

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 1/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

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

1.1 Product identifier

REF 740402.50
 Product name NucleoSpin eDNA Water (50)

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 1,5 mL Liquid Proteinase K | UFI: TTWV-43C9-R202-NTGN |
| 1 x 50 mL Wash Buffer WB | UFI: C6EV-03R2-0200-8PEW |
| 2 x 1.5 mL Precipitation Buffer PREC | UFI: MWWW-C370-M207-3DF0 |
| 1 x 125 mL Buffer DISSOLVE | |
| 1 x 30 mL Buffer ACID | |
| 1 x 25 mL RESU Buffer | UFI: 1A6V-H3H9-G20E-ACTR |
| 1 x 13 mL Elution Buffer BE | |
| 1 x 1,5 mL Nucleo Trap Suspension | |

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
 Phone: +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, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

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

SECTION 2: Hazard identification

2.0 Classification of the complete product according to Regulation (EC) 1272/2008



Signal word DANGER

Hazard identification	Hazard classes/categories
-----------------------	---------------------------

H225	Flam. Liq. 2
H302	Acute Tox. 4 oral
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H334	Resp. Sens. 1
H411	Aquatic Chronic 2

2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

1.5 mL Precipitation Buffer PREC



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50

NucleoSpin eDNA Water (50)

Page: 2/20

Printing date: 07.02.2024

Date of issue: 09.01.2024

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GHS05 GHS07 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H411	Aquatic Chronic 2

1,5 mL Liquid Proteinase K



GHS08

Signal word DANGER

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

25 mL RESU Buffer



GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H314	Skin Corr. 1 B
H412	Aquatic Chronic 3

50 mL Wash Buffer WB



GHS02

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2

1,5 mL Nucleo Trap Suspension

Signal word Do not need labelling as hazardous
-

No hazard class



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 3/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

13 mL Elution Buffer BE

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

125 mL Buffer DISSOLVE

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

30 mL Buffer ACID

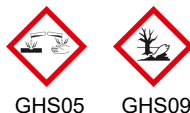
Signal word Do not need labelling as hazardous
-
No hazard class

List of H phrases: see section 16.2

2.2 Label elements according regulation (EC) 1272/2008

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identifier(s) (EU 1272/2008 Annex I - 1.5.1.2). Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensiblizing substances.

1.5 mL Precipitation Buffer PREC



Signal word: DANGER
H314, H317
Causes severe skin burns and eye damage.May cause an allergic skin reaction.
P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P333+313, P405, P501
Do not breathe dust/vapours.Wash hands thoroughly after handling.Wear protective gloves/eye protection.IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.Immediately call a POISON CENTER/doctor.If skin irritation or rash occurs: Get medical advice/attention.Store locked up.Dispose of contents/container to regulated waste treatment.

1,5 mL Liquid Proteinase K



Signal word: DANGER
H334
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
P261sh, P284, P342+311, P501
Avoid breathing dust/vapours.[In case of inadequate ventilation] wear respiratory protection.If experiencing respiratory symptoms: Call a POISON CENTER/doctor.Dispose of contents/container to regulated waste treatment.

25 mL RESU Buffer



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50

NucleoSpin eDNA Water (50)

Page: 4/20

Printing date: 07.02.2024

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Version: 2.3.5.16

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Store locked up. Dispose of contents/container to regulated waste treatment.

50 mL Wash Buffer WB



GHS02

Signal word: DANGER

1,5 mL Nucleo Trap Suspension

Do not need labelling as hazardous

Signal word: -

13 mL Elution Buffer BE

Do not need labelling as hazardous

Signal word: -

125 mL Buffer DISSOLVE

Do not need labelling as hazardous

Signal word: -

30 mL Buffer ACID

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS02



GHS05



GHS08



GHS09

Signal word: DANGER

H314, H317, H334

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

P260sh, P264, P280sh, P284, P303+361+353, P305+351+338, P310, P333+313, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Wear protective gloves/eye protection. [In case of inadequate ventilation] wear respiratory protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container to regulated waste treatment.

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.).

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. Vapours 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.

Kit contains small amounts of enzymes: May cause sensitization by skin contact, also in repeated contact of small amounts. 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



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 5/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

Should not be released into the environment.

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

no data available

Other hazards

It is not possible to declare fine dust (< 12 µm) as dangerous or not. We recommend not to inhale product dust. Dust may cause damage of the inhalatory system if inhaled over a longer period.

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

1.5 mL Precipitation Buffer PREC

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
 Formula: C₁₇H₃₀ClN
 REACH Reg. No.: -
 EC No.: 203-232-2
 Concentration: 5 - <16,5 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H314, Skin Corr. 1 B, H317, Skin Sens. 1, H411, Aquatic Chronic 2

1,5 mL Liquid Proteinase K

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

Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
 Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
 Pseudonym (de): Endopeptidase K
 EC No.: 254-457-8
 Concentration: 1 - <3 %
 acc. CLP (GHS): H334, Resp. Sens. 1
 Index No.: 647-014-00-9

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

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: C₃H₈O₃
 Pseudonym (de): 1,2,3-Propantriol
 REACH Reg. No.: 01-2119471987-18-xxxx
 EC No.: 200-289-5
 Concentration: 10 - <50 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.
 Index No.: n/a

25 mL RESU Buffer

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

Substance rating: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1 B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3
 Formula: C₂H₆N₄S
 Pseudonym (de): Guanidiniumrhodanid
 REACH Reg. No.: 01-2120735072-65-0001
 EC No.: 209-812-1
 Concentration: 45 - <60 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H314, Skin Corr. 1 B, H412, Aquatic Chronic 3
 Index No.: 615-004-00-3



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 6/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

50 mL Wash Buffer WB

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)
 Substance rating: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 Concentration: 55 - <75 %
 acc. CLP (GHS): H225, Flam. Liq. 2

Indice No.: 603-002-00-5

1,5 mL Nucleo Trap Suspension

Substance name: *silica*
 CAS No.: 7631-86-9

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: SiO₂
 Pseudonym (de): Silicagel, Siliziumdioxid
 REACH Reg. No.: 01-2119379499-16-0166
 EC No.: 231-545-4
 Concentration: 10 - <20 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *water*
 CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: H₂O
 REACH Reg. No.: exempt, Annex IV
 EC No.: 231-791-2
 Concentration: 70 - <90 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

13 mL Elution Buffer BE

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

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

125 mL Buffer DISSOLVE

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

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

30 mL Buffer ACID

Substance name: *acetate buffer solution*
 CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: CH₃COOH/K/Na•H₂O
 Concentration: 5 - <15 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.



Safety Data Sheet

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REF: 740402.50

NucleoSpin eDNA Water (50)

Page: 7/20

Printing date: 07.02.2024

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Version: 2.3.5.16

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 16.2.

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 vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. If vomiting and if insensible place patient in recovery position and 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. Do not induce vomiting under any circumstances. Do not make any efforts to neutralise it. Contact medical advice for possible consequences.

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. Rapid penetration and destruction of the skin. Especially in the heated form. Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTRESS ensure that the patient inhales oxygen. Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Firefighting measures

5.1 Extinguishing 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

no data available

5.2 Special hazards arising from the substance or mixture

DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible.

5.3 Advice for firefighters

No, for listed product. 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.



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 8/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection, 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

Should not be released into the environment.

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 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 5.4,7,8 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

Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Storage class (German chemical industry): see chapter 12.1

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. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls /personal protection

8.1 Control parameters

1,5 mL Nucleo Trap Suspension

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

Chemical: *silica* CAS No.: 7631-86-9

DNEL: [inh] 4 mg/m³
 DNEL = Derived No-Effect Level (for workers)

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

TRGS 900 (DE): 1,25 A / 4 E mg/m³
 E/e respirable

Short-term exposure factor: Y
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 4 e mg/m³

NIOSH: Occupational Carcinogen List yes; [TWA] 6 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] 20 mppcf / 80 mg/m³

13 mL Elution Buffer BE

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

125 mL Buffer DISSOLVE

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



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 9/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

1,5 mL Liquid Proteinase K

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

Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 SUVA(CH) MAK value: 0,00006 15min mg/m³

30 mL Buffer ACID

Chemical: *acetate buffer solution* CAS No.: -

25 mL RESU Buffer

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

1.5 mL Precipitation Buffer PREC

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

50 mL Wash Buffer WB

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 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

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. Use for regularly working with dry powders a dust mask or a dust protection filter, class P3. No additional recommendations.

8.2.2 Skin protection / 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 / Face Protection

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

8.2.4 Skin protection

Recommended to avoid clothing damage, and 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.



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 10/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

- 8.2.6 Thermal hazards**
no data 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

1,5 mL Nucleo Trap Suspension

- | | |
|--|-------------------|
| a) State of aggregation: | liquid |
| b) Colour: | colourless |
| c) Odor: | odorless |
| d) Melting point: | no data available |
| e) Boiling point: | no data available |
| f) Flammability: | no data available |
| g) Explosive limits (lower / upper): | no data available |
| h) Flash point: | no data available |
| i) Flashing temperature: | no data available |
| j) Decomposition temperature: | no data available |
| k) pH value: | no data available |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | no data available |
| n) Dispersion coefficient (K _{o/w}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | no data available |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

13 mL Elution Buffer BE

- | | |
|--|-----------------------|
| a) State of aggregation: | liquid |
| b) Colour: | colourless |
| c) Odor: | odorless |
| d) Melting point: | no data available |
| e) Boiling point: | no data available |
| f) Flammability: | no data available |
| g) Explosive limits (lower / upper): | no data available |
| h) Flash point: | no data available |
| i) Flashing temperature: | no data available |
| j) Decomposition temperature: | no data available |
| k) pH value: | 8-9 |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | no data available |
| n) Dispersion coefficient (K _{o/w}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1.0 g/cm ³ |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

125 mL Buffer DISSOLVE

- | | |
|--|-------------------|
| a) State of aggregation: | liquid |
| b) Colour: | |
| c) Odor: | |
| d) Melting point: | no data available |
| e) Boiling point: | no data available |
| f) Flammability: | no data available |
| g) Explosive limits (lower / upper): | no data available |
| h) Flash point: | no data available |
| i) Flashing temperature: | no data available |
| j) Decomposition temperature: | no data available |
| k) pH value: | no data available |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | no data available |
| n) Dispersion coefficient (K _{o/w}): | no data available |
| o) Vapour pressure (20°C): | no data available |



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50

NucleoSpin eDNA Water (50)

Page: 11/20

Printing date: 07.02.2024

Date of issue: 09.01.2024

Version: 2.3.5.16

- p) Specific gravity: no data available
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available

1,5 mL Liquid Proteinase K

- a) State of aggregation: liquid
- b) Colour: colourless
- c) Odor: odorless
- d) Melting point: no data available
- e) Boiling point: no data available
- f) Flammability: no data available
- g) Explosive limits (lower / upper): no data available
- h) Flash point: no data available
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: 7-8
- l) Kinematic viscosity: no data available
- m) Solubility in water: 0-100 %
- n) Dispersion coefficient (K_{o/w}): no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: 1.1 g/cm³
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available

30 mL Buffer ACID

- a) State of aggregation: liquid
- b) Colour:
- c) Odor:
- d) Melting point: no data available
- e) Boiling point: no data available
- f) Flammability: no data available
- g) Explosive limits (lower / upper): no data available
- h) Flash point: no data available
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: no data available
- l) Kinematic viscosity: no data available
- m) Solubility in water: no data available
- n) Dispersion coefficient (K_{o/w}): no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: no data available
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available

25 mL RESU Buffer

- a) State of aggregation: liquid
- b) Colour: colourless
- c) Odor: odorless
- d) Melting point: no data available
- e) Boiling point: no data available
- f) Flammability: no data available
- g) Explosive limits (lower / upper): no data available
- h) Flash point: no data available
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: 6.5-7.5
- l) Kinematic viscosity: no data available
- m) Solubility in water: no data available
- n) Dispersion coefficient (K_{o/w}): no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: 1.13 g/cm³
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50

NucleoSpin eDNA Water (50)

Page: 12/20

Printing date: 07.02.2024

Date of issue: 09.01.2024

Version: 2.3.5.16

1.5 mL Precipitation Buffer PREC

a) State of aggregation:	liquid
b) Colour:	
c) Odor:	
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

50 mL Wash Buffer WB

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	10 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	7-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	0.91 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

9.2 Other information

9.2.1 Information on physical hazard classes

no data available

9.2.2 Other safety-related parameters

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

□ □

Substances are highly volatile and form flammable gas-air mixtures. Substances are highly corrosive.

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

no known instability.



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 13/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

10.3 Possibility of hazardous reactions

Can react violently with organic material. Note: Can form very reactive substances with oxidizing agents. Possible: &H:EUH031& No further data available.

10.4 Conditions to avoid

No more required.

10.5 Incompatible materials

no additional data available

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 the hazard classes according regulation (EC) 1272/2008

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

1,5 mL Nucleo Trap Suspension

Chemical: *water* CAS No.: 7732-18-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-35400
 LD50 orl rat : > 90000 mg/kg

Chemical: *silica* CAS No.: 7631-86-9
 TSCA Inventory: listed California Proposition 65 List: not listed
 Exposure Routes: inhalation, skin and/or eye contact
 Target Organs: Eyes, respiratory system
 Symptoms: irritation eyes, pneumoconiosis
 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-31032
 LD50 orl rat : 5000 mg/kg
 LC50 ihl rat : 2,19-5,01 mg/L/4H

TRGS 905 (DE): R F C

13 mL Elution Buffer BE

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

125 mL Buffer DISSOLVE

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

1,5 mL Liquid Proteinase K

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 : 12600 mg/kg

TRGS 905 (DE): R F C



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 14/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 TSCA Inventory: listed (CAS 102925-54-2)
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: not listed
 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.

30 mL Buffer ACID

Chemical: *acetate buffer solution* CAS No.: -
 TSCA Inventory: all listed
 Korea Exist.Chem.Inventory: listed

25 mL RESU Buffer

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 ihl rat : 5,319 mg/L/4H
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

1.5 mL Precipitation Buffer PREC

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5
 TSCA Inventory: listed
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-13023
 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.

50 mL Wash Buffer WB

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

11.2 Other hazards

Possible endocrine disrupting effects
 no data available

Other information



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 15/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

no additional data available

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1,5 mL Nucleo Trap Suspension

Substance name: *water* CAS-Nr.: 7732-18-5

Substance name: *silica* CAS-Nr.: 7631-86-9

PNEC (fresh water): -
 PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h : [4d] 1033-1289 mg/L
 EC50 daphnia/48h : 512; [4d] 2600 mg/L
 EC50 chlorella vulgaris/5d : [4d] 218 mg/L
 Water hazard class (DE): nwg WGK No.: 0849
 Storage class (VCI): 13

13 mL Elution Buffer BE

Substance name: *chemicals/mixture until 1%* CAS-Nr.: -

Water hazard class (DE): 1
 Storage class (VCI): 12-13

125 mL Buffer DISSOLVE

Substance name: *chemicals/mixture until 1%* CAS-Nr.: -

Water hazard class (DE): 1
 Storage class (VCI): 12-13

1,5 mL Liquid Proteinase K

Substance name: *glycerole* CAS-Nr.: 56-81-5

PNEC (fresh water): 0.885 mg/L
 PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h : >5000_{24h} mg/L
 EC50 daphnia/48h : >10_{24h} g/L
 IC50 scenedesmus quadricauda/72h : IC5_{7d} >10 g/L
 EC10 pseudomonas putita/16h : EC5: >10 g/L
 Water hazard class (DE): 0
 Storage class (VCI): 10

Substance name: *proteinase K, liquid* CAS-Nr.: 39450-01-6

Water hazard class (DE): 1
 Storage class (VCI): 13

30 mL Buffer ACID

Substance name: *acetate buffer solution* CAS-Nr.: -

Storage class (VCI): 12

25 mL RESU Buffer

Substance name: *guanidinium thiocyanate* CAS-Nr.: 593-84-0

Harmful to aquatic life with long lasting effects. Do not release into the environment.
 Environmentally hazardous substances/mixtures do not have to be labeled with P-phrases up to 125 mL (EU 1272/2008 Annex I Paragraph 1.5.2).

PNEC (fresh water): 42.4 µg/L
 PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

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
 Storage class (VCI): 12

1.5 mL Precipitation Buffer PREC



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 16/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

Substance name: *1-dodecylpyridiniumchloride* CAS-Nr.: 104-74-5
 Toxic to aquatic life with long lasting effects. Do not release into the environment.
 Environmentally hazardous substances/mixtures up to 125 mL do not have to be labeled with H and P statements (EU 1272/2008 Annex I Paragraph 1.5.2).
 Water hazard class (DE): 3
 Storage class (VCI): 12-13

50 mL Wash Buffer WB
 Substance name: *ethanol* CAS-Nr.: 64-17-5
 PNEC (fresh water): 0.96 mg/L
 PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected
 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
 Storage class (VCI): 3

12.2 Persistence and degradability

12.3 Bioaccumulative potential

1,5 mL Liquid Proteinase K
 Substance name: *glycerole* CAS-Nr.: 56-81-5
 Dispersion coefficient (K_{o/w}): -1,76

25 mL RESU Buffer
 Substance name: *guanidinium thiocyanate* CAS-Nr.: 593-84-0
 Dispersion coefficient (K_{o/w}): -1,11 pH 5.1

50 mL Wash Buffer WB
 Substance name: *ethanol* CAS-Nr.: 64-17-5
 Dispersion coefficient (K_{o/w}): -0,31

12.4 Mobility in soil

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

no data 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 (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.



Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 17/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

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:	II		
<i>Road transport ADR</i>			
Classification code:	F1	Tunnel restriction code:	E
Limited Quantity:	1 L	Special instructions:	640C
Excepted Quantity:	E 2		
<i>Air transport IATA DGR</i>			
Limited Quantity:	PAX: 353	max. quantity PAX:	5 L
	CAO: 364	max. quantity CAO:	60 L
Excepted Quantity:	E 2		
<i>Maritime transport IMDG</i>			
EmS:	F-E, S-E	Staukategorie:	B

- 14.5 Environmental hazards**
none, contains only small quantities of hazardous substances, contains only small amounts of these substances
- 14.6 Special precautions for user**
not necessary
- 14.7 Carriage in bulk by sea in accordance with IMO instruments**
Not applicable.

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020
 Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017
 TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017
 TRGS 220, National aspects when preparing safety data sheets, Jan 2017
 TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017
 TRGS 401, Skin contact hazard - identification, assessment, action, Jun 2008, status: Feb 2011
 BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012
 TRGS 500, Protective measures, Mai 2008
 TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016
 MN leaflet/instructions for use, also at www.mn-net.com
 If necessary, observe other country-specific regulations.
- 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 2.3.5.16 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 3 composition data corrected - 14 substance data corrected
- 16.2 List of H and P phrases**
 - 16.2.1 List of relevant H phrases**

H	Between versions 2.3.5.16 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 3 composition data corrected - 14 substance data corrected
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 18/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

- 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

- P260sh Do not breathe dust/vapours.
- P264 Wash hands thoroughly after handling.
- P280sh Wear protective gloves/eye protection.
- P284 [In case of inadequate ventilation] wear respiratory protection.
- P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- 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.
- P333+313 If skin irritation or rash occurs: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container to regulated waste treatment.

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 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021
 Directive 97/69/EG, mineral fibers Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres
 TRGS 521, German engineering regulations for rehabilitation, repair and demolition with old mineral wool, February 2008 , TRGS 521 "Mineral fibres" in the new version 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 559, German technical rules for mineral dusts from July 2011 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 progress Text (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)
 Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)
 Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th 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



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740402.50	NucleoSpin eDNA Water (50)	Page: 19/20
Printing date: 07.02.2024	Date of issue: 09.01.2024	Version: 2.3.5.16

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
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
RIP:	REACH Implementations Projects
scu:	sub cutan
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)



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Page: 20/20

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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.



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