

Safety Data Sheet

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

REF: 740949.10

NucleoSpin RNA Plant (10)

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Date of issue: 12.04.2021

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

1.1 Product identifier

REF 740949.10
 Product name NucleoSpin RNA Plant (10)

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 10 mL Buffer RAP
- 1 x 10 mL MDB
- 1 x 10 mL RA1
- 1 x 6 mL RA3
- 1 x 13 mL RAW2
- 1 x 7 mL Reaction Buffer for rDNase
- 1 x 200 U, Size D, rDNase
- 1 x 13 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
 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



GHS02 GHS07 GHS08

Signal word DANGER

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

2.1 Classification of the substance or mixture

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10 mL Buffer RAP



GHS07

Signal word: WARNING

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

10 mL MDB



GHS02

Signal word: WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3

10 mL RA1



GHS07

Signal word: WARNING

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

6 mL RA3

Signal word: Do not need labelling as hazardous

No hazard class

13 mL RAW2



GHS02



GHS07

Signal word: WARNING

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

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7 mL Reaction Buffer for rDNase

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

200 U, Size D, rDNase



Signal word GHS08
DANGER

Hazard identification	Hazard classes/categories
H334	Resp. Sens. 1

13 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.

10 mL Buffer RAP



GHS07
Signal word: WARNING

10 mL MDB



GHS02
Signal word: WARNING

10 mL RA1



GHS07
Signal word: WARNING
H412

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Harmful to aquatic life with long lasting effects.

6 mL RA3

Do not need labelling as hazardous
Signal word: -

13 mL RAW2



GHS02 GHS07

Signal word: WARNING

7 mL Reaction Buffer for rDNase

Do not need labelling as hazardous
Signal word: -

200 U, Size D, 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.

13 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. 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

10 mL Buffer RAP

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Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Formula: CH_6ClN_3
 Pseudonym: guanidinium chloride
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3 Index No.: 607-148-00-0
 RTECS: MF4300000 MFCD: 00013026
 KE No.: KE-18111
 Concentration: 50 - <66 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

10 mL MDB

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: 5 - <10 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *ethanol* (diluted < 20 %) CAS No.: 64-17-5d
 (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: 5 - <20 %
 acc. CLP (GHS): H226, Flam. Liq. 3

10 mL RA1

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

6 mL RA3

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 RAW2



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

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

Chemical: *ethanol* CAS No.: 64-17-5
(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
Classification: H225, Flam. Liq. 2
Formula: $\text{C}_2\text{H}_6\text{O}$; $\text{C}_2\text{H}_5\text{OH}$
Pseudonym: ethyl alcohol, methylated spirit
TSCA Inventory: listed
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
RTECS: KQ6300000
KE No.: KE-13217
Concentration: 20 - <35 %
acc. CLP (GHS): H226, Flam. Liq. 3

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

7 mL Reaction 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.

200 U, Size D, 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

13 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5
Classification: No criteria for classification or naming of chemical not required.
Formula: H_2O
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

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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 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. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---

4.1.4 After ORAL Intake

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

4.2 Most important symptoms and effects, both acute and delayed

Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. ---

4.3 Indication of any immediate medical attention and special treatment needed

Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic.

5.4 Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. 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

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.

Storage class (VCI): 3
Water hazard class (DE): 3

7.2.1 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

10 mL Buffer RAP

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): -
PNEC = Predicted No Effect Concentration

NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: not listed

10 mL MDB

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.: 64-17-5d

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: 1000 ppm / 1900 mg/m³

10 mL RA1

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

6 mL RA3

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

13 mL RAW2
 Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 DNEL: [inh] 3.5 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC_(fresh water): -
PNEC = Predicted No Effect Concentration
 NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
 OSHA: not listed

Chemical: *ethanol* CAS No.: 64-17-5
 DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
 TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
E/e respirable
 Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 500 ppm / 960 mg/m³
 NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
 OSHA: [TWA] 1000 ppm / 1900 mg/m³

7 mL Reaction Buffer for rDNase
 Chemical: *chemicals/mixture < 2%* CAS No.: -

200 U, Size D, rDNase
 Chemical: *rDNase* CAS No.: 9003-98-9

13 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**
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

10 mL Buffer RAP
 Appearance: liquid Colour: colourless Odor: odorless
 pH: 4.5-5.0
 Specific gravity: 1.18 g/cm³

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10 mL MDB

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

6.7-7.2

Flash point:

55 °C

Specific gravity:

1.01 g/cm³**10 mL RA1**

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.13 g/cm³**6 mL RA3**

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

7-8

Specific gravity:

1.00 g/cm³**13 mL RAW2**

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

6.5-7.5

Flash point:

28 °C

7 mL Reaction Buffer for rDNase

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6.5-7.5

Specific gravity:

1.01 g/cm³**200 U, Size D, rDNase**

Appearance: solid (lyoph.)

Colour: white

Odor: odorless

13 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

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.

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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.

10 mL Buffer RAP

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 TSCA Inventory: listed California Proposition 65 List: not listed
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-18111
 LD50_{orl rat}: 475-907 mg/kg
 LC50_{ihl rat}: [4h] 3181-7655 µg/m³
 LD50_{drm rbt}: 2000 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

10 mL MDB

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.: 64-17-5d
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
 liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50_{orl rat}: 6200 mg/kg
 LC_{Lowihl gpg}: 21.9 g/m³
 LC_{Loworl hmn}: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg
 TRGS 905 (DE): K5, M5, R_F C

10 mL RA1

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 TSCA Inventory: listed California Proposition 65 List: not listed
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: not listed
 LD50_{orl rat}: 593 mg/kg
 LC50_{drm rbt}: >2000 mg/m³
 LC50_{ihl rat}: [4h] 5.319 mg/L
 LD50_{ipr mus}: 300 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

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6 mL RA3

Chemical: *chemicals/mixture < 1%*
 TSCA Inventory: all listed, <1%
 Korea Exist.Chem.Inventory: listed

CAS No.: -

13 mL RAW2

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 TSCA Inventory: listed California Proposition 65 List: not listed
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-18111
 LD50_{orl rat}: 475-907 mg/kg
 LC50_{ihl rat}: [4h] 3181-7655 µg/m³
 LD50_{drm rbt}: 2000 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

Chemical: *ethanol* CAS No.: 64-17-5
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
 liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50_{orl rat}: 6200 mg/kg
 LC_{LoWi}h1 gpg: 21.9 g/m³
 LC_{LoWo}h1 hmh: 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

7 mL Reaction Buffer for rDNase

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

CAS No.: -

200 U, Size D, rDNase

Chemical: *rDNase*
 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.

CAS No.: 9003-98-9

13 mL RNase-free H₂O

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

CAS No.: 7732-18-5

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SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

10 mL Buffer RAP

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 PNEC(fresh water): -
 PNEC = Predicted No Effected Concentration
 LC50_{leuciscus idus/96h}: 1759 mg/L
 LC50_{fish/96h}: [4d] 690-1850; [48h] 1758-2420 mg/L
 EC50_{daphnia/48h}: 70.2 mg/L
 EC10_{pseudomonas putita/16h}: [72h] 11.8-33.5 mg/L
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

10 mL MDB

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 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.: 64-17-5d
 PNEC(fresh water): 0.96 mg/L
 PNEC = Predicted No Effected Concentration
 LC50_{daphnia magna/48h}: >100 g/L
 LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
 LC50_{leuciscus idus/96h}: [48h] 8.14 g/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

10 mL RA1

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 1 - 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

6 mL RA3

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

13 mL RAW2

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 PNEC(fresh water): -
 PNEC = Predicted No Effected Concentration
 LC50_{leuciscus idus/96h}: 1759 mg/L
 LC50_{fish/96h}: [4d] 690-1850; [48h] 1758-2420 mg/L
 EC50_{daphnia/48h}: 70.2 mg/L

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EC10_{pseudomonas putita/16h} : [72h] 11.8-33.5 mg/L
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
 PNEC_(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{daphnia magna/48h} : >100 mg/L
 LC50_{pimephales promelas/96h} : 13400 - 15100 mg/L
 LC50_{leuciscus idus/96h} : [48h] 8140 mg/L
 LC50_{fish/96h} : 13 g/L
 EC50_{daphnia/48h} : 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

7 mL Reaction Buffer for rDNase

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

200 U, Size D, rDNase

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

13 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.

SECTION 14: Transport information

UN 1993 class 3 III, **Excepted Quantities** (≤30 mL/Σ≤1 L) = ADR/ IATA E1
 or

14.1 UN number: 1993 **14.2 UN proper shipping name:** Flammable liquid, n.o.s. (ethanol mixture)
14.3 Class: 3 **14.4 Packing group:** III

Road transport

Classification code: F1
 Limited Quantity: 5 L Tunnel restriction code: E
 Excepted Quantity: E 1 Special instructions: 640E

Air transport

PAX: 355 max. weight PAX: 60 L



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CAO: 366 max. weight CAO: 220 L
Maritime transport
 EmS: F-E, S-E Storage category: A

14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special precautions for user

not necessary

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

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.
 H412 Harmful to aquatic life with long lasting effects.

16.1.2 List of relevant P phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P261sh Avoid breathing dust/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

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from use of or reliance upon this information. See terms and conditions at the end of our price lists for additional information.

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

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