

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 744352.4

NucleoMag RNA Blood (4x96)

Page: 2/21

Printing date: 06.02.2024

Date of issue: 05.02.2024

Version: 2.15.3.1



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H334

Resp. Sens. 1

125 mL MRB2



GHS02



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

300 mL MRB2



GHS02



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

200 mL MRB1



GHS02



GHS07

Signal word

DANGER

Hazard identification

Hazard classes/categories

H225

Flam. Liq. 2

H319

Eye Irrit. 2

H336

resp. irrit. STOT SE 3

60 mL RNase-free H₂O

Signal word

Do not need labelling as hazardous

-

No hazard class



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Size D rDNase



GHS08

Signal word: DANGER

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

60 mL Reaction Buffer for rDNase

Signal word: Do not need labelling as hazardous

No hazard class

1.8 mL B-Beads

Signal word: Do not need labelling as hazardous

No hazard class

List of H phrases: see section 16.2

2.2 Label elements according regulation (EC) 1272/2008

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

7 mL Liquid Proteinase K



GHS08

Signal word: DANGER

H334

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

P261sh, P284, P342+311, P501

Avoid breathing dust/vapours.[In case of inadequate ventilation] wear respiratory protection.If experiencing respiratory symptoms: Call a POISON CENTER/doctor.Dispose of contents/container to regulated waste treatment.

125 mL MRB2



GHS02



GHS07

Signal word: WARNING

300 mL MRB2



GHS02



GHS07



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Signal word: WARNING

H226, H302

Flammable liquid and vapour. Harmful if swallowed.

P210, P233, P241, P242, P243, P264W, P270, P280, P301+312, P303+361+353, P330, P403+235, P501

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Wash with water thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Rinse mouth. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

200 mL MRB1



GHS02



GHS07

Signal word: DANGER

H225, H319, H336

Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.

P210, P241, P242, P243, P261, P264, P271, P280sh, P303+361+353, P305+351+338, P312, P337+313, P403+235, P405, P501

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container to regulated waste treatment.

60 mL RNase-free H₂O

Do not need labelling as hazardous

Signal word: -

Size D rDNase



GHS08

Signal word: DANGER

H334

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

P261sh, P284, P342+311, P501

Avoid breathing dust/vapours. [In case of inadequate ventilation] wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Dispose of contents/container to regulated waste treatment.

60 mL Reaction Buffer for rDNase

Do not need labelling as hazardous

Signal word: -

1.8 mL B-Beads

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS02



GHS07



GHS08

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Signal word: DANGER
H225, H302, H319, H334, H336
Highly flammable liquid and vapour. Harmful if swallowed. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.
P210, P241, P242, P243, P261sh, P264W, P270, P271, P280sh, P284, P301+312, P303+361+353, P305+351+338, P330, P337+313, P342+311, P403+235, P405, P501
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/vapours. Wash with water thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection. [In case of inadequate ventilation] wear respiratory protection. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container to regulated waste treatment.

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. 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. In liquid form no hazard H334.

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.

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

7 mL Liquid Proteinase K

Substance name: *proteinase K, liquid*
CAS No.: 39450-01-6
Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
Pseudonym (de): Endopeptidase K
EC No.: 254-457-8 Index No.: 647-014-00-9
Concentration: 1 - <3 %
acc. CLP (GHS): H334, Resp. Sens. 1

Substance name: *glycerole*
CAS No.: 56-81-5
Substance rating: No criteria for classification or naming of chemical not required.
Formula: C₃H₈O₃
Pseudonym (de): 1,2,3-Propantriol
REACH Reg. No.: 01-2119471987-18-xxxx
EC No.: 200-289-5 Index No.: n/a
Concentration: 10 - <50 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

125 mL MRB2



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

Substance name: *sodium perchlorate*
 CAS No.: 7601-89-0
 Substance rating: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Formula: NaClO₄
 Pseudonym (de): Perchlorat (fest)
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9
 Concentration: 15 - <40 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral
 Index No.: 017-010-00-6

300 mL MRB2

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

Substance name: *sodium perchlorate*
 CAS No.: 7601-89-0
 Substance rating: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
 Formula: NaClO₄
 Pseudonym (de): Perchlorat (fest)
 REACH Reg. No.: 01-2119540521-50-xxxx
 EC No.: 231-511-9
 Concentration: 15 - <40 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral
 Index No.: 017-010-00-6

200 mL MRB1

Substance name: *2-propanol*
 CAS No.: 67-63-0
 Substance rating: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, resp. irrit. STOT SE 3
 Formula: C₃H₈O
 Pseudonym (de): Isopropanol, IPA, Propan-2-ol
 REACH Reg. No.: 01-2119457558-25-XXXX
 EC No.: 200-661-7
 Concentration: 95 - <100 %
 acc. CLP (GHS): H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, resp. irrit. STOT SE 3
 Index No.: 603-117-00-0

60 mL RNase-free H₂O



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

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: H₂O
 REACH Reg. No.: exempt, Annex IV
 EC No.: 231-791-2
 Concentration: 90 - <100 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Size D rDNase

Substance name: *rDNase*
 CAS No.: 9003-98-9

Substance rating: H334, Resp. Sens. 1
 Formula: Enzyme Comm. No. 3.1.21.1, origin: cloned
 Pseudonym (de): Deoxyribonucleodepolymerase
 EC No.: 232-667-0
 Concentration: 90 - <100 %
 acc. CLP (GHS): H334, Resp. Sens. 1

60 mL Reaction Buffer for rDNase

Substance name: *chemicals/mixture until 2%*
 CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
 Concentration: 1 - <2 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

1.8 mL B-Beads

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

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

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%. List of H and P phrases: see section 16.2.

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. 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 for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

4.1.3 After INHALATION of vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. 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. ---



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- 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**
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Chronic effects: Repeated contact, even in small amounts, can lead to sensitization.
Causes serious eye irritation.
- 4.3 Indication of any immediate medical attention and special treatment needed**
After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must be carried out by an eye specialist. Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Firefighting measures

- 5.1 Extinguishing media**
 - 5.1.1 Suitable extinguishing media**
Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.
 - 5.1.2 Unsuitable extinguishing media**
no data available
- 5.2 Special hazards arising from the substance or mixture**
DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible.
- 5.3 Advice for firefighters**
No, for listed product. The substance/mixture is highly 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). Wear eye protection. 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**
PBT: not applicable
vPvB: not applicable
- 6.3 Methods and material for containment and cleaning up**
Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.
- 6.4 Reference to other sections**
see information in section 5.4,7,8 and 13

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.
- 7.2 Conditions for safe storage, including any incompatibilities**
Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Store in a well-ventilated place, away from - or better: separated from - substances with which dangerous reactions can occur. Classification always storage class A. Storage class (German chemical industry): see chapter 12.1



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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, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls /personal protection

8.1 Control parameters

200 mL MRB1

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

TRGS 900 (DE): 200 ppm / 500 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: 200 ppm / 500 mg/m³
 TRGS 903 (DE): [Aceton B/b, U/b] 25 mg/L
B blood, U urine, a no limitation, b end of exposition or shift

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

Size D rDNase

Chemical: *rDNase* CAS No.: 9003-98-9

7 mL Liquid Proteinase K

Chemical: *glycerole* CAS No.: 56-81-5

DNEL: [inh] 56 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0.885 mg/L
PNEC = Predicted No Effect Concentration

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

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

SUVA(CH) MAK value: 50 e* mg/m³

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

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

60 mL Reaction Buffer for rDNase

Chemical: *chemicals/mixture until 2%* CAS No.: -

1.8 mL B-Beads

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

125 mL MRB2

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

300 mL MRB2
 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

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

60 mL RNase-free H₂O
 Chemical: *water* CAS No.: 7732-18-5

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 Skin protection / Hand protection

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

8.2.3 Eye / Face Protection

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

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.

8.2.6 Thermal hazards

no data available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

200 mL MRB1

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
d) Melting point:	-90 °C
e) Boiling point:	82 °C
f) Flammability:	no data available
g) Explosive limits (lower / upper):	2-12.7 Vol%
h) Flash point:	12 °C
i) Flashing temperature:	425 °C
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	43 hPa
p) Specific gravity:	0.78 g/cm ³
q) Relative vapour density (air=1):	2.08
r) Particle size:	no data available

Size D rDNase

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

7 mL Liquid Proteinase K

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	7-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.1 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available



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60 mL Reaction Buffer for rDNase

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6.5-7.5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.01 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

1.8 mL B-Beads

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

125 mL MRB2

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
d) Melting point:	no data available
e) Boiling point:	83,6 °C
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	26 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	4.5-5.5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{o/w}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.06 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

300 mL MRB2

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
d) Melting point:	no data available



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e) Boiling point:	83,6 °C
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	26 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	4.5-5.5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient ($K_{o/w}$):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.06 g/cm ³
q) Relative vapour density ($air=1$):	no data available
r) Particle size:	no data available

60 mL RNase-free H₂O

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient ($K_{o/w}$):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.0 g/cm ³
q) Relative vapour density ($air=1$):	no data available
r) Particle size:	no data available

9.2 Other information

9.2.1 Information on physical hazard classes

no data available

9.2.2 Other safety-related parameters

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

☐☐

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

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. No further data available.

10.4 Conditions to avoid

But formation of explosive gases/vapours with air is possible. Use only in well ventilated rooms. No more required.



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10.5 Incompatible materials

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 the hazard classes according regulation (EC) 1272/2008

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

200 mL MRB1

Chemical: *2-propanol* CAS No.: 67-63-0
 TSCA Inventory: listed California Proposition 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
 Australia NICNAS: Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: PAC yes, Japan PDSCL: -
 Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA:
 Korea Exist.Chem.Inventory: KE-29363
 LD50 orl rat : 5045 mg/kg
 LC₅₀ orl hmn : 3570 mg/kg
 LC50 ihl rat : 25 mg/L/4H
 TRGS 905 (DE): R F C

Size D rDNase

Chemical: *rDNase* CAS No.: 9003-98-9
 TSCA Inventory: listed
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-09612
 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.

7 mL Liquid Proteinase K

Chemical: *glycerole* CAS No.: 56-81-5
 TSCA Inventory: listed (1,2,3-Propanetriol)
 Exposure Routes: inhalation, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, kidneys
 Symptoms: irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-29297
 LD50 orl rat : 12600 mg/kg
 TRGS 905 (DE): R F C

Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 TSCA Inventory: listed (CAS 102925-54-2)
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: not listed
 Acute Effects: Cause after impairments of health when ingested in small quantities.
 Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

60 mL Reaction Buffer for rDNase

Chemical: *chemicals/mixture until 2%* CAS No.: -
 TSCA Inventory: all listed, <2%
 Korea Exist.Chem.Inventory: listed



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1.8 mL B-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -
 TSCA Inventory: listed (CAS 1309-38-2)

125 mL MRB2

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
 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 Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50 orl rat : 6200 mg/kg
 LC_{Low} ihl gpg : 21,900 mg/L
 LC_{Low} orl hmn : 1400 mg/kg
 LC50 ihl mus : 123,4 mg/L/4H
 LC50 ihl rat : 115,9-133,8 mg/L/4H
 LD50 orl mus : 3450 mg/kg
 TRGS 905 (DE): K5, M5, R_F C

300 mL MRB2

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
 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 Proposition 65 List: not listed
 ACGIH: 1000 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
 Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-13217
 LD50 orl rat : 6200 mg/kg
 LC_{Low} ihl gpg : 21,900 mg/L
 LC_{Low} orl hmn : 1400 mg/kg
 LC50 ihl mus : 123,4 mg/L/4H
 LC50 ihl rat : 115,9-133,8 mg/L/4H
 LD50 orl mus : 3450 mg/kg
 TRGS 905 (DE): K5, M5, R_F C



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60 mL RNase-free H₂O

Chemical: *water*
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-35400
 LD50 orl rat : > 90000 mg/kg

CAS No.: 7732-18-5

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 substances.

200 mL MRB1

Substance name: *2-propanol* CAS-Nr.: 67-63-0
 PNEC (fresh water) : 140.9 mg/L
 PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected
 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
 Water hazard class (DE): 1 WGK No.: 0135
 Storage class (VCI): 3

Size D rDNase

Substance name: *rDNase* CAS-Nr.: 9003-98-9
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 13

7 mL Liquid Proteinase K

Substance name: *glycerole* CAS-Nr.: 56-81-5
 PNEC (fresh water) : 0.885 mg/L
 PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected
 LC50 fish/96h : >5000 24h mg/L
 EC50 daphnia/48h : >10 24h g/L
 IC50 scenedesmus quadricauda/72h : IC5 7d >10 g/L
 EC10 pseudomonas putita/16h : EC5: >10 g/L
 Water hazard class (DE): 0
 Storage class (VCI): 10

Substance name: *proteinase K, liquid* CAS-Nr.: 39450-01-6
 Water hazard class (DE): 1
 Storage class (VCI): 13

60 mL Reaction Buffer for rDNase

Substance name: *chemicals/mixture until 2%* CAS-Nr.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

1.8 mL B-Beads

Substance name: *magnetic particles, suspended in water* CAS-Nr.: -
 Storage class (VCI): 12

125 mL MRB2

Substance name: *sodium perchlorate* CAS-Nr.: 7601-89-0
 Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12



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Substance name: *ethanol* CAS-Nr.: 64-17-5
 PNEC (fresh water): 0.96 mg/L
 PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected
 LC50 daphnia magna/48h: >100 g/L
 LC50 pimephales promelas/96h: 13.4-15.1 g/L
 LC50 leuciscus idus/96h: [48h] 8.14 g/L
 LC50 fish/96h: 13 g/L
 EC50 daphnia/48h: 9.3-14.2 g/L
 IC50 scenedesmus quadricauda/72h: [7d] 5000 mg/L
 EC10 pseudomonas putida/16h: [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Storage class (VCI): 3

300 mL MRB2
 Substance name: *sodium perchlorate* CAS-Nr.: 7601-89-0
 Water hazard class (DE): 1 WGK No.: 0382
 Storage class (VCI): 12

Substance name: *ethanol* CAS-Nr.: 64-17-5
 PNEC (fresh water): 0.96 mg/L
 PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected
 LC50 daphnia magna/48h: >100 g/L
 LC50 pimephales promelas/96h: 13.4-15.1 g/L
 LC50 leuciscus idus/96h: [48h] 8.14 g/L
 LC50 fish/96h: 13 g/L
 EC50 daphnia/48h: 9.3-14.2 g/L
 IC50 scenedesmus quadricauda/72h: [7d] 5000 mg/L
 EC10 pseudomonas putida/16h: [EC5] 6500 mg/L
 Water hazard class (DE): 1 WGK No.: 0096
 Storage class (VCI): 3

60 mL RNase-free H₂O
 Substance name: *water* CAS-Nr.: 7732-18-5

12.2 Persistence and degradability

12.3 Bioaccumulative potential

200 mL MRB1
 Substance name: *2-propanol* CAS-Nr.: 67-63-0
 Dispersion coefficient (K_{o/w}): 0,05

7 mL Liquid Proteinase K
 Substance name: *glycerole* CAS-Nr.: 56-81-5
 Dispersion coefficient (K_{o/w}): -1,76
 Substance name: *ethanol* CAS-Nr.: 64-17-5
 Dispersion coefficient (K_{o/w}): -0,31
 Substance name: *ethanol* CAS-Nr.: 64-17-5
 Dispersion coefficient (K_{o/w}): -0,31

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

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



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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. (2-propanol, ethanol mixture)		
14.3 Class:	3		
14.4 Packing group:	II		
<i>Road transport ADR</i>			
Classification code:	F1	Tunnel restriction code:	E
Limited Quantity:	1 L	Special instructions:	640C
Excepted Quantity:	E 2		
<i>Air transport IATA DGR</i>			
Limited Quantity:	PAX: 353	max. quantity PAX:	5 L
	CAO: 364	max. quantity CAO:	60 L
Excepted Quantity:	E 2		
<i>Maritime transport IMDG</i>			
EmS:	F-E, S-E	Staukategorie:	B

14.5 Environmental hazards

none, contains only small quantities of hazardous substances

14.6 Special precautions for user

not necessary

14.7 Carriage in bulk by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020
 Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017
 TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017
 TRGS 220, National aspects when preparing safety data sheets, Jan 2017
 TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017
 BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012
 Betriebsicherheitsverordnung (BetrSichV), Sept 2002
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016
 MN leaflet/instructions for use, also at www.mn-net.com
 If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.15.3.1 and 2.2.2.2 following changes were applied: - 13 product component data corrected - 1 composition data corrected



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16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H	Between versions 2.15.3.1 and 2.2.2.2 following changes were applied: - 13 product component data corrected - 1 composition data corrected
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
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

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take precautionary measures against static discharge.
P261sh	Avoid breathing dust/vapours.
P264W	Wash with water thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280sh	Wear protective gloves/eye protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+361+353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P337+313	If eye irritation persists: Get medical advice/attention.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P403+235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to regulated waste treatment.

16.3 Recommended restriction on use

Only for professional user.
 Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!
 Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021
 Directive 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 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)
 Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary
 2014-04 adjustment according Regulation 487/2013/EU
 2016-03 adjustment according Regulation 1221/2015/EU
 2017-08 adjustment according the Ordinance on Ethanol Denaturation 2016/1867/EU
 2017-11 adjustment according the ECHA registration dossier
 2022-11 adjustment according Regulation 878/2020/EU



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

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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 oxigen 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 spezified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig
ICAO:	International Civil Aviation Organization
ihl:	inhaled
IMDG:	International Maritime Dangerous Goods Code
intrav:	intravenous
ipt:	intraperitoneal
ISHL:	Industrial Safety and Health Law (Jp)
LC50:	letale concentration 50%
LD50:	letale dosis 50%
leuciscus idus:	fisch, ide, orfe
MAK:	maximum workplace concentration
Met:	Metall
mus:	mouse
Muta:	mutagen
NIOSH:	National Institute for Occupational Safety and Health (US)
NRD:	Non-rapidly degradable
onchorhynchus mykiss:	fish, rainbow trout
orl:	oral
OSHA:	Occupational Safety and Health Administration
PAX:	transport on passenger planes allowed
PBT:	persistent, bioaccumulating, toxic substance
pH:	pH value
pimephales promelas:	fish, fathead minnow
PNEC:	Predicted No Effect Concentration
PROC 15:	Process category 'for laboratory use'
PRTR:	Law for PRTR and Promotion of Chemical Management (Jp)
PVC:	polyvinyl chloride
quail:	bird, quail
rat:	rat
rbt:	rabbit
RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	rRegistration number



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- Repr: harmful to reproduction
- Resp: respiratory
- RIP: REACH Implementations Projects
- scu: sub cutan
- SDS: safety data sheet
- Sens: sensitisation
- STEL: short term exposure limit
- STOT: Specific Target Organ Toxicity
- SVHC: Substance of Very High Concern
- t/a: tons per year
- TCCA: Toxic Chemicals Control Act (S. Korea)
- Tox: toxic
- TSCA: The Toxic Substances Control Act (US)
- TWA: time weighted average
- TRGS: technical regulations (DE)
- 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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