

Safety Data Sheet

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

REF: 744350.4

NucleoMag RNA (4x96)

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Printing date: 15.11.2021

Date of issue: 12.11.2021

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

1.1 Product identifier

REF 744350.4
Product name NucleoMag RNA (4x96)

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 12 mL B-Beads
2 x 60 mL Buffer for rDNase
1 x 250 mL MR1
1 x 400 mL MR2
1 x 320 mL MR3
1 x 1000 mL MR4
1 x 125 mL MR5
12 x 80 U rDNase
4 x 107 mg TCEP
1 x 30 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
Valenciennner 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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2.1 Classification of the substance or mixture

12 mL B-Beads

Signal word

Do not need labelling as hazardous

-

No hazard class

60 mL Buffer for rDNase

Signal word

Do not need labelling as hazardous

-

No hazard class

250 mL MR1



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H302

Acute Tox. 4 oral

H412

Aquatic Chronic 3

400 mL MR2



GHS02



GHS07

Signal word

DANGER

Hazard identification

Hazard classes/categories

H225

Flam. Liq. 2

H319

Eye Irrit. 2

H336

STOT SE 3

320 mL MR3



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H413

Aquatic Chronic 4

1000 mL MR4

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GHS02

Signal word

DANGER

Hazard identification

Hazard classes/categories

H225

Flam. Liq. 2

125 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

30 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 sensibilizing substances.

12 mL B-Beads

Do not need labelling as hazardous

Signal word: -

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60 mL Buffer for rDNase

Do not need labelling as hazardous
Signal word: -

250 mL MR1



GHS07

Signal word: WARNING

H302, H412

Harmful if swallowed. Harmful to aquatic life with long lasting effects.

P264W, P273, P301+312, P330

Wash with water thoroughly after handling. Avoid release to the environment. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

400 mL MR2



GHS02



GHS07

Signal word: DANGER

H225, H319, H336

Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.

P210, P233, P260D, P280sh

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Do not breathe vapours. Wear protective gloves/eye protection.

320 mL MR3



GHS02

Signal word: WARNING

H226, H413

Flammable liquid and vapour. May cause long lasting harmful effects to aquatic life.

P210, P273

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid release to the environment.

1000 mL MR4



GHS02

Signal word: DANGER

H225

Highly flammable liquid and vapour.

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P210, P233

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

125 mL MR5

Do not need labelling as hazardous

Signal word: -

80 U rDNase



GHS08

Signal word: DANGER

H334

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

P261sh, P342+311

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

107 mg TCEP



GHS07

Signal word: WARNING

30 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

12 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.

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60 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.

250 mL MR1

Chemical: guanidinium thiocyanate

CAS No.: 593-84-0

Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3

Formula: C₂ H₆ N₄ S

Pseudonym: guanidine rhodanide

TSCA Inventory: listed

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

EC No.: 209-812-1

Indice No.:

615-004-00-3

RTECS: XL1225000

MFCD:

00013027

KE No.: not listed

Concentration: 45 - <60 %

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

400 mL MR2

Chemical: 2-propanol

CAS No.: 67-63-0

Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3

Formula: C₃ H₈ O

Pseudonym: isopropanol, IPA, propan-2-ol

TSCA Inventory: listed

REACH Reg. No.: 01-2119457558-25-XXXX

EC No.: 200-661-7

Indice 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

320 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: C₂ H₆ N₄ S

Pseudonym: guanidine rhodanide

TSCA Inventory: listed

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

EC No.: 209-812-1

Indice No.:

615-004-00-3

RTECS: XL1225000

MFCD:

00013027

KE No.: not listed

Concentration: 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: C₂ H₆ O; C₂ H₅ OH

Pseudonym: ethyl alcohol, methylated spirit

TSCA Inventory: listed

REACH Reg. No.: 01-2119457610-43-xxxx

EC No.: 200-578-6

Indice No.:

603-002-00-5

RTECS: KQ6300000

MFCD:

00003568

KE No.: KE-13217

Concentration: 35 - <55 %

acc. CLP (GHS): H226, Flam. Liq. 3

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Chemical: *Tergitol 15-S-7* CAS No.: 84133-50-6
Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H332, Acute Tox. 4 inh.
Formula: C₁₂-14H₂₅-29O[CH₂CH₂O]_xH
Pseudonym: Secondary alcohol ethoxylate 15 EO, Alcohols, C12-14-secondary, ethoxylated
EC No.: 617-534-0
RTECS: WZ5950000
KE No.: KE-00456
Concentration: 0.1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

1000 mL MR4

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

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

125 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
KE No.: not listed
Concentration: 70 - <100 %
acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

MFCD: 00145469

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.

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30 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.

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 with activated charcoal supplement 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. 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. 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. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment. For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

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5.4 Additional information

Danger for environment **only** in the event of a large-scale leakage or formation of hazardous substances. ---

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.

6.4 Reference to other sections

see information in section 5.4 ---

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

12 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

60 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%*

CAS No.: -

250 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

400 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

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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

320 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
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: *Tergitol 15-S-7* CAS No.: 84133-50-6

1000 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

125 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.: -

30 mL RNase-free H₂O

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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

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

12 mL B-Beads

Appearance: liquid

Colour: colourless

Odor: odorless

60 mL Buffer for rDNase

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.01 g/cm³

250 mL MR1

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.13 g/cm³

400 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

320 mL MR3

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

5.0-5.5

Flash point:

26 °C

1000 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

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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

125 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

107 mg TCEP

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

30 mL RNase-free H₂O

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

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.

12 mL B-Beads

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

CAS No.: -

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60 mL Buffer for rDNase

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

CAS No.: -

250 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.

400 mL MR2

Chemical: 2-propanol
TSCA Inventory: 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: KE-29363
Korea Exist.Chem.Inventory: KE-29363
LD50_{orl rat}: 5045 mg/kg
LC_{Low_{orl hmn}}: 3570 mg/kg
LC50_{ihl rat}: 16_{4h} g/m³
LD50_{drm rbt}: 12.8 g/kg

CAS No.: 67-63-0

California Proposition 65 List: not listed

TRGS 905 (DE): R_F C

320 mL MR3

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

Chemical: ethanol

CAS No.: 64-17-5

TSCA Inventory: 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: 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_{Low_{ihl gpg}}: 21.9 g/m³

California Proposition 65 List: not listed

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LC₅₀oral hmh : 1400 mg/kg
 LC₅₀ihl mouse : [4h] 39 g/m³
 LC₅₀ihl rat : [10h] 20 g/m³
 LD₅₀drm rbt : 20 000 mg/kg
 LD₅₀oral mouse : 3450 mg/kg

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

Chemical: Tergitol 15-S-7
 Korea Exist.Chem.Inventory: KE-00456

CAS No.: 84133-50-6

1000 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 ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD₅₀orl rat : 6200 mg/kg
 LC₅₀ihl gpg : 21.9 g/m³
 LC₅₀ihl hmh : 1400 mg/kg
 LC₅₀ihl mouse : [4h] 39 g/m³
 LC₅₀ihl rat : [4h] 8 / [10h] 20 g/m³
 LD₅₀drm rbt : 20 000 mg/kg
 LD₅₀oral mouse : 3450 mg/kg
 TRGS 905 (DE): K5, M5, R_F C

125 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
 LD₅₀orl rat : 3500 mg/kg
 LD₅₀intraperitoneal rat : 1024 mg/kg
 LD₅₀scu rat : >3000 mg/kg

Chemical: inorganic salts, declaration not necessary
 TSCA Inventory: all listed
 Korea Exist.Chem.Inventory: listed

CAS No.: -

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30 mL RNase-free H₂O

Chemical: *water*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400

CAS No.: 7732-18-5

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

12 mL B-Beads

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

CAS No.: -

60 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS No.: -

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

400 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 putida/16h}: EC5: 1050 mg/L
Water hazard class (DE): 1 WGK No.: 0135
Dispersion coefficient_(octanol-water): 0.05
Storage class (VCI): 3

320 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 putida/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

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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 putida/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

Chemical: *Tergitol 15-S-7*

CAS No.: 84133-50-6

LC50_{fish/96h} : 3,2-3,6 mg/L
 EC50_{daphnia/48h} : 7,3 mg/L
 EC10_{pseudomonas putida/16h} : EC50: >1000 mg/L
 Dispersion coefficient_(octanol-water) : 2,72

1000 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 putida/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

125 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)*
 Storage class (VCI): 12-13

CAS No.: 51805-45-9

Chemical: *inorganic salts, declaration not necessary*
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

CAS No.: -

30 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

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SECTION 13: Disposal considerations

Do not collect in acidic waste. May form toxic gases.

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport information

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

14.3 Class: 3 **14.4 Packing group:** II

Road transport

Classification code: F1

Limited Quantity: 1 L

Excepted Quantity: E 2

Air transport

PAX: 353

CAO: 364

Maritime transport

EmS: F-E, S-E

Tunnel restriction code: E

Special instructions: 640C

max. weight PAX: 5 L

max. weight CAO: 60 L

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.

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P261sh	Avoid breathing dust/vapours.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

16.2 Training advice

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

16.3 Recommended restriction on use

Only for professional user.

Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!

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

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

16.4 Further information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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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

Regulation 849/2021/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