

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 1/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

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

1.1 Product Identifier / Product Name

REF	740110.4	
Product Name	NucleoSpin 96 DNA RapidLyse (4x96)	
1 x 70 mL RLY		UFI: GXGW-X302-C20G-6UF8
2 x 100 mL RLB		UFI: DOHW-E3PF-P200-V61A
1 x 200 mL RLW		
1 x 60 mL RLE		
1 x 4.5 mL Liquid Proteinase		UFI: TTWV-43C9-R202-NTGN

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 and of the Safety Data Sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG
Valenciener Str. 11, 52355 Düren, Germany
Phone: +49 2421 969 0E-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.

USA: American Association Of Poison Control Centers

Rockville, MD 20857. tel. 1-800-222-1222, <<https://www.poisonhelp.org>>

DE: Gemeinsames Giftinformationszentrum (GGIZ)

99089 Erfurt tel. +49 361 730 730

<<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

<<http://www.mn-net.com/SDS>>

SECTION 2: Hazard(s) Identification

2.0 Classification of the complete Product



GHS02 GHS05 GHS07 GHS08 GHS09

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H317	Skin Sens. 1
H318	Eye Dam. 1
H334	Resp. Sens. 1
H411	Aquatic Chronic 2

2.1 Classification of the substance or mixture

100 mL RLB

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 2/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6



Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H317	Skin Sens. 1
H318	Eye Dam. 1
H411	Aquatic Chronic 2

70 mL RLY



GHS07

Signal Word WARNING

Hazard Identification	Hazard Classes/Categories
H319	Eye Irrit. 2
H412	Aquatic Chronic 3

4.5 mL Liquid Proteinase



GHS08

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H334	Resp. Sens. 1

200 mL RLW

Signal Word Do not need labelling as hazardous

No Hazard Class

60 mL RLE

Signal Word Do not need labelling as hazardous

No Hazard Class

List of H phrases: see section 16.2

2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012). 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) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A. This labelling exemption is NOT valid for sensibilizing substances.



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 3/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

100 mL RLB



Signal Word: DANGER
H317, H318

May cause an allergic skin reaction. Causes serious eye damage.

P261sh, P280sh, P305+351+338, P310

Avoid breathing dust/vapors. Immediately call a POISON CENTER/doctor. Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

70 mL RLY



Signal Word: WARNING

4.5 mL Liquid Proteinase



Signal Word: DANGER
H334

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

P261sh, P342+311

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

200 mL RLW

Do not need labelling as hazardous

Signal Word: -

60 mL RLE

Do not need labelling as hazardous

Signal Word: -

Label elements of the complete product



Signal Word: DANGER
H317, H318, H334

May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P280sh, P305+351+338, P310

Avoid breathing dust/vapors. Immediately call a POISON CENTER/doctor. Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other Hazards

Possible Hazards from physicochemical Properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. 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.).



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 4/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

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Information pertaining to particular Risks to Human and possible Symptoms

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapors especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs.

Cause after oral intake, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Kit contains small amounts of enzymes, which may cause sensitization by direct and repeated contact.

Information pertaining to particular Risks to the Environment

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

data not available

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

100 mL RLB

Substance name: *guanidinium thiocyanate*
CAS No.: 593-84-0

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

Chemical Formula: $C_2H_6N_4S$

Synonyms (de): Guanidiniumrhodanid

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

EC No.: 209-812-1

Indice No.: 615-004-00-3

Concentration: 30 - <45 %

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

Substance name: *1-dodecylpyridiniumchloride*
CAS No.: 104-74-5

Substance rating: H301, Acute Tox. 3 oral, H312, Acute Tox. 4 derm., H317, Skin Sens. 1, H319, Eye Irrit. 2, H410, Aquatic Chronic 1

Chemical Formula: $C_{17}H_{30}ClN$

REACH Reg. No.: -

EC No.: 203-232-2

Concentration: 2,5 - <5 %

acc. GHS: H302, Acute Tox. 4 oral, H317, Skin Sens. 1, H318, Eye Dam. 1, H411, Aquatic Chronic 2

Substance name: *ethanol*
CAS No.: 64-17-5
(denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2

Chemical Formula: C_2H_6O ; C_2H_5OH

Synonyms (de): Äthylalkohol, vergällter Spiritus

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

EC No.: 200-578-6

Indice No.: 603-002-00-5

Concentration: 5 - <20 %

acc. GHS: H226, Flam. Liq. 3

70 mL RLY

Substance name: *dodecyl sulfate, sodium salt*
CAS No.: 151-21-3

Substance rating: H228, Flam. Sol. 1, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H332, Acute Tox. 4 inh., H335, STOT SE 3, H412, Aquatic Chronic 3

Chemical Formula: $C_{12}H_{25}NaO_4S$

Synonyms (de): Natriumlaurylsulfat

REACH Reg. No.: 01-2119489461-32-xxxx

EC No.: 205-788-1

Concentration: 2,5 - <3 %

acc. GHS: H319, Eye Irrit. 2, H412, Aquatic Chronic 3



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 5/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

200 mL RLW

Substance name: *chemicals/mixture until 1%*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Concentration: 0,1 - <1 %
acc. GHS: The criteria for classification are not fulfilled.

60 mL RLE

Substance name: *chemicals/mixture until 1%*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Concentration: 0,1 - <1 %
acc. GHS: The criteria for classification are not fulfilled.

4.5 mL Liquid Proteinase

Substance name: *glycerole*
CAS No.: 56-81-5

Substance rating: No criteria for classification or naming of chemical is not required.
Chemical Formula: $C_3H_8O_3$
Synonyms (de): 1,2,3-Propantriol
REACH Reg. No.: 01-2119471987-18-xxxx
EC No.: 200-289-5
Concentration: 50 - <80 %
acc. GHS: The criteria for classification are not fulfilled.

Index No.: n/a

Substance name: *proteinase K, liquid*
CAS No.: 39450-01-6

Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
Chemical Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
Synonyms (de): Endopeptidase K
EC No.: 254-457-8
Concentration: 1 - <3 %
acc. GHS: H334, Resp. Sens. 1

Index No.: 647-014-00-9

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%. List of Hazard and Precaution phrases: see section 16.2.

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. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor. Take to a doctor, in a raised position if there are breathing difficulties.

4.1.1 After SKIN Contact

Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

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 Vapors

After inhalation of foam or vapor 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.



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REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 6/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

4.2 Most important Symptoms and Effects, both acute and delayed

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Chronic effects: Repeated contact, even in small amounts, can lead to sensitization.
Causes serious eye damage.

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 substance. 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: Fire-Fighting Measures

5.1 Extinguishable Media

5.1.1 Suitable 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.

5.1.2 Unsuitable extinguishing media

data not available

5.2 Special Hazards arising from the Substance or Mixture

WARNING: Flammable. May form explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible.

5.3 Advice for Firefighters

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

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. 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

PBT: not applicable

vPvB: not applicable

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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

see information in section 5.4,7,8 and 13

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 allows a safe storage. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3

Water hazard class (DE): 3



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 7/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage. 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

100 mL RLB

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: *1-dodecylpyridiniumchloride*

CAS No.: 104-74-5

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

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

70 mL RLY

Chemical: *dodecyl sulfate, sodium salt*

CAS No.: 151-21-3

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

200 mL RLW

Chemical: *chemicals/mixture until 1%*

CAS No.: -

60 mL RLE

Chemical: *chemicals/mixture until 1%*

CAS No.: -

4.5 mL Liquid Proteinase

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

Chemical: *proteinase K, liquid*

CAS No.: 39450-01-6

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 vapor/dust respirator, class A/AX. No additional recommendations.

8.2.2 Skin protection / Hand protection

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

8.2.3 Eye / Face Protection

Yes, Splash Goggles or Face Protection.



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 8/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

8.2.5 Hygiene Measures

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.

8.2.6 Thermal hazards

data not available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

100 mL RLB

a) State of aggregation:	liquid
b) Color:	slightly yellow
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6.5-7.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

70 mL RLY

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	8.5-9.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.01 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

200 mL RLW

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 9/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	7-8
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.00 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

60 mL RLE

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	0 °C
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	8-9
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.0 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

4.5 mL Liquid Proteinase

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	7-8
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	0-100 %
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.1 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

9.2 Further Information

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.

Properties relevant to substance groups



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4	NucleoSpin 96 DNA RapidLyse (4x96)	Page: 10/15
Printing Date: 04.04.2023	Date of Issue: 27.02.2023	Version: 2.2.7.6

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

Can form very reactive substances with oxidizing agents. Possibility: &H:EUH031& No further data available.

10.4 Conditions to avoid

No more required.

10.5 Incompatible Materials

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 chemicals. Quantitative data on the toxicity of this product are not available.

100 mL RLB

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 593 mg/kg
 LC50 ihl rat : 5,319 mg/L/4H

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

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5

TSCA Inventory: listed
 LD50 orl rat : 203 mg/kg
 Acute Effects: Cause after oral intake, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts.

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

TSCA Inventory: listed California Prop. 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

Canada CEPA 1999: DSL yes
 LD50 orl rat : 6200 mg/kg
 LC_Low ihl gpg : 21,900 mg/L
 LC_Low orl hmn : 1400 mg/kg
 LC50 ihl mus : 123,4 mg/L/4H
 LC50 ihl rat : 115,9-133,8 mg/L/4H
 LD50 orl mus : 3450 mg/kg

70 mL RLY

Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 1288 mg/kg
 LC50 ihl rat : 3,900 mg/L/1H

200 mL RLW

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



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4	NucleoSpin 96 DNA RapidLyse (4x96)	Page: 11/15
Printing Date: 04.04.2023	Date of Issue: 27.02.2023	Version: 2.2.7.6

60 mL RLE

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

4.5 mL Liquid Proteinase

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*
 LD50 orl rat : *12600 mg/kg*

Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 TSCA Inventory: *listed (CAS 102925-54-2)*
 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.*

11.2 Other Hazards

Possible endocrine disrupting effects

data not available

Other Information

no additional data available

SECTION 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

100 mL RLB

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
 Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
 Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).
 PNEC (fresh water) : *42.4 µg/L*
 PNEC = Predicted No Effect Concentration
 LC50 fish/96h : *[4d] 89.1 mg/L*
 EC50 daphnia/48h : *42.4 mg/L*
 IC50 scenedesmus quadricauda/72h : *130 mg/L*
 EC10 pseudomonas putita/16h : *[10d] 200 mg/L*
 Partition Coefficient (o/w) : *-1,11 pH 5.1*

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5
 Toxic to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
 Environmental hazards must not be labelled with H and P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).

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

PNEC (fresh water) : *0.96 mg/L*
 PNEC = Predicted No Effect 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*
 Partition Coefficient (o/w) : *-0,31*

70 mL RLY

Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
 Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
 Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).
 LC50 daphnia magna/48h : *6.3 mg/L*
 LC50 fish/96h : *1.31-22.5 mg/L*
 Partition Coefficient (o/w) : *1,6*



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 12/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

200 mL RLWChemical: *chemicals/mixture until 1%*

CAS No.: -

60 mL RLEChemical: *chemicals/mixture until 1%*

CAS No.: -

4.5 mL Liquid ProteinaseChemical: *glycerole*

CAS No.: 56-81-5

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

Partition Coefficient (o/w) : -1,76

Chemical: *proteinase K, liquid*

CAS No.: 39450-01-6

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Endocrine disrupting properties

data not available

12.7 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 (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

Normally it is possible to empty small amounts (diluted!) into drains. Empty containers of corrosive reagents prior to disposal, rinse with water.

SECTION 14: Transport Information**14.1 - 14.4:** No dangerous goods according the Transport regulations (Ethanol: ADR SI144/ IATA A58)**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 Carriage of bulk cargo by sea in accordance with IMO instruments

Not applicable.



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740110.4

NucleoSpin 96 DNA RapidLyse (4x96)

Page: 13/15

Printing Date: 04.04.2023

Date of Issue: 27.02.2023

Version: 2.2.7.6

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see www.mn-net.com

15.2 Chemical Safety Assessment

not necessary for these small amounts

SECTION 16: Other Information

16.1 Changes compared to the last version

Between versions 2.2.7.6 and 2.2.2.2 following changes were applied: - 5 composition data corrected - 4 substance data corrected

16.2 List of Hazard and Precaution Phrases

16.2.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.2.2 List of relevant P Phrases

P261sh	Avoid breathing dust/vapors.
P280sh	Wear protective gloves/eye protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

16.3 Recommended Restriction on Use

Only for Professional User.

Look about employee restrictions for young people!

Look about employee restrictions for pregnant women and nursing women!

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

16.4 Sources of Key Data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

SUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

TRGS 907, German technical rules for listing substances and causes of sensitization, updated November 2011 Regulation

487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)

Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)

Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)

Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019

Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)

Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)



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Safety Data Sheet

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REF: 740110.4	NucleoSpin 96 DNA RapidLyse (4x96)	Page: 14/15
Printing Date: 04.04.2023	Date of Issue: 27.02.2023	Version: 2.2.7.6

Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary
 2014-04 adjustment according Regulation 487/2013/EU
 2016-03 adjustment according Regulation 1221/2015/EU
 2017-08 adjustment according the Ordinance on Ethanol Denaturation 2016/1867/EU
 2017-11 adjustment according the ECHA registration dossier
 2022-11 adjustment according Regulation 878/2020/EU

16.5 Further Information

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16.6 Legend / Abbreviations

acc:	according
ADR:	Convention concerning the International Carriage of Dangerous Goods by Road
Act:	acute
BAT:	biological workplace tolerance value
CAO:	Cargo Aircraft Only
Carc:	carcinogen
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging regulation
CMR:	carcinogen, mutagen, reproduction toxic
Corr:	corrosive
COD:	chemical oxygen demand
CSCL:	Chemical Substance Control Law (Jp)
Dam:	damage
DNEL:	Derived No-Effect Level (for workers)
derm:	dermal
dog:	dog
EC10:	Concentration causing a toxic effect in 10% of the test organisms
EC:	European Community
EC-Nr:	Substance number of the EC substance inventory
EmS:	Guide to accident management measures on ships
EU:	European Union
fish:	fish (not specified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig
ICAO:	International Civil Aviation Organization
ihl:	inhaled
IMDG:	International Maritime Dangerous Goods Code
intrav:	intravenous
ipt:	intraperitoneal
ISHL:	Industrial Safety and Health Law (Jp)
LC50:	letale concentration 50%
LD50:	letale dosis 50%
leuciscus idus:	fisch, ide, orfe
MAK:	maximum workplace concentration
Met:	Metall
mus:	mouse
Muta:	mutagen
NIOSH:	National Institute for Occupational Safety and Health (US)
NRD:	Non-rapidly degradable
onchorhynchus mykiss:	fish, rainbow trout
orl:	oral
OSHA:	Occupational Safety and Health Administration
PAX:	transport on passenger planes allowed
PBT:	persistent, bioaccumulating, toxic substance
pH:	pH value
pimephales promelas:	fish, fathead minnow
PNEC:	Predicted No Effect Concentration



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SDS acc. Hazard Communication Standard

REF: 740110.4	NucleoSpin 96 DNA RapidLyse (4x96)	Page: 15/15
Printing Date: 04.04.2023	Date of Issue: 27.02.2023	Version: 2.2.7.6

PROC 15:	Process category 'for laboratory use'
PRTR:	Law for PRTR and Promotion of Chemical Management (Jp)
PVC:	polyvinyl chloride
quail:	bird, quail
rat:	rat
rbt:	rabbit
RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	rRegistration number
Repr:	harmful to reproduction
Resp:	respiratory
scu:	sub cutan
RIP:	REACH Implementations Projects
SDS:	safety data sheet
Sens:	sensitisation
STEL:	short term exposure limit
STOT:	Specific Target Organ Toxicity
SVHC:	Substance of Very High Concern
t/a:	tons per year
TCCA:	Toxic Chemicals Control Act (S. Korea)
Tox:	toxic
TSCA:	The Toxic Substances Control Act (US)
TWA:	time weighted average
TRGS:	technical regulations (DE)
vPvB:	very persistent, very bioaccumulating substance

16.7 Training Advice

Regular safety training. 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.

