

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 744320.1

NucleoMag DNA FFPE (1x96)

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Printing Date: 04.04.2023

Date of Issue: 28.10.2022

Version: 2.2.4.6

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

1.1 Product Identifier / Product Name

REF	744320.1	
Product Name	NucleoMag DNA FFPE (1x96)	
1 x 30 mL MB6		
1 x 1-75 mg Proteinase K (lyo)		UFI: S0KV-C3D9-420Q-9T2H
1 x 1.7 mL B-Beads		
1 x 15 mL PB		
1 x 60 mL Paraffin Dissolver (blue)		UFI: FM7W-U31J-N20G-1QX0
1 x 100 mL MB2		UFI: UP9V-83ES-E20Q-4PJ8
1 x 75 mL MB4		UFI: H0AV-936C-N20Q-S1VH
1 x 30 mL D-Link		
1 x 30 mL FL		

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



GHS07



GHS08

Signal Word

DANGER

Hazard Identification

H226
 H302
 H304
 H315
 H319
 H334

Hazard Classes/Categories

Flam. Liq. 3
 Acute Tox. 4 oral
 Asp. Tox. 1
 Skin Irrit. 2
 Eye Irrit. 2
 Resp. Sens. 1



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2.1 Classification of the substance or mixture

1-75 mg Proteinase K (Iyo)



GHS07

GHS08

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

H334

Resp. Sens. 1

15 mL PB

Signal Word

Do not need labelling as hazardous

No Hazard Class

100 mL MB2



GHS02

GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

75 mL MB4



GHS02

GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

60 mL Paraffin Dissolver (blue)



GHS08

Signal Word

DANGER

Hazard Identification

Hazard Classes/Categories

H304

Asp. Tox. 1



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30 mL D-Link

Signal Word Do not need labelling as hazardous
-
No Hazard Class

30 mL MB6

Signal Word Do not need labelling as hazardous
-
No Hazard Class

30 mL FL

Signal Word Do not need labelling as hazardous
-
No Hazard Class

1.7 mL B-Beads

Signal Word Do not need labelling as hazardous
-
No Hazard Class

List of H phrases: see section 16.2

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

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012). Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A. This labelling exemption is NOT valid for sensibilizing substances.

1-75 mg Proteinase K (Iyo)



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.

15 mL PB

Do not need labelling as hazardous
Signal Word: -

100 mL MB2



Signal Word: WARNING

75 mL MB4



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GHS02



GHS07

Signal Word: WARNING

60 mL Paraffin Dissolver (blue)



GHS08

Signal Word: DANGER

H304

May be fatal if swallowed and enters airways.

P301+310, P331

IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting.

30 mL D-Link

Do not need labelling as hazardous

Signal Word: -

30 mL MB6

Do not need labelling as hazardous

Signal Word: -

30 mL FL

Do not need labelling as hazardous

Signal Word: -

1.7 mL B-Beads

Do not need labelling as hazardous

Signal Word: -

Label elements of the complete product



GHS02



GHS07



GHS08

Signal Word: DANGER

H304, H334

May be fatal if swallowed and enters airways. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P301+310, P331

Avoid breathing dust/vapors. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting.

2.3 Other Hazards

Possible Hazards from physicochemical Properties

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

Cause after oral intake, impairments of health when ingested in small quantities. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May be fatal if swallowed and enters airways. The Paraffin Dissolver needs no labeling H350, because the aromates are reduced (<0.03%).

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

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

1-75 mg Proteinase K (Iyo)

Substance name: *proteinase K*
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: 90 - <100 %
acc. GHS: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1

30 mL MB6

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.

30 mL FL

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.

30 mL D-Link

Substance name: *inorganic salts, declaration not necessary*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Synonyms (de): kein Gefahrstoff
Concentration: 5 - <10 %
acc. GHS: The criteria for classification are not fulfilled.

15 mL PB

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

Substance rating: No criteria for classification or naming of chemical is not required.
Chemical Formula: $C_3H_8O_3$
Synonyms (de): 1,2,3-Propantriol
REACH Reg. No.: 01-2119471987-18-xxxx
EC No.: 200-289-5 Index No.: n/a
Concentration: 10 - <50 %
acc. GHS: The criteria for classification are not fulfilled.

60 mL Paraffin Dissolver (blue)

Substance name: *paraffin dissolver*
CAS No.: 64742-46-7

Substance rating: H304, Asp. Tox. 1
Chemical Formula: $C_{15}-C_{20}$, isomere aliphates
Synonyms (de): KW-Fraktion $C_{15}-C_{20}$
REACH Reg. No.: 01-2119827000-58-XXXX
EC No.: 934-956-3 Index No.: 649-275-00-4
Concentration: 90 - <100 %
acc. GHS: H304, Asp. Tox. 1



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1.7 mL B-Beads

Substance name: *magnetic particles, suspended in water*
 CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
 Synonyms (de): magnetic beads
 Concentration: 1 - <15 %
 acc. GHS: The criteria for classification are not fulfilled.

100 mL MB2

Substance name: *sodium perchlorate*
 CAS No.: 7601-89-0

Substance rating: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Chemical Formula: NaClO₄
 Synonyms (de): Perchlorat (fest)
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9
 Concentration: 15 - <40 %
 acc. GHS: H302, Acute Tox. 4 oral
 Index No.: 017-010-00-6

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)
 Substance rating: H225, Flam. Liq. 2
 Chemical Formula: C₂H₆O; C₂H₅OH
 Synonyms (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 Concentration: 35 - <55 %
 acc. GHS: H226, Flam. Liq. 3
 Index No.: 603-002-00-5

75 mL MB4

Substance name: *sodium perchlorate*
 CAS No.: 7601-89-0

Substance rating: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Chemical Formula: NaClO₄
 Synonyms (de): Perchlorat (fest)
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9
 Concentration: 15 - <40 %
 acc. GHS: H302, Acute Tox. 4 oral
 Index No.: 017-010-00-6

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)
 Substance rating: H225, Flam. Liq. 2
 Chemical Formula: C₂H₆O; C₂H₅OH
 Synonyms (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 Concentration: 20 - <35 %
 acc. GHS: H226, Flam. Liq. 3
 Index No.: 603-002-00-5

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.



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- 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**
WARNING: Flammable. May form explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible.
- 5.3 Advice for Firefighters**
No, for listed product. Product package burns like paper or plastic.
- 5.4 Additional Information**

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. Not for organic solvents (see section 13).
- 6.4 Reference to other Sections**



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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

1-75 mg Proteinase K (Iyo)

Chemical: *proteinase K*

CAS No.: 39450-01-6

30 mL MB6

Chemical: *chemicals/mixture until 1%*

CAS No.: -

30 mL FL

Chemical: *chemicals/mixture until 1%*

CAS No.: -

30 mL D-Link

Chemical: *inorganic salts, declaration not necessary*

CAS No.: -

15 mL PB

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

60 mL Paraffin Dissolver (blue)

Chemical: *paraffin dissolver*

CAS No.: 64742-46-7

NIOSH STEL: 10 mg/m³

OSHA: 5 mg/m³

1.7 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

100 mL MB2

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³

DNEL = Derived No-Effect Level (for workers)

NIOSH: not listed

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: not listed

Chemical: *ethanol*

CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0.96 mg/L

PNEC = Predicted No Effect Concentration

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



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75 mL MB4

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
DNEL = Derived No-Effect Level (for workers)
 NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
 OSHA: not listed

Chemical: *ethanol* CAS No.: 64-17-5
 DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC (fresh water) : 0.96 mg/L
PNEC = Predicted No Effect Concentration
 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

1-75 mg Proteinase K (Iyo)

a) State of aggregation:	solid (lyophilized)
b) Color:	slightly grey
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:	data not available
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available



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30 mL MB6

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

30 mL FL

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:	9-9.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.01 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

30 mL D-Link

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

15 mL PB

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



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

60 mL Paraffin Dissolver (blue)

a) State of aggregation:	liquid
b) Color:	blue
c) Odor:	organic
d) Melting Point:	-18 pourpoint °C
e) Boiling Point:	245-330 °C
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	1-6 Vol%
h) Flash Point:	>115 °C
i) Autoignition Temperature:	>230 °C
j) Decomposition Temperature:	data not available
k) pH Value:	-
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	<0.001 %
n) Partition Coefficient (o/w) :	7-8.7
o) Vapor Pressure (68°F):	< 0.003 hPa
p) Specific Gravity:	0.82 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

1.7 mL B-Beads

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:	data not available
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

100 mL MB2

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:	24 °C



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i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	5-6
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:	1.08 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

75 mL MB4

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	83,6 °C
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	26 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	4.5-5.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.06 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

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

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.



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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.

1-75 mg Proteinase K (lyo)

Chemical: *proteinase K* 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.

30 mL MB6

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

TSCA Inventory: all listed, <1%

30 mL FL

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

TSCA Inventory: all listed, <1%

30 mL D-Link

Chemical: *inorganic salts, declaration not necessary* CAS No.: -

TSCA Inventory: all listed

15 mL PB

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

60 mL Paraffin Dissolver (blue)

Chemical: *paraffin dissolver* CAS No.: 64742-46-7

TSCA Inventory: listed

LD50 orl rat : > 5000 mg/kg

1.7 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -

TSCA Inventory: listed (CAS 1309-38-2)

100 mL MB2

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

TSCA Inventory: listed California Prop. 65 List: not listed

Canada CEPA 1999: DSL Yes

LD50 orl rat : 2100 mg/kg

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

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

TSCA Inventory: listed California 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

LC₅₀ ihl gpg : 21,900 mg/L

LC₅₀ 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

75 mL MB4

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

TSCA Inventory: listed California Prop. 65 List: not listed

Canada CEPA 1999: DSL Yes

LD50 orl rat : 2100 mg/kg



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Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.
 Chemical: *ethanol* CAS No.: 64-17-5
 TSCA Inventory: listed California 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

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Other Information

no additional data available

SECTION 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

1-75 mg Proteinase K (Iyo)

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

30 mL MB6

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

30 mL FL

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

30 mL D-Link

Chemical: *inorganic salts, declaration not necessary* CAS No.: -

15 mL PB

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

60 mL Paraffin Dissolver (blue)

Chemical: *paraffin dissolver* CAS No.: 64742-46-7

LC50 fish/96h : >1028 mg/L
 Partition Coefficient (o/w) : 7-8,7

1.7 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -

100 mL MB2



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Chemical: *sodium perchlorate* CAS No.: 7601-89-0

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

75 mL MB4

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

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

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

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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). Or collect in solvent waste (RCRA Code D001, EU waste code number 07 07 04).

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. (ethanol mixture)

14.3. Hazard Class: 3 14.4. Packing Group: III

Transportation by Road

Classification code: F1

Limited Quantity: 5 L

Excepted Quantity: E 1

Tunnel restriction code: D/E

Special instructions: 640E



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<i>Air Transportation</i>			
Limited Quantity:	LQ 7		
Excepted Quantity:	E 1		
PAX:	355	max. weight PAX:	60 L
CAO:	366	max. weight CAO:	220 L
<i>Maritime Transport</i>			
EmS:	F-E, S-E	Storage Category:	A

- 14.5 Environmental Hazards**
none, contains only small quantities of hazardous substances
- 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 2.2.4.6 and 2.2.2.2 following changes were applied: - 2 composition data corrected - 4 substance data corrected
- 16.2 List of Hazard and Precaution Phrases**
 - 16.2.1 List of relevant H Phrases**

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - 16.2.2 List of relevant P Phrases**

P261sh	Avoid breathing dust/vapors.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
- 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



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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 progress (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:	lethal concentration 50%
LD50:	lethal dose 50%



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- 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
- 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.

