

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 1/18

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 744350.1
Product name NucleoMag RNA (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.

2 x 1.5 mL B-Beads
1 x 30 mL Buffer for rDNase
1 x 60 mL MR1
1 x 80 mL MR2
1 x 80 mL MR3
1 x 250 mL MR4
1 x 30 mL MR5
3 x 80 U rDNase
1 x 107 mg TCEP
1 x 15 mL RNase-free H₂O

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



GHS02 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H336	STOT SE 3
H412	Aquatic Chronic 3
H413	Aquatic Chronic 4

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Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 2/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

2.1 Classification of the substance or mixture

1.5 mL B-Beads

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

30 mL Buffer for rDNase

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

60 mL MR1



Signal word GHS07
WARNING

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

80 mL MR2



Signal word GHS02 GHS07
DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3

80 mL MR3



Signal word GHS02
WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H412	Aquatic Chronic 3
H413	Aquatic Chronic 4

250 mL MR4

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 3/18

Printing date: 12.05.2021

Date of issue: 17.02.2021



GHS02

Signal word

DANGER

Hazard identification

Hazard classes/categories

H225

Flam. Liq. 2

30 mL MR5

Signal word

Do not need labelling as hazardous

No hazard class

-

80 U rDNase



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H334

Resp. Sens. 1

107 mg TCEP



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

15 mL RNase-free H₂O

Signal word

Do not need labelling as hazardous

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

1.5 mL B-Beads

Do not need labelling as hazardous

Signal word: -

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 4/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

30 mL Buffer for rDNase

Do not need labelling as hazardous
Signal word: -

60 mL MR1



GHS07

Signal word: WARNING

H412
Harmful to aquatic life with long lasting effects.

80 mL MR2



GHS02



GHS07

Signal word: DANGER

80 mL MR3



GHS02

Signal word: WARNING

H412
Harmful to aquatic life with long lasting effects.

250 mL MR4



GHS02

Signal word: DANGER

H225
Highly flammable liquid and vapour.

P210, P233
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed.

30 mL MR5

Do not need labelling as hazardous
Signal word: -

80 U rDNase



GHS08

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 5/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

Signal word: DANGER

H334

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

P261sh, P342+311

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

107 mg TCEP



GHS07

Signal word: WARNING

15 mL RNase-free H₂O

Do not need labelling as hazardous

Signal word: -

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. Vapour forms explosive mixtures with air. For guanidine thiocyanate CAS 593-84-0: The properties H314, H332 "Causes severe skin burns and eye damage. Harmful if inhaled." are not relevant, because the mixture solution is buffered to pH 4-9 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.). ---

Information pertaining to particular risks to human and possible symptoms

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

Kit contains small amounts of enzymes: May cause allergy or asthma symptoms or breathing difficulties if inhaled. -

Information pertaining to particular risks to the environment

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

PBT: not applicable

vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

1.5 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

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

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

Concentration: 1 - <15 %

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

30 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%*

CAS No.: -

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

TSCA Inventory: all listed, <2%

KE No.: listed

Concentration: 1 - <2 %

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

60 mL MR1

Safety Data Sheet

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

REF: 744350.1 NucleoMag RNA (1x96) Page: 6/18
 Printing date: 12.05.2021 Date of issue: 17.02.2021

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 Index No.: 615-004-00-3
 RTECS: XL1225000 MFCD: 00013027
 KE No.: not listed
 Concentration: 45 - <60 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3

80 mL MR2

Chemical: *2-propanol* CAS No.: 67-63-0
 Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
 Formula: C_3H_8O
 Pseudonym: isopropanol, IPA, propan-2-ol
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457558-25-XXXX
 EC No.: 200-661-7 Index No.: 603-117-00-0
 RTECS: NT8050000 MFCD: 00011674
 KE No.: KE-29363
 Concentration: 95 - <100 %
 acc. CLP (GHS): H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3

80 mL MR3

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 Index No.: 615-004-00-3
 RTECS: XL1225000 MFCD: 00013027
 KE No.: not listed
 Concentration: 15 - <30 %
 acc. CLP (GHS): H413, Aquatic Chronic 4

Chemical: *ethanol* CAS No.: 64-17-5
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
 Classification: H225, Flam. Liq. 2
 Formula: C_2H_6O ; C_2H_5OH
 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: $C_{33}H_{60}O_{10.5}$
 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

250 mL MR4



Safety Data Sheet

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

REF: 744350.1 NucleoMag RNA (1x96) Page: 7/18
 Printing date: 12.05.2021 Date of issue: 17.02.2021

Chemical: *ethanol* CAS No.: 64-17-5p
 (pure, not denatured)
 Classification: H225, Flam. Liq. 2
 Formula: C₂H₆O
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 RTECS: KQ6300000
 KE No.: KE-13217
 Concentration: 75 - <90 %
 acc. CLP (GHS): H225, Flam. Liq. 2

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

30 mL MR5

Chemical: *water* CAS No.: 7732-18-5
 Classification: No criteria for classification or naming of chemical not required.
 Formula: H₂O
 TSCA Inventory: listed
 REACH Reg. No.: exempt, Annex IV
 EC No.: 231-791-2
 RTECS: ZC0110000
 KE No.: KE-35400
 Concentration: 90 - <100 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

80 U rDNase

Chemical: *rDNase* CAS No.: 9003-98-9
 Classification: H334, Resp. Sens. 1
 Formula: Enzyme Comm. No. 3.1.21.1, origin: cloned
 Pseudonym: Nuclease, deoxyribo-
 TSCA Inventory: listed
 EC No.: 232-667-0
 RTECS: RF0750000
 KE No.: KE-09612
 Concentration: 90 - <100 %
 acc. CLP (GHS): H334, Resp. Sens. 1

107 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

Chemical: *inorganic salts, declaration not necessary* 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.

15 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5
 Classification: No criteria for classification or naming of chemical not required.
 Formula: H₂O
 TSCA Inventory: listed
 REACH Reg. No.: exempt, Annex IV
 EC No.: 231-791-2
 RTECS: ZC0110000
 KE No.: KE-35400
 Concentration: 90 - <100 %
 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: 744350.1

NucleoMag RNA (1x96)

Page: 8/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Take to a doctor, in a raised position if there are breathing difficulties.

4.1.1 After SKIN Contact

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

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open 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. 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

After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. 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. The substance/mixture is highly flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting.

5.4 Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection. Keep product away from sources of ignition - No smoking. 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.

Safety Data Sheet

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

REF: 744350.1	NucleoMag RNA (1x96)	Page: 9/18
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. 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. Classification into storage class A.

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, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place. 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

1.5 mL B-Beads

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

30 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%* CAS No.: -

60 mL MR1

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

80 mL MR2

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

80 mL MR3

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

Safety Data Sheet

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

REF: 744350.1	NucleoMag RNA (1x96)	Page: 10/18
Printing date: 12.05.2021	Date of issue: 17.02.2021	

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-100* CAS No.: 9002-93-1

250 mL MR4

Chemical: *ethanol* CAS No.: 64-17-5p
 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 ppm / 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

30 mL MR5

Chemical: *water* CAS No.: 7732-18-5

80 U rDNase

Chemical: *rDNase* CAS No.: 9003-98-9

107 mg TCEP

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

Chemical: *inorganic salts, declaration not necessary* CAS No.: -

15 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5

8.2 Exposure controls

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

8.2.1 Respiratory protection

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

8.2.2 Hand protection

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

8.2.3 Eye protection

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

8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

8.2.5 Personal hygiene



Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 11/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

1.5 mL B-Beads

Appearance: liquid

Colour: colourless

Odor: odorless

30 mL Buffer for rDNase

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.01 g/cm³

60 mL MR1

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.13 g/cm³

80 mL MR2

Appearance: liquid

Colour: colourless

Odor: alcoholic

Melting point:

-90 °C

Boiling point:

82 °C

Flash point:

12 °C

Explosion limits:

2-12.7 Vol%

Vapour pressure (20°C):

43 hPa

Vapour density_(air=1) :

2.08

Specific gravity:

0.785 g/cm³

Solubility in water:

0-100 %

Flashing temperature:

425 °C

Volatiles by volume:

106 g/m³

80 mL MR3

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

5-5.5

Flash point:

26 °C

250 mL MR4

Appearance: liquid

Colour: colourless

Odor: alcoholic

Odor limit:

19-93 mg/m³

pH:

7

Melting point:

-114 °C

Boiling point:

78 °C

Flash point:

14 °C

Explosion limits:

3.2-15 Vol%

Vapour pressure (20°C):

59 hPa

Vapour density_(air=1) :

1.59

Specific gravity:

0.82 g/cm³

Solubility in water:

0-100 %

Flashing temperature:

425

Volatiles by volume:

112 g/m³

30 mL MR5

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6-8

Specific gravity:

1.0 g/cm³

80 U rDNase

Appearance: solid (lyoph.)

Colour: white

Odor: odorless

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 12/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

107 mg TCEP

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

Odor: penetrative

15 mL RNase-free H₂O

Appearance: liquid
pH:
Specific gravity:Colour: colourless
6-8
1.0 g/cm³

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

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

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

But avoid reactions with oxidizing agents. 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. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

10.5 Incompatible materials

Avoid contact with strong acids or alkalines. Avoid storage with oxidising substances.

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 B-Beads

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

CAS No.: -

30 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%*
TSCA Inventory: all listed, <2%
Korea Exist.Chem.Inventory: listed

CAS No.: -

60 mL MR1

Chemical: *guanidinium thiocyanate*
TSCA Inventory: listed
Australia NICNAS: not listed
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

CAS No.: 593-84-0

California Proposition 65 List: not listed
Canada CEPA 1999: DSL yes

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

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Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 13/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

80 mL MR2

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 $\geq 1,0\%$ / $\geq 0,1\%$, 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

80 mL MR3

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 $\geq 0,1\%$ / $\geq 0,1\%$, 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-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

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 14/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

250 mL MR4

Chemical: *ethanol* CAS No.: 64-17-5p
 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 $\geq 0,1\%$ / $\geq 0,1\%$, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50_{orl rat}: 6200 mg/kg
 LC_{LoWi}hl gpg: 21.9 g/m³
 LC_{LoW}orl hmn: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [4h] 8 / [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

30 mL MR5

Chemical: *water* CAS No.: 7732-18-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-35400

80 U rDNase

Chemical: *rDNase* CAS No.: 9003-98-9
 TSCA Inventory: listed
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-09612
 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.

107 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

15 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-35400

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 15/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1.5 mL B-Beads

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

30 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

60 mL MR1

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 Effected 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

80 mL MR2

Chemical: *2-propanol* CAS No.: 67-63-0
 PNEC(fresh water) : 140.9 mg/L
 PNEC = Predicted No Effected 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

80 mL MR3

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 Effected 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 Effected Concentration
 LC50_{daphnia magna/48h} : >100 mg/L
 LC50_{pimephales promelas/96h} : 13400 - 15100 mg/L
 LC50_{leuciscus idus/96h} : [48h] 8140 mg/L
 LC50_{fish/96h} : 13 g/L
 EC50_{daphnia/48h} : 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient(octanol-water) : -0.31
 Storage class (VCI): 3

Safety Data Sheet

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

REF: 744350.1

NucleoMag RNA (1x96)

Page: 16/18

Printing date: 12.05.2021

Date of issue: 17.02.2021

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

250 mL MR4

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

30 mL MR5

Chemical: *water* CAS No.: 7732-18-5

80 U rDNase

Chemical: *rDNase* CAS No.: 9003-98-9
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 13

107 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

15 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5

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: 744350.1

NucleoMag RNA (1x96)

Page: 17/18

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.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.
P261sh	Avoid breathing dust/vapours.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Safety Data Sheet

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

REF: 744350.1	NucleoMag RNA (1x96)	Page: 18/18
Printing date: 12.05.2021	Date of issue: 17.02.2021	

16.2 Training advice

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

16.3 Recommended restriction on use

Only for professional user.
 Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!
 Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further information

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16.5 Sources of key data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
 Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress
 Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
 Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
 TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
 SUVA .CH, Limits in air at work 2009, revised on 01.2009
 TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011
 Directive 1999/92/EC Minimum requirements for improving the safety and health protection of workers at risk from potentially explosive atmospheres
 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

