

Safety Data Sheet

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

REF: 740220.5

NucleoSpin 8 RNA Blood (60x8)

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Printing date: 15.11.2021

Date of issue: 24.06.2019

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

1.1 Product identifier

REF 740220.5
Product name NucleoSpin 8 RNA Blood (60x8)

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 60 mL Buffer for rDNase
2 x 100 mL DL
1 x 50 mL DL
3 x 2 mL Liquid Proteinase K
1 x 360 mL RB2
2 x 100 mL RB3
4 x 65 mL RNA Wash Buffer 3 Concentrate
10 x 200 U, Size D, rDNase
1 x 125 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
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H334	Resp. Sens. 1
H412	Aquatic Chronic 3

2.1 Classification of the substance or mixture

60 mL Buffer for rDNase

Do not need labelling as hazardous

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Signal word -

No hazard class

100 mL DL



GHS07

Signal word WARNING

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

50 mL DL



GHS07

Signal word WARNING

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

2 mL Liquid Proteinase K

Signal word Do not need labelling as hazardous

No hazard class

360 mL RB2



GHS02



GHS07

Signal word WARNING

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

100 mL RB3

Signal word Do not need labelling as hazardous

No hazard class

65 mL RNA Wash Buffer 3 Concentrate

Do not need labelling as hazardous

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Signal word

-

No hazard class

200 U, Size D, rDNase



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H334

Resp. Sens. 1

125 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.

60 mL Buffer for rDNase

Do not need labelling as hazardous

Signal word: -

100 mL DL



GHS07

Signal word: WARNING

H412

Harmful to aquatic life with long lasting effects.

50 mL DL



GHS07

Signal word: WARNING

H412

Harmful to aquatic life with long lasting effects.

2 mL Liquid Proteinase K

Do not need labelling as hazardous

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Signal word: -

360 mL RB2



GHS02



GHS07

Signal word: WARNING

H226, H302

Flammable liquid and vapour. Harmful if swallowed.

P210, P264W, P301+312, P330

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash with water thoroughly after handling. IF

SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

100 mL RB3

Do not need labelling as hazardous

Signal word: -

65 mL RNA Wash Buffer 3 Concentrate

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.

125 mL RNase-free H₂O

Do not need labelling as hazardous

Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

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. In liquid form no hazard H334. -

Information pertaining to particular risks to the environment

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

PBT: not applicable

vPvB: not applicable

Other hazards

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SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

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.

100 mL DL

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: 30 - <45 %

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

50 mL DL

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: 30 - <45 %

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

2 mL Liquid Proteinase K

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

CAS No.: 39450-01-6I

Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1

Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album

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

EC No.: 254-457-8

Indice No.:

647-014-00-9

RTECS: -

MFCD:

00132129

KE No.: not listed

Concentration: 1 - <3 %

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

Chemical: glycerole

CAS No.: 56-81-5

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

Formula: C₃ H₈ O₃

Pseudonym: glycerin, 1,2,3-propanetriol

TSCA Inventory: listed (1,2,3-Propanetriol)

REACH Reg. No.: 01-2119471987-18-xxxx

EC No.: 200-289-5

Indice No.:

n/a

RTECS: MA8050000

MFCD:

00004722

KE No.: KE-29297

Concentration: 50 - <80 %

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

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360 mL RB2

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

100 mL RB3

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.

65 mL RNA Wash Buffer 3 Concentrate

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.

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

125 mL RNase-free H_2O

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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 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 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

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. The substance/mixture is 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.

5.4 Additional information

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

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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). 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.

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

60 mL Buffer for rDNase

Chemical: chemicals/mixture < 2%

CAS No.: -

100 mL DL

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

50 mL DL

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

2 mL Liquid Proteinase K

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

CAS No.: 39450-01-61

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

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Chemical: *glycerole* CAS No.: 56-81-5
 DNEL: [inh] 56 mg/m³
 DNEL = Derived No-Effect Level (for workers)
 PNEC (fresh water): 0.885 mg/L
 PNEC = Predicted No Effect Concentration
 TRGS 900 (DE): 200 E mg/m³
 E/e respirable
 Short-term exposure factor: 2 (I), Y
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 50 e* mg/m³

360 mL RB2

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

100 mL RB3

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

65 mL RNA Wash Buffer 3 Concentrate

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

200 U, Size D, rDNase

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

125 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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

60 mL Buffer for rDNase

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	6.5-7.5	
Specific gravity:	1.01 g/cm ³	

100 mL DL

Appearance: liquid	Colour: colourless	Odor: odorless
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50 mL DL

Appearance: liquid	Colour: colourless	Odor: odorless
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2 mL Liquid Proteinase K

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

360 mL RB2

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH:	6.5-7.5	
Flash point:	28 °C	

100 mL RB3

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

65 mL RNA Wash Buffer 3 Concentrate

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	6-8	
Specific gravity:	1.0 g/cm ³	

200 U, Size D, rDNase

Appearance: solid (lyoph.)	Colour: white	Odor: odorless
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125 mL RNase-free H₂O

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	6-8	
Specific gravity:	1.0 g/cm ³	

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

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.

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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.

60 mL Buffer for rDNase

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

CAS No.: -

100 mL DL

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

CAS No.: 593-84-0

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

50 mL DL

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

CAS No.: 593-84-0

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

2 mL Liquid Proteinase K

Chemical: proteinase K, liquid (origin: tritirachium album)
TSCA Inventory: listed (CAS 102925-54-2)
Japan CSCL/PRTR: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: not listed

CAS No.: 39450-01-6l

Chemical: glycerole

CAS No.: 56-81-5

TSCA Inventory: listed (1,2,3-Propanetriol)
Exposure Routes: inhalation, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, kidneys
Symptoms: irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-29297
LD50_{orl rat}: 12.6 g/kg

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LD50_{drm rbt} : >18.7 g/kg

TRGS 905 (DE): R_F C

360 mL RB2

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_{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

100 mL RB3

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

65 mL RNA Wash Buffer 3 Concentrate

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

200 U, Size D, 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.

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125 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.

60 mL Buffer for rDNase

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

CAS No.: -

100 mL DL

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
PNEC_(fresh water): 42.4 µg/L
PNEC = Predicted No Effect Concentration
LC50_{fish/96h}: [4d] 89.1 mg/L
EC50_{daphnia/48h}: 42.4 mg/L
IC50_{scenedesmus quadricauda/72h}: 130 mg/L
EC10_{pseudomonas putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient_(octanol-water): [pH 5.1] -1.11
Storage class (VCI): 12

50 mL DL

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
PNEC_(fresh water): 42.4 µg/L
PNEC = Predicted No Effect Concentration
LC50_{fish/96h}: [4d] 89.1 mg/L
EC50_{daphnia/48h}: 42.4 mg/L
IC50_{scenedesmus quadricauda/72h}: 130 mg/L
EC10_{pseudomonas putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient_(octanol-water): [pH 5.1] -1.11
Storage class (VCI): 12

2 mL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)*
Water hazard class (DE): 1
Storage class (VCI): 13

CAS No.: 39450-01-61

Chemical: *glycerole*
PNEC_(fresh water): 0.885 mg/L
PNEC = Predicted No Effect Concentration
LC50_{fish/96h}: >5000_{24h} mg/L
EC50_{daphnia/48h}: >10_{24h} g/L
IC50_{scenedesmus quadricauda/72h}: IC50_{7d} >10 g/L
EC10_{pseudomonas putida/16h}: EC5: >10 g/L
Water hazard class (DE): 0
Dispersion coefficient_(octanol-water): -1.76
Storage class (VCI): 10

CAS No.: 56-81-5

360 mL RB2

Chemical: *guanidine hydrochloride*
PNEC_(fresh water): -
PNEC = Predicted No Effect Concentration
LC50_{leuciscus idus/96h}: 1759 mg/L
LC50_{fish/96h}: [4d] 690-1850; [48h] 1758-2420 mg/L

CAS No.: 50-01-1

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EC50_{daphnia/48h} : 70.2 mg/L
 EC10_{pseudomonas putida/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 putida/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

100 mL RB3

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

CAS No.: -

65 mL RNA Wash Buffer 3 Concentrate

Chemical: *water*

CAS No.: 7732-18-5

200 U, Size D, rDNase

Chemical: *rDNase*
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 13

CAS No.: 9003-98-9

125 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.

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SECTION 14: Transport information

14.1 UN number:	1993	14.2 UN proper shipping name:	Flammable liquid, n.o.s. (ethanol mixture)
14.3 Class:	3	14.4 Packing group:	III
<i>Road transport</i>			
Classification code:	F1		
Limited Quantity:	5 L	Tunnel restriction code:	E
Excepted Quantity:	E 1	Special instructions:	640E
<i>Air transport</i>			
PAX:	355	max. weight PAX:	60 L
CAO:	366	max. weight CAO:	220 L
<i>Maritime transport</i>			
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.
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.
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.

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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

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