

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740410.50	NucleoBond Xtra Midi (50)	Page: 1/17
Printing Date: 04.04.2023	Date of Issue: 17.01.2023	Version: 2.3.2.7

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

1.1 Product Identifier / Product Name

REF	740410.50	
Product Name	NucleoBond Xtra Midi (50)	
1 x 0.6-100 mg RNase A (lyo)		UFI: WWJV-U3PV-U207-MFGF
1 x 500 mL LYS		UFI: W24W-23R9-3206-XR1C
1 x 1000 mL EQU		
1 x 500 mL RES		
1 x 500 mL NEU		
1 x 500 mL WASH		UFI: AADV-X3U2-X202-M8M8
1 x 300 mL ELU		UFI: HEDV-F3HG-720J-9M6A

1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

Relevant identified uses
 Product for analytical use.
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
 The exposure scenario is integrated into sections 1-16.

Uses advised against
 not described

1.3 Details of the Supplier and of the Safety Data Sheet

Manufactured by:
 MACHEREY-NAGEL GmbH & Co. KG
 Valencienner Str. 11, 52355 Düren, Germany
 Phone: +49 2421 969 0

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

1.4 Emergency Telephone Number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.
 USA: American Association Of Poison Control Centers
 Rockville, MD 20857. tel. 1-800-222-1222, <<https://www.poisonhelp.org>>
 DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730
 <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet: <<http://www.mn-net.com/SDS>>

SECTION 2: Hazard(s) Identification

2.0 Classification of the complete Product



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

500 mL LYS



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GHS07

Signal Word **WARNING**

Hazard Identification	Hazard Classes/Categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

500 mL WASH



GHS02

Signal Word **WARNING**

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3

300 mL ELU



GHS02



GHS07

Signal Word **WARNING**

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H319	Eye Irrit. 2

1000 mL EQU

Signal Word Do not need labelling as hazardous
-

No Hazard Class

0.6-100 mg RNase A (Iyo)



GHS08

Signal Word **DANGER**

Hazard Identification	Hazard Classes/Categories
H334	Resp. Sens. 1

500 mL RES

Do not need labelling as hazardous



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Signal Word -
No Hazard Class

500 mL NEU

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

List of H phrases: see section 16.2

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

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

500 mL LYS



GHS07

Signal Word: WARNING
H315, H319
Causes skin irritation.Causes serious eye irritation.
P280sh
Wear protective gloves/eye protection.

500 mL WASH



GHS02

Signal Word: WARNING
H226
Flammable liquid and vapor.
P210
Keep away from heat/sparks/open flames/hot surfaces. No smoking.

300 mL ELU



GHS02



GHS07

Signal Word: WARNING
H226, H319
Flammable liquid and vapor.Causes serious eye irritation.
P210, P280sh
Keep away from heat/sparks/open flames/hot surfaces. No smoking.Wear protective gloves/eye protection.

1000 mL EQU

Do not need labelling as hazardous
Signal Word: -

0.6-100 mg RNase A (lyo)



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GHS08

Signal Word: DANGER

H334

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

P261sh, P342+311

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

500 mL RES

Do not need labelling as hazardous

Signal Word: -

500 mL NEU

Do not need labelling as hazardous

Signal Word: -

Label elements of the complete product



GHS02



GHS07



GHS08

Signal Word: DANGER

H226, H315, H319, H334

Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P210, P261sh, P280sh, P342+311

Avoid breathing dust/vapors. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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 impairments of health when ingested in small quantities. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Kit contains small amounts of enzymes, which may cause sensitization by direct and repeated contact.

Information pertaining to particular Risks to the Environment

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

data not available

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

0.6-100 mg RNase A (lyo)

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

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



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1000 mL EQU

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

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

500 mL WASH

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

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

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

Substance rating: H225, Flam. Liq. 2
 Chemical Formula: C₂H₆O; C₂H₅OH
 Synonyms (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 Concentration: 5 - <20 %
 acc. GHS: H226, Flam. Liq. 3

Indice No.: 603-002-00-5

300 mL ELU

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

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

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

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

Substance name: *2-propanol*
 CAS No.: 67-63-0

Substance rating: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
 Chemical Formula: C₃H₈O
 Synonyms (de): Isopropanol, IPA, Propan-2-ol
 REACH Reg. No.: 01-2119457558-25-XXXX
 EC No.: 200-661-7
 Concentration: 10 - <15 %
 acc. GHS: H226, Flam. Liq. 3, H319, Eye Irrit. 2

Indice No.: 603-117-00-0



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500 mL RES

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

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

500 mL NEU

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

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

500 mL LYS

Substance name: *sodium hydroxide solution*
CAS No.: 1310-73-2

Substance rating: H314, Skin Corr. 1A
Chemical Formula: $\text{NaOH}\cdot\text{H}_2\text{O}$
Synonyms (de): verdünnte Natronlauge
REACH Reg. No.: 01-2119457892-27-xxxx
EC No.: 215-185-5
Concentration: 0,5 - <1 %
acc. GHS: H315, Skin Irrit. 2, H319, Eye Irrit. 2

Indice No.: 011-002-00-6

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, STOT SE 3, H412, Aquatic Chronic 3
Chemical Formula: $\text{C}_{12}\text{H}_{25}\text{NaO}_4\text{S}$
Synonyms (de): Natriumlaurylsulfat
REACH Reg. No.: 01-2119489461-32-xxxx
EC No.: 205-788-1
Concentration: 0,1 - <1 %
acc. 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 Hazard and Precaution phrases: see section 16.2.

SECTION 4: First-Aid Measures

4.1 Description of First-Aid Measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Take to a doctor, in a raised position if there are breathing difficulties.

4.1.1 After SKIN Contact

Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

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 Vapors

After inhalation of foam or vapor fresh air should be inhaled. Keep airways free. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function.

4.1.4 After ORAL Intake



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After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. Do not induce vomiting under any circumstances. Do not make any efforts to neutralize it. Contact medical advice for possible consequences.

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 substance. Further treatment must to be carried out by an eye specialist. Inform patient respectively further measures and the possibility of long-term damages. ---

SECTION 5: Fire-Fighting Measures

5.1 Extinguishable Media

5.1.1 Suitable extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.1.2 Unsuitable extinguishing media

data not available

5.2 Special Hazards arising from the Substance or Mixture

WARNING: Flammable. May form explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible.

5.3 Advice for Firefighters

No, for listed product. 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 Procedure

Do not breathe vapors. 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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

see information in section 5.4,7,8 and 13

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for Safe Storage, including any Incompatibilities



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The original product package allows a safe storage. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3
Water hazard class (DE): 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

0.6-100 mg RNase A (lyo)

Chemical: *RNase* CAS No.: 9001-99-4

1000 mL EQU

Chemical: *potassium chloride* CAS No.: 7447-40-7

500 mL WASH

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

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 ELU

Chemical: *potassium chloride* CAS No.: 7447-40-7

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

Chemical: *2-propanol* CAS No.: 67-63-0

DNEL: [inh] 500 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 140.9 mg/L
PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 400 ppm / 980 mg/m³
 NIOSH STEL: 500 ppm / 1225 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 400 ppm / 980 mg/m³

500 mL RES

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

500 mL NEU

Chemical: *acetate buffer solution* CAS No.: -

500 mL LYS

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.



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- 8.2.1 Respiratory Protection**
Use for open access of these substances for example a vapor/dust respirator, class A/AX. No additional recommendations.
- 8.2.2 Skin protection / Hand protection**
Yes, gloves (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.
- 8.2.3 Eye / Face Protection**
Yes, Splash Goggles.
- 8.2.4 Skin Protection**
Recommended to avoid contamination with these hazards.
- 8.2.5 Hygiene Measures**
Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.
- 8.2.6 Thermal hazards**
data not available
- 8.3 Limitation and monitoring of environmental exposure**
Do not release product into environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

0.6-100 mg RNase A (lyo)

a) State of aggregation:	solid (lyophilized)
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	data not available
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	0-100 %
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

1000 mL EQU

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.05 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available



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500 mL WASH

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	31 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6.5 - 7.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

300 mL ELU

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	30 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	8.5-9.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

500 mL RES

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	7.5 - 8.5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.01 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

500 mL NEU

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



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e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	63 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	4-5
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.19 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

500 mL LYS

a) State of aggregation:	liquid
b) Color:	blue
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	13
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.008 g/cm ³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

9.2 Further Information

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.
Properties relevant to substance groups

SECTION 10: Stability and Reactivity

10.1 Reactivity

No further data available.

10.2 Chemical Stability

no known instability.

10.3 Possibility of Hazardous Reactions

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.

10.5 Incompatible Materials

Avoid storage with oxidizing 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.



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SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

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

0.6-100 mg RNase A (lyo)

Chemical: *RNase* CAS No.: 9001-99-4

TSCA Inventory: 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.

1000 mL EQU

Chemical: *potassium chloride* CAS No.: 7447-40-7

TSCA Inventory: listed

LD50 orl rat : 2600 mg/kg

500 mL WASH

Chemical: *potassium chloride* CAS No.: 7447-40-7

TSCA Inventory: listed

LD50 orl rat : 2600 mg/kg

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

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

ACGIH: 1000 ppm

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system

Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;

liver damage; anemia; reproductive, teratogenic

Canada CEPA 1999: DSL yes

LD50 orl rat : 6200 mg/kg

LC_{Low} ihl gpg : 21,900 mg/L

LC_{Low} orl hmn : 1400 mg/kg

LC50 ihl mus : 123,4 mg/L/4H

LC50 ihl rat : 115,9-133,8 mg/L/4H

LD50 orl mus : 3450 mg/kg

300 mL ELU

Chemical: *potassium chloride* CAS No.: 7447-40-7

TSCA Inventory: listed

LD50 orl rat : 2600 mg/kg

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

TSCA Inventory: all listed, <1%

Chemical: *2-propanol* CAS No.: 67-63-0

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

ACGIH: 1230 ppm

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis

Canada CEPA 1999: DSL yes

LD50 orl rat : 5045 mg/kg

LC_{Low} orl hmn : 3570 mg/kg

LC50 ihl rat : 25 mg/L/4H

500 mL RES

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

TSCA Inventory: all listed, <1%

500 mL NEU

Chemical: *acetate buffer solution* CAS No.: -

TSCA Inventory: all listed

500 mL LYS



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Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2
 TSCA Inventory: listed California Prop. 65 List: not listed
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system
 Symptoms: -
 LD50 orl rat : [
 LD50 orl mus : [

Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
 TSCA Inventory: listed California Prop. 65 List: not listed
 Canada CEPA 1999: DSL yes
 LD50 orl rat : 1288 mg/kg
 LC50 ihl rat : 3,900 mg/L/1H

11.2 Other Hazards

Possible endocrine disrupting effects

data not available

Other Information

no additional data available

SECTION 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

0.6-100 mg RNase A (lyo)

Chemical: *RNase* CAS No.: 9001-99-4

1000 mL EQU

Chemical: *potassium chloride* CAS No.: 7447-40-7

500 mL WASH

Chemical: *potassium chloride* CAS No.: 7447-40-7

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

PNEC (fresh water) : 0.96 mg/L
 PNEC = Predicted No Effect Concentration
 LC50 daphnia magna/48h : >100 g/L
 LC50 pimephales promelas/96h : 13.4-15.1 g/L
 LC50 leuciscus idus/96h : [48h] 8.14 g/L
 LC50 fish/96h : 13 g/L
 EC50 daphnia/48h : 9.3-14.2 g/L
 IC50 scenedesmus quadricauda/72h : [7d] 5000 mg/L
 EC10 pseudomonas putita/16h : [EC5] 6500 mg/L
 Partition Coefficient (o/w) : -0,31

300 mL ELU

Chemical: *potassium chloride* CAS No.: 7447-40-7

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

Chemical: *2-propanol* CAS No.: 67-63-0

PNEC (fresh water) : 140.9 mg/L
 PNEC = Predicted No Effect Concentration
 LC50 fish/96h : 1400 mg/L
 EC50 daphnia/48h : 13.3 g/L
 IC50 scenedesmus quadricauda/72h : >1000 mg/L
 EC10 pseudomonas putita/16h : EC5: 1050 mg/L
 Partition Coefficient (o/w) : 0,05

500 mL RES

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



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500 mL NEU

Chemical: *acetate buffer solution*

CAS No.: -

500 mL LYS

Chemical: *sodium hydroxide solution*

CAS No.: 1310-73-2

LC50 *leuciscus idus*/96h : 35-189 mg/L
 LC50 *fish*/96h : 45.4 mg/L
 EC50 *daphnia*/48h : >100 mg/L

Chemical: *dodecyl sulfate, sodium salt*

CAS No.: 151-21-3

LC50 *daphnia magna*/48h : 6.3 mg/L
 LC50 *fish*/96h : 1.31-22.5 mg/L
 Partition Coefficient (o/w) : 1,6

12.2 Persistence and Degradability

not necessary

12.3 Bioaccumulative Potential

not necessary

12.4 Mobility in Soil

not necessary

12.5 Results of PBT and vPvB Assessment

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

12.6 Endocrine disrupting properties

data not available

12.7 Other Adverse Effects

no additional data available

SECTION 13: Disposal Considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport Information

14.1. UN/NA: 1993 **14.2. Proper Shipping Name:** Flammable liquid, n.o.s. (2-propanol, ethanol mixture)

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

Transportation by Road

Classification code: F1
 Limited Quantity: 5 L
 Excepted Quantity: E 1
 Tunnel restriction code: D/E
 Special instructions: 640E

Air Transportation

Limited Quantity: LQ 7
 Excepted Quantity: E 1
 PAX: 355
 CAO: 366

max. weight PAX: 60 L
 max. weight CAO: 220 L

Maritime Transport

EmS: F-E, S-E Storage Category: A

14.5 Environmental Hazards

none, contains only small quantities of hazardous substances

14.6 Special Precautions for User

not necessary



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14.7 Carriage of bulk cargo by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory Information

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

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
<https://www.osha.gov/dsg/hazcom/ghs.html>
 29 CFR 1910.1200 Hazard communication.
 NIOSH Pocket Guide to Chemical Hazards
 NIOSH Workplace Safety & Health Topics
 TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

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

15.2 Chemical Safety Assessment

not necessary for these small amounts

SECTION 16: Other Information

16.1 Changes compared to the last version

Between versions 2.3.2.7 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 5 substance data corrected

16.2 List of Hazard and Precaution Phrases

16.2.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
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

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261sh	Avoid breathing dust/vapors.
P280sh	Wear protective gloves/eye protection.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

16.3 Recommended Restriction on Use

Only for Professional User.
 Look about employee restrictions for young people!
 Look about employee restrictions for pregnant women and nursing women!
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of Key Data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021
 Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres
 SUVA .CH, limit values in the air at work 2009, revised on 01/2009
 Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)
 Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG
 TRGS 907, German technical rules for listing substances and causes of sensitization, updated November 2011
 Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)
 Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)
 Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)
 Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)
 Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)
 Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)
 TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019
 Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)
 Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG
 Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)
 Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)



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Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

revisions/updates

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

16.5 Further Information

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16.6 Legend / Abbreviations

- acc: according
- ADR: Convention concerning the International Carriage of Dangerous Goods by Road
- Act: acute
- BAT: biological workplace tolerance value
- CAO: Cargo Aircraft Only
- Carc: carcinogen
- CAS: Chemical Abstracts Service
- CLP: Classification, Labelling and Packaging regulation
- CMR: carcinogen, mutagen, reproduction toxic
- Corr: corrosive
- COD: chemical 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 specified)
- GHS: Global Harmonized System of Classification and Labeling of Chemicals
- gpg: guinea pig
- ICAO: International Civil Aviation Organization
- ihl: inhaled
- IMDG: International Maritime Dangerous Goods Code
- intrav: intravenous
- ipt: intraperitoneal
- ISHL: Industrial Safety and Health Law (Jp)
- LC50: letale concentration 50%
- LD50: letale dosis 50%
- leuciscus idus: fisch, ide, orfe
- MAK: maximum workplace concentration
- Met: Metall
- mus: mouse
- Muta: mutagen
- NIOSH: National Institute for Occupational Safety and Health (US)
- NRD: Non-rapidly degradable
- onchorhynchus mykiss: fisch, rainbow trout
- orl: oral
- OSHA: Occupational Safety and Health Administration
- PAX: transport on passenger planes allowed
- PBT: persistent, bioaccumulating, toxic substance
- pH: pH value
- pimephales promelas: fisch, fathead minnow
- PNEC: Predicted No Effect Concentration



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PROC 15:	Process category 'for laboratory use'
PRTR:	Law for PRTR and Promotion of Chemical Management (Jp)
PVC:	polyvinyl chloride
quail:	bird, quail
rat:	rat
rbt:	rabbit
RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	rRegistration number
Repr:	harmful to reproduction
Resp:	respiratory
scu:	sub cutan
RIP:	REACH Implementations Projects
SDS:	safety data sheet
Sens:	sensitisation
STEL:	short term exposure limit
STOT:	Specific Target Organ Toxicity
SVHC:	Substance of Very High Concern
t/a:	tons per year
TCCA:	Toxic Chemicals Control Act (S. Korea)
Tox:	toxic
TSCA:	The Toxic Substances Control Act (US)
TWA:	time weighted average
TRGS:	technical regulations (DE)
vPvB:	very persistent, very bioaccumulating substance

16.7 Training Advice

Regular safety training. Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

