

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740300.50

NucleoSnap cfDNA (50)

Page: 1/17

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	740300.50	
Product Name	NucleoSnap cfDNA (50)	
1 x 50 mL Wash Buffer WB		UFI: C6EV-03R2-0200-8PEW
1 x 13 mL Elution Buffer		
1 x 30 mL CC		UFI: G4CW-K3AU-620S-5QTN
1 x 275 mL VL		UFI: F37V-23QV-720V-9F2A
1 x 75 mL VW1		UFI: MMPT-631A-V206-GNTN
1 x 4 mL Liquid Proteinase K		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
 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

30 mL CC



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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

4 mL Liquid Proteinase K



GHS08

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H334

Resp. Sens. 1

75 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

275 mL VL



GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H319

Eye Irrit. 2

50 mL Wash Buffer WB



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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.

30 mL CC



GHS05

Signal Word: DANGER

4 mL 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.

75 mL VW1



GHS02



GHS07

Signal Word: WARNING

275 mL VL



GHS07

Signal Word: WARNING



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H302, H315, H319
 Harmful if swallowed.Causes skin irritation.Causes serious eye irritation.
 P264W, P280sh, P301+312, P330
 Wash with water thoroughly after handling.IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.Wear protective gloves/eye protection.Rinse mouth.

50 mL Wash Buffer 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
 H302, H315, H319, H334
 Harmful if swallowed.Causes skin irritation.Causes serious eye irritation.May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 P261sh, P264W, P280sh, P301+312, P330, P342+311
 Avoid breathing dust/vapors.Wash with water thoroughly after handling.IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.Wear protective gloves/eye protection.Rinse mouth.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

30 mL CC



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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. 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. 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): 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

30 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



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75 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

13 mL Elution Buffer

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

275 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 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

4 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

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

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
 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.



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- 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

30 mL CC

- | | |
|--------------------------------------|-------------------------|
| 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: | 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 |

75 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 |



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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

275 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
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

4 mL 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

50 mL Wash Buffer 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



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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.

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.

30 mL CC

Chemical:	<i>potassium hydroxide solution</i>	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	

75 mL VW1

Chemical:	<i>2-propanol</i>	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	
LC ₅₀ Low orl hmn :	3570 mg/kg	
LC50 ihl rat :	25 mg/L/4H	



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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%

275 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.

4 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
 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.

50 mL Wash Buffer 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.

30 mL CC

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

75 mL VW1



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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

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

275 mL VL

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

4 mL Liquid Proteinase K

Chemical: *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 : IC5 7d >10 g/L
 EC10 pseudomonas putita/16h : EC5: >10 g/L
 Partition Coefficient (o/w) : -1,76

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

50 mL Wash Buffer WB

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

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



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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.

SECTION 14: Transport Information

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
<i>Transportation by Road</i>	
Classification code: F1	Tunnel restriction code: E
Limited Quantity: 1 L	Special instructions: 640C
Excepted Quantity: E 2	
<i>Air Transportation</i>	
Limited Quantity: LQ 4	
Excepted Quantity: E 2	
PAX: 353	max. weight PAX: 5 L
CAO: 364	max. weight CAO: 60 L
<i>Maritime Transport</i>	
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



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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.
P264W	Wash with water thoroughly after handling.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
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
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
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



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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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