

Safety Data Sheet

according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

REF: 744600.24

NucleoMag Trace (24x96)

Page: 1/17

Printing date: 15.11.2021

Date of issue: 11.05.2021

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

1.1 Product identifier

REF 744600.24
Product name NucleoMag Trace (24x96)

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 40.8 mL B-Beads
2 x 500 mL FLB
2 x 500 mL MB2
2 x 900 mL MB3
2 x 900 mL MB4
3 x 1000 mL MB5
2 x 300 mL MB6
2 x 35 mL PB
24 x 25-60 mg Proteinase K (Iyo)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG
Valenciennner Str. 11, 52355 Düren, GERMANY
Tel.: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.

DE: Gemeinsames Giftinformationszentrum (GGIZ)

99089 Erfurt tel. +49 361 730 730

You find our current versions of SDS (22 languages) in Internet:

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

SECTION 2: Hazard identification

2.0 Classification of the complete product



GHS02



GHS07



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H319

Eye Irrit. 2

H334

Resp. Sens. 1

2.1 Classification of the substance or mixture

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40.8 mL B-Beads

Signal word

Do not need labelling as hazardous

No hazard class

500 mL FLB

Signal word

Do not need labelling as hazardous

No hazard class

500 mL MB2



GHS02

GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

900 mL MB3



GHS02

GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

900 mL MB4



GHS02

GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

1000 mL MB5

Signal word

Do not need labelling as hazardous

No hazard class

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300 mL MB6

Signal word Do not need labelling as hazardous
-

No hazard class

35 mL PB

Signal word Do not need labelling as hazardous
-

No hazard class

25-60 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

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identifier(s) (EU 1272/2008 Annex I - 1.5.1.2).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances.

40.8 mL B-Beads

Do not need labelling as hazardous
Signal word: -

500 mL FLB

Do not need labelling as hazardous
Signal word: -

500 mL MB2



GHS02 GHS07

Signal word: WARNING

H226, H302
Flammable liquid and vapour. Harmful if swallowed.

P210, P264W, P301+312, P330
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash with water thoroughly after handling. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

900 mL MB3

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GHS02



GHS07

Signal word: WARNING

H226, H302

Flammable liquid and vapour. Harmful if swallowed.

P210, P264W, P301+312, P330

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash with water thoroughly after handling. IF

SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

900 mL MB4



GHS02



GHS07

Signal word: WARNING

H226, H302

Flammable liquid and vapour. Harmful if swallowed.

P210, P264W, P301+312, P330

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash with water thoroughly after handling. IF

SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

1000 mL MB5

Do not need labelling as hazardous

Signal word: -

300 mL MB6

Do not need labelling as hazardous

Signal word: -

35 mL PB

Do not need labelling as hazardous

Signal word: -

25-60 mg Proteinase K (Iyo)



GHS07



GHS08

Signal word: DANGER

H334

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

P261sh, P342+311

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

2.3 Other hazards

Possible hazards from physicochemical properties

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In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. Vapour forms explosive mixtures with air. ---

Information pertaining to particular risks to human and possible symptoms

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

Kit contains small amounts of enzymes: May cause allergy or asthma symptoms or breathing difficulties if inhaled. -

Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

40.8 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

Classification: No criteria for classification or naming of chemical not required.

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

Concentration: 1 - <15 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

500 mL FLB

Chemical: *guanidine hydrochloride*

CAS No.: 50-01-1

Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

Formula: CH_6ClN_3

Pseudonym: guanidinium chloride

TSCA Inventory: listed

REACH Reg. No.: 01-2119977063-35-0005

EC No.: 200-002-3

Indice No.: 607-148-00-0

RTECS: MF4300000

MFCD: 00013026

KE No.: KE-18111

Concentration: 3 - <10 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

500 mL MB2

Chemical: *ethanol*

CAS No.: 64-17-5

(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)

Classification: H225, Flam. Liq. 2

Formula: $\text{C}_2\text{H}_6\text{O}$; $\text{C}_2\text{H}_5\text{OH}$

Pseudonym: ethyl alcohol, methylated spirit

TSCA Inventory: listed

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

EC No.: 200-578-6

Indice No.: 603-002-00-5

RTECS: KQ6300000

MFCD: 00003568

KE No.: KE-13217

Concentration: 35 - <55 %

acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate*

CAS No.: 7601-89-0

Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral

Formula: NaClO_4

TSCA Inventory: listed

REACH Reg. No.: 01-2119540521-50-xxxx

EC No.: 231-511-9

Indice No.: 017-010-00-6

RTECS: SC9800000

MFCD: -

KE No.: KE-31569

Concentration: 15 - <40 %

acc. CLP (GHS): H302, Acute Tox. 4 oral

900 mL MB3

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Chemical: *ethanol*
(denatured with 1%IPA/1%MEK, acc.2016/1867/EU) CAS No.: 64-17-5
Classification: H225, Flam. Liq. 2
Formula: C_2H_6O ; C_2H_5OH
Pseudonym: ethyl alcohol, methylated spirit
TSCA Inventory: listed
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6 Indice No.: 603-002-00-5
RTECS: KQ6300000 MFCD: 00003568
KE No.: KE-13217
Concentration: 20 - <35 %
acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
Formula: $NaClO_4$
TSCA Inventory: listed
REACH Reg. No.: 01-2119540521-50-xxxx
EC No.: 231-511-9 Indice No.: 017-010-00-6
RTECS: SC9800000 MFCD: -
KE No.: KE-31569
Concentration: 15 - <40 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

900 mL MB4

Chemical: *ethanol*
(denatured with 1%IPA/1%MEK, acc.2016/1867/EU) CAS No.: 64-17-5
Classification: H225, Flam. Liq. 2
Formula: C_2H_6O ; C_2H_5OH
Pseudonym: ethyl alcohol, methylated spirit
TSCA Inventory: listed
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6 Indice No.: 603-002-00-5
RTECS: KQ6300000 MFCD: 00003568
KE No.: KE-13217
Concentration: 20 - <35 %
acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
Formula: $NaClO_4$
TSCA Inventory: listed
REACH Reg. No.: 01-2119540521-50-xxxx
EC No.: 231-511-9 Indice No.: 017-010-00-6
RTECS: SC9800000 MFCD: -
KE No.: KE-31569
Concentration: 15 - <40 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

1000 mL MB5

Chemical: *chemicals/mixture < 1%* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <1%
KE No.: listed
Concentration: 0.1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

300 mL MB6

Chemical: *chemicals/mixture < 1%* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <1%
KE No.: listed
Concentration: 0.1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

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35 mL PB

Chemical: *glycerole*

CAS No.: 56-81-5

Classification: No criteria for classification or naming of chemical not required.

Formula: $C_3H_8O_3$

Pseudonym: glycerin, 1,2,3-propanetriol

TSCA Inventory: listed (1,2,3-Propanetriol)

REACH Reg. No.: 01-2119471987-18-xxxx

EC No.: 200-289-5

Indice No.: n/a

RTECS: MA8050000

MFCD: 00004722

KE No.: KE-29297

Concentration: 10 - <50 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

25-60 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)*

CAS No.: 39450-01-6

Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1

Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album

TSCA Inventory: listed (CAS 102925-54-2)

EC No.: 254-457-8

Indice No.: 647-014-00-9

RTECS: -

MFCD: 00132129

KE No.: not listed

Concentration: 90 - <100 %

acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

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 vapours

After inhalation of foam or vapour 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 with activated charcoal supplement should be drunk after it has been ingested. ---

4.2 Most important symptoms and effects, both acute and delayed

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. ---

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: Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---

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5.3 Advice for firefighters

No, for listed product. The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting. 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 procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Keep product away from sources of ignition - No smoking. 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

not necessary

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections

see information in section 5.4 ---

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 of MACHEREY-NAGEL allows a safe storage.

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

40.8 mL B-Beads

Chemical: *magnetic particles, suspended in water*

CAS No.: -

500 mL FLB

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

500 mL MB2

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

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TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
E/e respirable
Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 500 ppm / 960 mg/m³
NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / 1900 mg/m³

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)
TRGS 900 (DE): -
E/e respirable
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

900 mL MB3

Chemical: ethanol CAS No.: 64-17-5
DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
E/e respirable
Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 500 ppm / 960 mg/m³
NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / 1900 mg/m³

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)
TRGS 900 (DE): -
E/e respirable
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

900 mL MB4

Chemical: ethanol CAS No.: 64-17-5
DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
E/e respirable
Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 500 ppm / 960 mg/m³
NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / 1900 mg/m³

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)
TRGS 900 (DE): -
E/e respirable
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

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1000 mL MB5

Chemical: chemicals/mixture < 1%

CAS No.: -

300 mL MB6

Chemical: chemicals/mixture < 1%

CAS No.: -

35 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

TRGS 900 (DE): 200 E mg/m³
E/e respirable

Short-term exposure factor: 2 (I), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 50 e* mg/m³

25-60 mg Proteinase K (Iyo)

Chemical: proteinase K (origin: tritirachium album)

CAS No.: 39450-01-6

SUVA(CH) MAK value: 0,00006_{15min} mg/m³

8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory protection

Use for open access of these substances for example a protection filter, class A/AX. No additional recommendations.

8.2.2 Hand protection

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

8.2.3 Eye protection

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

8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

40.8 mL B-Beads

Appearance: liquid

Colour: colourless

Odor: odorless

500 mL FLB

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

7.5 - 8.5

Specific gravity:

1.03 g/cm³

500 mL MB2

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

5-6

Flash point:

24 °C

Specific gravity:

1.08 g/cm³

900 mL MB3

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

4.5-5.5

Boiling point:

83,6 °C

Flash point:

26 °C

Specific gravity:

1.06 g/cm³

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900 mL MB4

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

4.5-5.5

Boiling point:

83,6 °C

Flash point:

26 °C

Specific gravity:

1.06 g/cm³

1000 mL MB5

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

8-9

Specific gravity:

1.0 g/cm³

300 mL MB6

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

8-9

Specific gravity:

1.0 g/cm³

35 mL PB

Appearance: liquid

Colour: colourless

Odor: alcoholic

Specific gravity:

1.11 g/cm³

25-60 mg Proteinase K (Iyo)

Appearance: solid (lyoph.)

Colour: slightly grey

Odor: odorless

9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

Relevant Properties of Substance Group

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

But avoid reactions with oxidizing agents. Note: Can form very reactive substances with oxidizing agents. No further data available.

10.4 Conditions to avoid

Not necessary. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

10.5 Incompatible materials

Avoid contact with strong acids or alkalines. Avoid storage with oxidising substances.

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

40.8 mL B-Beads

Chemical:

magnetic particles, suspended in water

CAS No.: -

TSCA Inventory:

listed (CAS 1309-38-2)

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500 mL FLB

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
 TSCA Inventory: listed California Proposition 65 List: not listed
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-18111
 LD50_{orl rat}: 475-907 mg/kg
 LC50_{ihl rat}: [4h] 3181-7655 µg/m³
 LD50_{drm rbt}: 2000 mg/kg

500 mL MB2

Chemical: *ethanol* CAS No.: 64-17-5
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
 liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50_{orl rat}: 6200 mg/kg
 LC_{LoWihl gpg}: 21.9 g/m³
 LC_{Loworl hmn}: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
 TSCA Inventory: listed California Proposition 65 List: not listed
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-31569
 LD50_{orl rat}: 2100 mg/kg
 LD50_{ipr mus}: 551 mg/kg
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

900 mL MB3

Chemical: *ethanol* CAS No.: 64-17-5
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
 liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50_{orl rat}: 6200 mg/kg
 LC_{LoWihl gpg}: 21.9 g/m³
 LC_{Loworl hmn}: 1400 mg/kg
 LC50_{ihl mouse}: [4h] 39 g/m³
 LC50_{ihl rat}: [10h] 20 g/m³
 LD50_{drm rbt}: 20 000 mg/kg
 LD50_{oral mouse}: 3450 mg/kg

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-31569
LD50_{orl rat}: 2100 mg/kg
LD50_{ipr mus}: 551 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

900 mL MB4

Chemical: *ethanol* CAS No.: 64-17-5
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD50_{orl rat}: 6200 mg/kg
LC_{Lowihl gpg}: 21.9 g/m³
LC_{Loworl hmn}: 1400 mg/kg
LC50_{ihl mouse}: [4h] 39 g/m³
LC50_{ihl rat}: [10h] 20 g/m³
LD50_{drm rbt}: 20 000 mg/kg
LD50_{oral mouse}: 3450 mg/kg

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-31569
LD50_{orl rat}: 2100 mg/kg
LD50_{ipr mus}: 551 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

1000 mL MB5

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

300 mL MB6

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

35 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

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Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-29297
 LD50_{orl rat}: 12.6 g/kg
 LD50_{drm rbt}: >18.7 g/kg

TRGS 905 (DE): R_F C

25-60 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)*
 TSCA Inventory: listed (CAS 102925-54-2)
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: not listed

CAS No.: 39450-01-6

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.

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

40.8 mL B-Beads

Chemical: *magnetic particles, suspended in water*
 Storage class (VCI): 12

CAS No.: -

500 mL FLB

Chemical: *guanidine hydrochloride*
 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
 Water hazard class (DE): 1 WGK No.: 0788
 Storage class (VCI): 12

CAS No.: 50-01-1

500 mL MB2

Chemical: *ethanol*
 PNEC(fresh water): 0.96 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{daphnia magna/48h}: >100 mg/L
 LC50_{pimephales promelas/96h}: 13400 - 15100 mg/L
 LC50_{leuciscus idus/96h}: [48h] 8140 mg/L
 LC50_{fish/96h}: 13 g/L
 EC50_{daphnia/48h}: 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h}: [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient(octanol-water): -0.31
 Storage class (VCI): 3

CAS No.: 64-17-5

Chemical: *sodium perchlorate*
 Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

CAS No.: 7601-89-0

900 mL MB3

Chemical: *ethanol*
 PNEC(fresh water): 0.96 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{daphnia magna/48h}: >100 mg/L
 LC50_{pimephales promelas/96h}: 13400 - 15100 mg/L
 LC50_{leuciscus idus/96h}: [48h] 8140 mg/L
 LC50_{fish/96h}: 13 g/L

CAS No.: 64-17-5

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EC50_{daphnia/48h} : 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

Chemical: *sodium perchlorate*
 Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

CAS No.: 7601-89-0

900 mL MB4

Chemical: *ethanol*
 PNEC_(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{daphnia magna/48h} : >100 mg/L
 LC50_{pimephales promelas/96h} : 13400 - 15100 mg/L
 LC50_{leuciscus idus/96h} : [48h] 8140 mg/L
 LC50_{fish/96h} : 13 g/L
 EC50_{daphnia/48h} : 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Dispersion coefficient_(octanol-water) : -0.31
 Storage class (VCI): 3

CAS No.: 64-17-5

Chemical: *sodium perchlorate*
 Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

CAS No.: 7601-89-0

1000 mL MB5

Chemical: *chemicals/mixture < 1%*
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

CAS No.: -

300 mL MB6

Chemical: *chemicals/mixture < 1%*
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

CAS No.: -

35 mL PB

Chemical: *glycerole*
 PNEC_(fresh water) : 0.885 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h} : >5000_{24h} mg/L
 EC50_{daphnia/48h} : >10_{24h} g/L
 IC50_{scenedesmus quadricauda/72h} : IC50_{7d} >10 g/L
 EC10_{pseudomonas putita/16h} : EC5: >10 g/L
 Water hazard class (DE): 0
 Dispersion coefficient_(octanol-water) : -1.76
 Storage class (VCI): 10

CAS No.: 56-81-5

25-60 mg Proteinase K (Iyo)

Chemical: *proteinase K (origin: tritirachium album)*
 Water hazard class (DE): 1
 Storage class (VCI): 13

CAS No.: 39450-01-6

12.2 Persistence and degradability

not necessary

12.3 Bioaccumulative potential

not necessary

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12.4 Mobility in soil

not necessary

12.5 Results of PBT and vPvB assessment

no data available

12.6 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 (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 number: 1993 **14.2 UN proper shipping name:** Flammable liquid, n.o.s. (ethanol mixture)

14.3 Class: 3 **14.4 Packing group:** II

Road transport

Classification code: F1

Limited Quantity: 1 L

Excepted Quantity: E 2

Tunnel restriction code: E

Special instructions: 640C

Air transport

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 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013

German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC

TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011

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

Look for your country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H226	Flammable liquid and vapour.
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.

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16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261sh	Avoid breathing dust/vapours.
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.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

16.2 Training advice

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.

16.3 Recommended restriction on use

Only for professional user.

Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!

Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!

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

16.4 Further information

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16.5 Sources of key data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 849/2021/EU, 4th adaptation of CLP regulation to technical and scientific progress

TRGS 900, German engineering rules governing limits in air at work, updated 03/2019

SUVA .CH, Limits in air at work 2009, revised on 01.2009

TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011

Directive 1999/92/EC Minimum requirements for improving the safety and health protection of workers at risk from potentially explosive atmospheres

KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU

2017-08 Adaption of new ethanol denaturation 2016/1867/EU

2017-11 Adaption of ECHA Registration dossier