

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740571

NucleoBond PC 20 (20)

Page: 1/19

Printing date: 13.10.2025

Date of issue: 18.10.2024

Version: 2.14.5.9

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

1.1 Product identifier

REF 740571
Product name NucleoBond PC 20 (20)

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 0.6-100 mg RNase A (lyo) UFI: WWJV-U3PV-U207-MFGF
1 x 25 mL S2 UFI: H8PT-538R-N207-U9GD
1 x 125 mL N3 UFI: 5F5U-R3F0-U20T-WQMT
1 x 32 mL N5 UFI: EPXU-G32Y-720C-FYY0
1 x 25 mL S1
1 x 25 mL S3
1 x 25 mL N2 UFI: MHXU-F3Q5-M20D-49SV

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
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.

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 identification

2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS02 GHS07 GHS08

Signal word DANGER

Hazard identification Hazard classes/categories

H226 Flam. Liq. 3
H315 Skin Irrit. 2
H319 Eye Irrit. 2
H334 Resp. Sens. 1

2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

25 mL S2

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GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

125 mL N3



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

25 mL N2



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

32 mL N5



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

0.6-100 mg RNase A (lyo)



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H334

Resp. Sens. 1

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25 mL S1

Signal word

Do not need labelling as hazardous

-

No hazard class

25 mL S3

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 sensibilizing substances.

25 mL S2



GHS07

Signal word: WARNING

125 mL N3



GHS02

Signal word: WARNING

25 mL N2



GHS02

Signal word: WARNING

32 mL N5



GHS02

Signal word: WARNING

0.6-100 mg RNase A (lyo)



GHS08

Signal word: DANGER
H334

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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.

25 mL S1

Do not need labelling as hazardous

Signal word: -

25 mL S3

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS02



GHS07



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.

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 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

Possible endocrine disrupting effects

no data available

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

25 mL S2

Substance name: sodium hydroxide solution

CAS No.: 1310-73-2

Substance rating: H314, Skin Corr. 1 A

Formula: NaOH·H₂O

Pseudonym (de): verdünnte Natronlauge

REACH Reg. No.: 01-2119457892-27-xxxx

EC No.: 215-185-5

Indice No.: 011-002-00-6

Specific concentration limit: Eye Irrit. 2; H319: 0,5 % ≤ C < 2 % - Skin Corr. 1A; H314: C ≥ 5 % - Skin Corr. 1B;

H314: 2 % ≤ C < 5 % - Skin Irrit. 2; H315: 0,5 % ≤ C < 2 %

Concentration: 0,5 - <1 %

acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

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Substance name: *dodecyl sulfate, sodium salt*
CAS No.: 151-21-3

Substance rating: H228, Flam. Sol. 1, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H332, Acute Tox. 4 inh., H335, resp. irrit. STOT SE 3, H412, Aquatic Chronic 3
Formula: $C_{12}H_{25}NaO_4S$
Pseudonym (de): Natriumlaurylsulfat
REACH Reg. No.: 01-2119489461-32-xxxx
EC No.: 205-788-1
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

125 mL N3

Substance name: *ethanol*
CAS No.: 64-17-5
(denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2
Formula: C_2H_6O ; C_2H_5OH
Pseudonym (de): Äthylalkohol, vergällter Spiritus
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
Concentration: 5 - <20 %
acc. CLP (GHS): H226, Flam. Liq. 3

Indice No.: 603-002-00-5

Substance name: *potassium chloride*
CAS No.: 7447-40-7

Substance rating: No criteria for classification or naming of chemical not required.
Formula: KCl
Pseudonym (de): KCl
REACH Reg. No.: 01-2119539416-36-xxxx
EC No.: 231-211-8
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *Stabilisators. Buffers. Detergents < 1%*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

25 mL N2

Substance name: *ethanol*
CAS No.: 64-17-5
(denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2
Formula: C_2H_6O ; C_2H_5OH
Pseudonym (de): Äthylalkohol, vergällter Spiritus
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
Concentration: 5 - <20 %
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Substance name: *potassium chloride*
CAS No.: 7447-40-7

Substance rating: No criteria for classification or naming of chemical not required.
Formula: KCl
Pseudonym (de): KCl
REACH Reg. No.: 01-2119539416-36-xxxx
EC No.: 231-211-8
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

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: 70 - <90 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

32 mL N5

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: 5 - <20 %
acc. CLP (GHS): H226, Flam. Liq. 3

Indice No.: 603-002-00-5

Substance name: *potassium chloride*
CAS No.: 7447-40-7

Substance rating: No criteria for classification or naming of chemical not required.
Formula: KCl
Pseudonym (de): KCl
REACH Reg. No.: 01-2119539416-36-xxxx
EC No.: 231-211-8
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *Stabilisators. Buffers. Detergents < 1%*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

0.6-100 mg RNase A (lyo)

Substance name: *RNase*
CAS No.: 9001-99-4

Substance rating: H334, Resp. Sens. 1
Formula: Enzyme C. No. 3.1.27.5, origin: bovine pancreas (controlled population)
Pseudonym (de): RNase A
EC No.: 232-646-6
Concentration: 90 - <100 %
acc. CLP (GHS): H334, Resp. Sens. 1

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25 mL S1

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

Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

25 mL S3

Substance name: *acetate buffer solution*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.
Formula: $\text{CH}_3\text{COOH/K/Na}\cdot\text{H}_2\text{O}$
Concentration: 25 - <45 %
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 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 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: 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

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. Product package burns like paper or plastic.

5.4 Additional information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. 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

no data available

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. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3

Water hazard class (DE): 2

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

25 mL N2

Chemical: water

CAS No.: 7732-18-5

Chemical: potassium chloride

CAS No.: 7447-40-7

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

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0.6-100 mg RNase A (lyo)

Chemical: RNase

CAS No.: 9001-99-4

125 mL N3

Chemical: potassium chloride

CAS No.: 7447-40-7

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

Chemical: Stabilisators. Buffers. Detergents < 1%

CAS No.: -

32 mL N5

Chemical: potassium chloride

CAS No.: 7447-40-7

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

Chemical: Stabilisators. Buffers. Detergents < 1%

CAS No.: -

25 mL S1

Chemical: chemicals/mixture until 1%

CAS No.: -

25 mL S3

Chemical: acetate buffer solution

CAS No.: -

25 mL S2

Chemical: sodium hydroxide solution

CAS No.: 1310-73-2

Chemical: dodecyl sulfate, sodium salt

CAS No.: 151-21-3

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

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.



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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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

25 mL N2

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
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:	38 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6-6.5
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:	1.03 g/mL
q) Relative vapour density ($\rho_{air=1}$):	no data available
r) Particle size:	no data available

0.6-100 mg RNase A (lyo)

a) State of aggregation:	solid (lyophilized)
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:	0-100 %
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 ($\rho_{air=1}$):	no data available
r) Particle size:	no data available

125 mL N3

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

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g) Explosive limits (lower / upper):	no data available
h) Flash point:	49 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6-6.5
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:	1.04 g/cm³
q) Relative vapour density ($\text{air}=1$):	no data available
r) Particle size:	no data available

32 mL N5

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	alcoholic
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:	38 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	8-9
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:	1.03 g/cm³
q) Relative vapour density ($\text{air}=1$):	no data available
r) Particle size:	no data available

25 mL S1

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:	7.5-8.5
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:	1.00 g/cm³
q) Relative vapour density ($\text{air}=1$):	no data available
r) Particle size:	no data available

25 mL S3

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	acetic
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

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k) pH value:	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:	1.14 g/mL
q) Relative vapour density ($\rho_{air=1}$):	no data available
r) Particle size:	no data available

25 mL S2

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:	> 12
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:	1.008 g/mL
q) Relative vapour density ($\rho_{air=1}$):	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.

□ □

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

no additional data available

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 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.

25 mL N2

Chemical: *water* CAS No.: 7732-18-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400
LD50 orl rat : > 90000 mg/kg

Chemical: *potassium chloride* CAS No.: 7447-40-7
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-29086
LD50 orl rat : 2600 mg/kg

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

0.6-100 mg RNase A (Iyo)

Chemical: *RNase* CAS No.: 9001-99-4
TSCA Inventory: listed
Japan CSCL/PRTR: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-30341
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.

125 mL N3

Chemical: *potassium chloride* CAS No.: 7447-40-7
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-29086
LD50 orl rat : 2600 mg/kg

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



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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

TRGS 905 (DE): K5, M5, R F C

Chemical: *Stabilisators. Buffers. Detergents < 1%*
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

CAS No.: -

32 mL N5

Chemical: *potassium chloride*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-29086
LD₅₀ orl rat : 2600 mg/kg

CAS No.: 7447-40-7

Chemical: *ethanol*
TSCA Inventory: 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
Japan CSCL/PRTR: not listed, Japan PDSC: 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
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

CAS No.: 64-17-5

California Proposition 65 List: not listed

TRGS 905 (DE): K5, M5, R F C

Chemical: *Stabilisators. Buffers. Detergents < 1%*
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

CAS No.: -

25 mL S1

Chemical: *chemicals/mixture until 1%*
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

CAS No.: -

25 mL S3

Chemical: *acetate buffer solution*
TSCA Inventory: all listed
Korea Exist.Chem.Inventory: listed

CAS No.: -

25 mL S2

Chemical: *sodium hydroxide solution*
TSCA Inventory: listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system
Symptoms: -
Japan CSCL/PRTR: not listed, Japan PDSC: not listed
Japan ISHL: listed ≥1,0%/≥1,0% SDS required
Korea Exist.Chem.Inventory: KE-31487

CAS No.: 1310-73-2

California Proposition 65 List: not listed



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LD50 orl rat : [$< 1\%$] > 50000 mg/kg
LD50 orl mus : [$< 1\%$] > 4000 mg/kg

Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: PRTR - Class I Designated Chemical Substance, Japan PDSC: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-21884
LD50 orl rat : 1288 mg/kg
LC50 ihl rat : 3,900 mg/L/1H

11.2 Other hazards

Possible endocrine disrupting effects
no data available

Other information
no additional data available

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

25 mL N2

Substance name: *water* CAS-Nr.: 7732-18-5

Substance name: *potassium chloride* CAS-Nr.: 7447-40-7
Water hazard class (DE): 1
Storage class (VCI): 12-13

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

0.6-100 mg RNase A (Iyo)

Substance name: *RNase* CAS-Nr.: 9001-99-4
Water hazard class (DE): 1
Storage class (VCI): 13

125 mL N3

Substance name: *potassium chloride* CAS-Nr.: 7447-40-7
Water hazard class (DE): 1
Storage class (VCI): 12-13

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



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EC10 *pseudomonas putida*/16h : [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Storage class (VCI): 3

Substance name: *Stabilisators. Buffers. Detergents < 1%*
Storage class (VCI): 12-13

CAS-Nr.: -

32 mL N5

Substance name: *potassium chloride*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS-Nr.: 7447-40-7

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
LC50 *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

Substance name: *Stabilisators. Buffers. Detergents < 1%*
Storage class (VCI): 12-13

CAS-Nr.: -

25 mL S1

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

CAS-Nr.: -

25 mL S3

Substance name: *acetate buffer solution*
Storage class (VCI): 12

CAS-Nr.: -

25 mL S2

Substance name: *sodium hydroxide solution*
LC50 *leuciscus idus*/96h : 35-189 mg/L
LC50 fish/96h : 45.4 mg/L
EC50 *daphnia*/48h : >100 mg/L
Water hazard class (DE): nwg WGK No.: 0142
Storage class (VCI): 12-13

CAS-Nr.: 1310-73-2

Substance name: *dodecyl sulfate, sodium salt*

CAS-Nr.: 151-21-3

LC50 *daphnia magna*/48h : 6.3 mg/L
LC50 fish/96h : 1.31-22.5 mg/L
Water hazard class (DE): 2
Storage class (VCI): 12-13

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Substance name:	<i>ethanol</i>	CAS-Nr.: 64-17-5
Dispersion coefficient (K _{ow}):	-0,31	
Substance name:	<i>ethanol</i>	CAS-Nr.: 64-17-5
Dispersion coefficient (K _{ow}):	-0,31	
Substance name:	<i>ethanol</i>	CAS-Nr.: 64-17-5
Dispersion coefficient (K _{ow}):	-0,31	
Substance name:	<i>dodecyl sulfate, sodium salt</i>	CAS-Nr.: 151-21-3
Dispersion coefficient (K _{ow}):	1,6	



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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

no data available

12.7 Other adverse effects

no additional data available

SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (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 - 14.4: No dangerous goods according the transport regulations (Ethanol: ADR SI144/ IATA A58)

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
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

no data available

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.14.5.9 and 2.2.2.2 following changes were applied: - 12 product component data corrected - 3 composition data corrected - 7 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H Between versions 2.14.5.9 and 2.2.2.2 following changes were applied: - 12 product component data corrected - 3 composition data corrected - 7 substance data corrected



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H226	Flammable liquid and vapour.
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/vapours.
P284	[In case of inadequate ventilation] wear respiratory protection.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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 progressText (11th ATP)
Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)
Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)
TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019
Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)
Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG
Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)
Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)
Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)
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

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



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CSC:	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%
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
ori:	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
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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