Signal word: WARNING

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

Kit contains small amounts of enzymes: In liquid form no hazard H334. -

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

1.5 mL F-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.

100 mL FOB

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: $C_2H_6N_4S$

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: 10 - <15 %

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

Safety Data Sheet

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

REF: 744660.1 NucleoMag DNA Forensic (1x96) Page: 5/17
 Printing date: 12.05.2021 Date of issue: 17.02.2021

Chemical: *2-propanol* CAS No.: 67-63-0
 Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
 Formula: C₃H₈O
 Pseudonym: isopropanol, IPA, propan-2-ol
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457558-25-XXXX
 EC No.: 200-661-7
 RTECS: NT8050000
 KE No.: KE-29363
 Concentration: 50 - <65 %
 acc. CLP (GHS): H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
 Index No.: 603-117-00-0
 MFCD: 00011674

Chemical: *Triton® X-100* CAS No.: 9002-93-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1
 Formula: C₃₃H₆₀O_{10,5}
 Pseudonym: octoxynol-9
 TSCA Inventory: listed
SVHC listed: listed
 RTECS: MD0907700
 KE No.: KE-33568
 Concentration: 0.25 - <2.5 %
 acc. CLP (GHS): H412, Aquatic Chronic 3
 MFCD: 00132505

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.

13 mL FOE

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.

50 mL FOL

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: CH₆ClN₃
 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: 3 - <10 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.
 Index No.: 607-148-00-0
 MFCD: 00013026

80 mL FOW1

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: C₂H₆N₄S
 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: 15 - <30 %
 acc. CLP (GHS): H413, Aquatic Chronic 4
 Index No.: 615-004-00-3
 MFCD: 00013027

Safety Data Sheet

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

REF: 744660.1 NucleoMag DNA Forensic (1x96) Page: 6/17
 Printing date: 12.05.2021 Date of issue: 17.02.2021

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: 35 - <55 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *Triton® X-100* CAS No.: 9002-93-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1
 Formula: C₃₃H₆₀O_{10,5}
 Pseudonym: octoxynol-9
 TSCA Inventory: listed
SVHC listed: listed
 RTECS: MD0907700 MFCD: 00132505
 KE No.: KE-33568
 Concentration: 0.25 - <2.5 %
 acc. CLP (GHS): H412, Aquatic Chronic 3

25 mL FOW2

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.

1250 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-61
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
 Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
 TSCA Inventory: listed (CAS 102925-54-2)
 EC No.: 254-457-8 Index 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: *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: 50 - <80 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

14 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: C₉H₁₆ClO₆P
 Pseudonym: TCEP•HCl
 TSCA Inventory: LVE MFCD: 00145469
 KE No.: not listed
 Concentration: 70 - <100 %
 acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 7/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

Chemical:	<i>inorganic salts, declaration not necessary</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical not required.		
Pseudonym:	not hazardous		
TSCA Inventory:	all listed		
KE No.:	listed		
Concentration:	25 - <50 %		
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.

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. ---

4.1.4 After ORAL Intake

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

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

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. DANGER: Highly flammable (GHS regulation). Forms 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.

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.

Collect small amounts of leaked liquid and flush with water into drains.

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 8/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

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.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1.5 mL F-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

100 mL FOB

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: *2-propanol*

CAS No.: 67-63-0

DNEL: [inh] 500 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 140.9 mg/L

PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 ppm / 500 mg/m³

E/e respirable

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

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

SUVA(CH) MAK value: 200 ppm / 500 mg/m³

TRGS 903 (DE): [Aceton B/b, U/b] 25 mg/L

B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: [TWA] 400 ppm / 980 mg/m³

NIOSH STEL: 500 ppm / 1225 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] 400 ppm / 980 mg/m³

Chemical: *Triton® X-100*

CAS No.: 9002-93-1

Chemical: *chemicals/mixture < 1%*

CAS No.: -

13 mL FOE

Chemical: *chemicals/mixture < 1%*

CAS No.: -

50 mL FOL

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

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Safety Data Sheet

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

REF: 744660.1	NucleoMag DNA Forensic (1x96)	Page: 9/17
Printing date: 12.05.2021	Date of issue: 17.02.2021	

[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

80 mL FOW1

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 (I), 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-100* CAS No.: 9002-93-1

25 mL FOW2

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

1250 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-61
 SUVA(CH) MAK value: 0,00006_{15min} mg/m³

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

14 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9

Chemical: *inorganic salts, declaration not necessary* 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

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 10/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

8.2.4 Skin protection
Recommended.

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

1.5 mL F-Beads

Appearance: liquid Colour: colourless Odor: odorless

100 mL FOB

Appearance: liquid Colour: colourless Odor: odorless
pH: 6.2-7.8
Flash point: 21 °C
Specific gravity: 0.89 g/cm³

13 mL FOE

Appearance: liquid Colour: colourless Odor: odorless
pH: 8-9
Specific gravity: 1.0 g/cm³

50 mL FOL

Appearance: liquid Colour: colourless Odor: odorless
pH: 7.5 - 8.5
Specific gravity: 1.03 g/cm³

80 mL FOW1

Appearance: liquid Colour: colourless Odor: alcoholic
pH: 5-5.5
Flash point: 26 °C

25 mL FOW2

Appearance: liquid Colour: colourless Odor: odorless
pH: 7-8
Specific gravity: 1.00 g/cm³

1250 µL Liquid Proteinase K

Appearance: liquid Colour: colourless Odor: odorless
pH: 7-8
Specific gravity: 1.1 g/cm³
Solubility in water: 0-100 %

14 mg TCEP

Appearance: solid (lyoph.) Colour: colourless Odor: penetrative
pH: 6.5-7

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

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

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 11/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

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.

1.5 mL F-Beads

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

CAS No.: -

100 mL FOB

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

Chemical: *2-propanol* CAS No.: 67-63-0
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1230 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system
 Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis
 Australia NICNAS: Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: PAC yes, Japan PDSCL: -
 Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA:
 Korea Exist.Chem.Inventory: KE-29363
 LD50_{orl rat}: 5045 mg/kg
 LC_{LoWorl hmn}: 3570 mg/kg
 LC50_{ihl rat}: 16_{4h} g/m³
 LD50_{drm rbt}: 12.8 g/kg

TRGS 905 (DE): R_F C

Chemical: *Triton® X-100*
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-33568
 LD50_{orl rat}: 707-1800 mg/kg

CAS No.: 9002-93-1

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Safety Data Sheet

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

REF: 744660.1 NucleoMag DNA Forensic (1x96) Page: 12/17
 Printing date: 12.05.2021 Date of issue: 17.02.2021

LD50_{drm rbt} : 3000-12300 mg/kg

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

13 mL FOE

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

50 mL FOL

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

80 mL FOW1

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

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



Safety Data Sheet

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

REF: 744660.1 NucleoMag DNA Forensic (1x96) Page: 13/17
 Printing date: 12.05.2021 Date of issue: 17.02.2021

Chemical: *Triton® X-100* CAS No.: 9002-93-1
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-33568
 LD50_{orl rat}: 707-1800 mg/kg
 LD50_{drm rbt}: 3000-12300 mg/kg

25 mL FOW2

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

1250 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l
 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/kg
 LD50_{drm rbt}: >18.7 g/kg
 TRGS 905 (DE): R_F C

14 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9
 TSCA Inventory: LVE
 Korea Exist.Chem.Inventory: not listed
 LD50_{orl rat}: 3500 mg/kg
 LD50_{intraperitoneal rat}: 1024 mg/kg
 LD50_{scu rat}: >3000 mg/kg

Chemical: *inorganic salts, declaration not necessary* CAS No.: -
 TSCA Inventory: all listed
 Korea Exist.Chem.Inventory: listed

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1.5 mL F-Beads

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

100 mL FOB

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 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

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 14/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

Water hazard class (DE): 3
 Dispersion coefficient_(octanol-water): [pH 5.1] -1.11
 Storage class (VCI): 12

Chemical: *2-propanol* CAS No.: 67-63-0
 PNEC_(fresh water): 140.9 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h}: 1400 mg/L
 EC50_{daphnia/48h}: 13.3 g/L
 IC50_{scenedesmus quadricauda/72h}: >1000 mg/L
 EC10_{pseudomonas putita/16h}: EC5: 1050 mg/L
 Water hazard class (DE): 1 WGK No.: 0135
 Dispersion coefficient_(octanol-water): 0.05
 Storage class (VCI): 3

Chemical: *Triton® X-100* CAS No.: 9002-93-1
 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).
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 12-13

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

13 mL FOE

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

50 mL FOL

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

80 mL FOW1

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 May cause long lasting harmful effects to aquatic life. 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



Safety Data Sheet

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

REF: 744660.1	NucleoMag DNA Forensic (1x96)	Page: 15/17
Printing date: 12.05.2021	Date of issue: 17.02.2021	

Storage class (VCI): 3

Chemical: *Triton® X-100* CAS No.: 9002-93-1
 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).
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 12-13

25 mL FOW2

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

1250 µL Liquid Proteinase K

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

14 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9
 Storage class (VCI): 12-13

Chemical: *inorganic salts, declaration not necessary* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

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.



Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 16/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

SECTION 14: Transport information

14.1 UN number:	1993	14.2 UN proper shipping name:	Flammable liquid, n.o.s. (ethanol, 2-propanol 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>			
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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P260D	Do not breathe vapours.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.

16.2 Training advice

Multiple safety training of staffs about danger and protection by using hazards in working area.

16.3 Recommended restriction on use

Only for professional user.

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

16.4 Further information

Safety Data Sheet

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

REF: 744660.1

NucleoMag DNA Forensic (1x96)

Page: 17/17

Printing date: 12.05.2021

Date of issue: 17.02.2021

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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