

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10

NucleoSnap cfDNA (10)

Page: 1/16

Printing Date: 04.04.2023

Date of Issue: 03.03.2023

Version: 2.2.6.8

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

1.1 Product Identifier / Product Name

REF	740300.10	
Product Name	NucleoSnap cfDNA (10)	
1 x 800 µL Liquid Proteinase K		UFI: TTWV-43C9-R202-NTGN
1 x 10 mL WB		UFI: C6EV-03R2-0200-8PEW
1 x 13 mL Elution Buffer		
1 x 13 mL CC		UFI: G4CW-K3AU-620S-5QTN
1 x 60 mL VL		UFI: F37V-23QV-720V-9F2A
1 x 13 mL VW1		UFI: MMPT-631A-V206-GNTN

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
 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.

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

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H336	STOT SE 3

2.1 Classification of the substance or mixture

13 mL CC



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10

NucleoSnap cfDNA (10)

Page: 2/16

Printing Date: 04.04.2023

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GHS05

GHS07

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H290

Met. Corr. 1

H315

Skin Irrit. 2

H319

Eye Irrit. 2

800 µL Liquid Proteinase K



GHS08

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H334

Resp. Sens. 1

13 mL VW1



GHS02

GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H319

Eye Irrit. 2

H336

STOT SE 3

60 mL VL



GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H319

Eye Irrit. 2

10 mL WB



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REF: 740300.10

NucleoSnap cfDNA (10)

Page: 3/16

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GHS02

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H225

Flam. Liq. 2

13 mL Elution Buffer

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 to 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 sensiblizing substances.

13 mL CC



GHS05

Signal Word: DANGER

800 µL Liquid Proteinase K



GHS08

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.

13 mL VW1



GHS02



GHS07

Signal Word: WARNING

60 mL VL



GHS07

Signal Word: WARNING



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REF: 740300.10

NucleoSnap cfDNA (10)

Page: 4/16

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Version: 2.2.6.8

10 mL WB



GHS02

Signal Word: DANGER

13 mL Elution Buffer

Do not need labelling as hazardous

Signal Word: -

Label elements of the complete product



GHS02



GHS05



GHS08

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.

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. In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties.

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

13 mL CC

Substance name: *potassium hydroxide solution*

CAS No.: 1310-58-3

Substance rating: H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H314, Skin Corr. 1A

Chemical Formula: KOH·H₂O

Synonyms (de): Kalilaug

REACH Reg. No.: 01-2119487136-33-xxxx

EC No.: 215-181-3

Indice No.: 019-002-00-8

Concentration: 0,5 - <1 %

acc. GHS: H290, Met. Corr. 1, H315, Skin Irrit. 2, H319, Eye Irrit. 2

13 mL VW1



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10

NucleoSnap cfDNA (10)

Page: 5/16

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Version: 2.2.6.8

Substance name: *2-propanol*
 CAS No.: 67-63-0

Substance rating: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
 Chemical Formula: C₃H₈O
 Synonyms (de): Isopropanol, IPA, Propan-2-ol
 REACH Reg. No.: 01-2119457558-25-XXXX
 EC No.: 200-661-7 Index No.: 603-117-00-0
 Concentration: 20 - <35 %
 acc. GHS: H226, Flam. Liq. 3, H319, Eye Irrit. 2, H336, STOT SE 3

Substance name: *guanidine hydrochloride*
 CAS No.: 50-01-1

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Chemical Formula: CH₆CIN₃
 Synonyms (de): Guanidiniumchlorid
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3 Index No.: 607-148-00-0
 Concentration: 36 - <50 %
 acc. GHS: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

13 mL Elution Buffer

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 VL

Substance name: *guanidine hydrochloride*
 CAS No.: 50-01-1

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
 Chemical Formula: CH₆CIN₃
 Synonyms (de): Guanidiniumchlorid
 REACH Reg. No.: 01-2119977063-35-0005
 EC No.: 200-002-3 Index No.: 607-148-00-0
 Concentration: 50 - <66 %
 acc. GHS: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

800 µL Liquid Proteinase K

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

Substance rating: No criteria for classification or naming of chemical is not required.
 Chemical Formula: C₃H₈O₃
 Synonyms (de): 1,2,3-Propantriol
 REACH Reg. No.: 01-2119471987-18-xxxx
 EC No.: 200-289-5 Index No.: n/a
 Concentration: 50 - <80 %
 acc. GHS: The criteria for classification are not fulfilled.

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 Index No.: 647-014-00-9
 Concentration: 1 - <3 %
 acc. GHS: H334, Resp. Sens. 1

10 mL WB



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 6/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

Substance name:	<i>ethanol</i>		
CAS No.:	64-17-5		
	(denatured with 1% 2-butanone)		
Substance rating:	H225, Flam. Liq. 2		
Chemical Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Synonyms (de):	Äthylalkohol, vergällter Spiritus		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
Concentration:	55 - <75 %		
acc. GHS:	H225, Flam. Liq. 2		

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. 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 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.

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.

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: 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

DANGER: Highly flammable. Forms 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.

5.4 Additional Information



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 7/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

SECTION 6: Accidental Release Measures

- 6.1 Personal Precautions, Protective Equipment and Emergency Procedure**
Do not breathe vapors. 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**

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 (VC1): 3
Water hazard class (DE): 1
- 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

13 mL CC
Chemical: *potassium hydroxide solution* CAS No.: 1310-58-3
DNEL: 1 inh mg/m³
DNEL = Derived No-Effect Level (for workers)
NIOSH: C 2 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: none

13 mL VW1
Chemical: *2-propanol* CAS No.: 67-63-0
DNEL: [inh] 500 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC (fresh water): 140.9 mg/L
PNEC = Predicted No Effect Concentration
NIOSH: [TWA] 400 ppm / 980 mg/m³
NIOSH STEL: 500 ppm / 1225 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 400 ppm / 980 mg/m³

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



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 8/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

13 mL Elution Buffer

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

60 mL VL

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 Effected 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

800 µL 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 Effected Concentration

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

10 mL 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 Effected 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

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.

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

13 mL CC

- | | |
|--------------------------|--------------------|
| a) State of aggregation: | liquid |
| b) Color: | colorless |
| c) Odor: | odorless |
| d) Melting Point: | data not available |



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REF: 740300.10

NucleoSnap cfDNA (10)

Page: 9/16

Printing Date: 04.04.2023

Date of Issue: 03.03.2023

Version: 2.2.6.8

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:	13
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:	1,005 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

13 mL VW1

a) State of aggregation:	liquid
b) Color:	colorless
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:	25 °C
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:	1.06 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

13 mL Elution Buffer

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

60 mL VL

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



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REF: 740300.10

NucleoSnap cfDNA (10)

Page: 10/16

Printing Date: 04.04.2023

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i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	4.5-5.2
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:	1.18 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

800 µL Liquid Proteinase K

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

10 mL WB

a) State of aggregation:	liquid
b) Color:	colorless
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:	10 °C
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:	0.91 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

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



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 11/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

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. 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.

13 mL CC

Chemical: *potassium hydroxide solution* CAS No.: 1310-58-3
 TSCA Inventory: listed California Prop. 65 List: not listed
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system
 Symptoms: irritation eyes, skin, respiratory system; cough, sneezing; eye, skin burns; vomiting, diarrhea
 Canada CEPA 1999: DSL Yes
 LD50 orl rat : 273

13 mL VW1

Chemical: *2-propanol* CAS No.: 67-63-0
 TSCA Inventory: listed California Prop. 65 List: not listed
 ACGIH: 1230 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system
 Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 5045 mg/kg
 LC₅₀ orl hmn : 3570 mg/kg
 LC50 ihl rat : 25 mg/L/4H

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 475-907 mg/kg
 LC50 ihl rat : 3181-7655 µg/m³/4H
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

13 mL Elution Buffer

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

60 mL VL

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 475-907 mg/kg
 LC50 ihl rat : 3181-7655 µg/m³/4H
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 12/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

800 µL 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
 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.

10 mL WB

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

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.

13 mL CC

Chemical: *potassium hydroxide solution* CAS No.: 1310-58-3
 LC50 pimephales promelas/96h : 880 mg/L

13 mL VW1

Chemical: *2-propanol* CAS No.: 67-63-0
 PNEC (fresh water) : 140.9 mg/L
 PNEC = Predicted No Effect Concentration
 LC50 fish/96h : 1400 mg/L
 EC50 daphnia/48h : 13.3 g/L
 IC50 scenedesmus quadricauda/72h : >1000 mg/L
 EC10 pseudomonas putita/16h : EC5: 1050 mg/L
 Partition Coefficient (o/w) : 0,05

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

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
 EC50 daphnia/48h : 70.2 mg/L
 EC10 pseudomonas putita/16h : [72h] 11.8-33.5 mg/L

13 mL Elution Buffer



Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 13/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.: -
60 mL VL		
Chemical:	<i>guanidine hydrochloride</i>	CAS No.: 50-01-1
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	
EC50 daphnia/48h :	70.2 mg/L	
EC10 pseudomonas putita/16h :	[72h] 11.8-33.5 mg/L	

800 µL Liquid Proteinase K		
Chemical:	<i>glycerole</i>	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 :	IC5 _{7d} >10 g/L	
EC10 pseudomonas putita/16h :	EC5: >10 g/L	
Partition Coefficient (o/w) :	-1,76	

Chemical:	<i>proteinase K, liquid</i>	CAS No.: 39450-01-6
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10 mL WB		
Chemical:	<i>ethanol</i>	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	

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

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.



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 14/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

SECTION 14: Transport Information

UN/NA 1993 Class 3 III, **Excepted Quantities** (≤ 30 mL/ $\Sigma \leq 1$ L) = ADR/ IATA E1
 or
14.1. UN/NA: 1993 **14.2. Proper Shipping Name:** Flammable liquid, n.o.s. (2-propanol, ethanol mixture)
14.3. Hazard Class: 3 **14.4. Packing Group:** II
Transportation by Road
 Classification code: F1 Tunnel restriction code: E
 Limited Quantity: 1 L Special instructions: 640C
 Excepted Quantity: E 2
Air Transportation
 Limited Quantity: LQ 4
 Excepted Quantity: E 2
 PAX: 353 max. weight PAX: 5 L
 CAO: 364 max. weight CAO: 60 L
Maritime Transport
 EmS: F-E, S-E Storage Category: B

- 14.5 Environmental Hazards**
none, contains only small quantities of hazardous substances
- 14.6 Special Precautions for User**
not necessary
- 14.7 Carriage of bulk cargo 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**
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 2.2.6.8 and 2.2.2.2 following changes were applied: - 4 composition data corrected - 6 substance data corrected
- 16.2 List of Hazard and Precaution Phrases**
 - 16.2.1 List of relevant H Phrases**

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.
 - 16.2.2 List of relevant P Phrases**

P261sh	Avoid breathing dust/vapors.
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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10	NucleoSnap cfDNA (10)	Page: 15/16
Printing Date: 04.04.2023	Date of Issue: 03.03.2023	Version: 2.2.6.8

P342+311 If experiencing respiratory symptoms: 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)
 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



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Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.10

NucleoSnap cfDNA (10)

Page: 16/16

Printing Date: 04.04.2023

Date of Issue: 03.03.2023

Version: 2.2.6.8

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: fisch, 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: fisch, 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
 rb: 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.



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