

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740414.10

NucleoBond Xtra Maxi (10)

Page: 1/20

Printing date: 13.10.2025

Date of issue: 01.02.2024

Version: 2.7.4.8

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

1.1 Product identifier

REF 740414.10
Product name NucleoBond Xtra Maxi (10)

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 150 mL RES UFI: W24W-23R9-3206-XR1C
1 x 150 mL LYS UFI: R7DV-F34P-M20J-YX16
1 x 150 mL NEU UFI: AADV-X3U2-X202-M8M8
1 x 500 mL EQU UFI: HEDV-F3HG-720J-9M6A
1 x 300 mL WASH
1 x 180 mL ELU

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

150 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 EQU



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

300 mL WASH



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

180 mL ELU



GHS02



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H319

Eye Irrit. 2

0.6-100 mg RNase A (lyo)



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H334

Resp. Sens. 1

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150 mL RES

Signal word

Do not need labelling as hazardous

No hazard class

150 mL NEU

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.

150 mL LYS



GHS07

Signal word: WARNING

H315, H319

Causes skin irritation. Causes serious eye irritation.

P264, P280sh, P302+352, P305+351+338, P332+313, P337+313, P362+364

Wash hands thoroughly after handling. Wear protective gloves/eye protection. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

500 mL EQU



GHS02

Signal word: WARNING

H226

Flammable liquid and vapour.

P210, P233, P241, P242, P243, P280, P303+361+353, P370+378, 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. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. In case of fire: Use suitable extinguisher media to extinguish. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

300 mL WASH



GHS02

Signal word: WARNING

H226

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Flammable liquid and vapour.

P210, P233, P241, P242, P243, P280, P303+361+353, 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. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

180 mL ELU



GHS02



GHS07

Signal word: WARNING

H226, H319

Flammable liquid and vapour. Causes serious eye irritation.

P210, P233, P241, P242, P243, P264, P280sh, P303+361+353, P305+351+338, P337+313, 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 hands thoroughly after handling. 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. If eye irritation persists: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

0.6-100 mg RNase A (Iyo)



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.

150 mL RES

Do not need labelling as hazardous

Signal word: -

150 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 vapour. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P210, P233, P241, P242, P243, P261sh, P264, P280sh, P284, P303+361+353, P305+351+338, P332+313, P337+313, P342+311, P370+378, 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. Avoid breathing dust/vapours. Wash hands thoroughly after handling. Wear protective gloves/eye protection. [In case of inadequate ventilation] wear respiratory 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. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. In case of

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fire: Use suitable extinguisher media to extinguish. Store in a well-ventilated place. Keep cool. 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 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

150 mL LYS

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

Substance rating: H314, Skin Corr. 1 A
Formula: $\text{NaOH} \cdot \text{H}_2\text{O}$
Pseudonym (de): verdünnte Natronlauge
REACH Reg. No.: 01-2119457892-27-xxxx
EC No.: 215-185-5
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

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, resp. irrit. STOT SE 3, H412, Aquatic Chronic 3
Formula: $\text{C}_{12}\text{H}_{25}\text{NaO}_4\text{S}$
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.

Substance name: *indicator dye(s)*
CAS No.: -

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

500 mL EQU



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Substance name:	<i>ethanol</i>		
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	Indice No.:	603-002-00-5
EC No.:	200-578-6		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

Substance name:	<i>potassium chloride</i>		
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.		

300 mL WASH

Substance name:	<i>ethanol</i>		
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	Indice No.:	603-002-00-5
EC No.:	200-578-6		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

Substance name:	<i>potassium chloride</i>		
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.		

180 mL ELU

Substance name:	<i>2-propanol</i>		
CAS No.:	67-63-0		
Substance rating:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, resp. irrit. STOT SE 3		
Formula:	C_3H_8O		
Pseudonym (de):	Isopropanol, IPA, Propan-2-ol		
REACH Reg. No.:	01-2119457558-25-XXXX	Indice No.:	603-117-00-0
EC No.:	200-661-7		
Concentration:	10 - <15 %		
acc. CLP (GHS):	H226, Flam. Liq. 3, H319, Eye Irrit. 2		

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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: *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.

0.6-100 mg RNase A (Iyo)

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

150 mL RES

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.

150 mL NEU

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

Substance rating: No criteria for classification or naming of chemical not required.
Formula: CH₃COOH/K/Na•H₂O
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 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.



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- 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. ---
- 4.1.4 After ORAL Intake**
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 neutralise 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 chemical. 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: 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.
- 5.3 Advice for firefighters**
No, for listed product. The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.
For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.
- 5.4 Additional information**
Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). 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.

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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. 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

150 mL LYS

Chemical: indicator dye(s)

CAS No.: -

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

500 mL EQU

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

300 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

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



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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

180 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

TRGS 900 (DE): 200 ppm / 500 mg/m³
E/e respirable

Short-term exposure factor: 2 (II), 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

150 mL RES

Chemical: *chemicals/mixture until 1%*

CAS No.: -

150 mL NEU

Chemical: *acetate buffer solution*

CAS No.: -

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.

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) Colour: colourless
c) Odor: odorless
d) Melting point: no data available



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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

150 mL LYS

a) State of aggregation:	liquid
b) Colour:	blue
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:	13
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/cm ³
q) Relative vapour density ($\rho_{air=1}$):	no data available
r) Particle size:	no data available

500 mL EQU

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:	54 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6-7
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/cm ³
q) Relative vapour density ($\rho_{air=1}$):	no data available
r) Particle size:	no data available

300 mL WASH

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:	31 °C

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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:	1.04 g/cm³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

180 mL ELU

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:	30 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	8.5-9.5
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 (air=1):	no data available
r) Particle size:	no data available

150 mL RES

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:	1.01 g/cm³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

150 mL NEU

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:	63 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	4-5
l) Kinematic viscosity:	no data available

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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:	1.19 g/cm ³
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

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 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.

0.6-100 mg RNase A (lyo)

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.

150 mL LYS

Chemical: *indicator dye(s)*

CAS No.: -

TSCA Inventory: all listed, <1%

Chemical: *sodium hydroxide solution*

CAS No.: 1310-73-2

TSCA Inventory: listed

California Proposition 65 List: not listed

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

Target Organs: Eyes, skin, respiratory system

Symptoms: -

Japan CSCL/PRTR: not listed, Japan PDSCL: not listed



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Japan ISHL: listed $\geq 1,0\%$ / $\geq 1,0\%$ SDS required
 Korea Exist.Chem.Inventory: KE-31487
 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 PDSCL: 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

500 mL EQU

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 $\geq 0,1\%$ / $\geq 0,1\%$, 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 WASH

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 $\geq 0,1\%$ / $\geq 0,1\%$, 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



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LC50 ihl rat : 115,9-133,8 mg/L/4H
LD50 orl mus : 3450 mg/kg

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

180 mL ELU

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

CAS No.: 7447-40-7

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

CAS No.: -

Chemical: *2-propanol*
TSCA Inventory: 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
LC Low orl hmn : 3570 mg/kg
LC50 ihl rat : 25 mg/L/4H

CAS No.: 67-63-0

California Proposition 65 List: not listed

TRGS 905 (DE): R_F C

150 mL RES

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

CAS No.: -

150 mL NEU

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

CAS No.: -

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.

0.6-100 mg RNase A (Iyo)

Substance name: *RNase*
Water hazard class (DE): 1
Storage class (VCI): 13

CAS-Nr.: 9001-99-4



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150 mL LYS

Substance name: *indicator dye(s)*

CAS-Nr.: -

Storage class (VCI): 12-13

Substance name: *sodium hydroxide solution*

CAS-Nr.: 1310-73-2

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

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

500 mL EQU

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

300 mL WASH

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

180 mL ELU

Substance name: *potassium chloride*

CAS-Nr.: 7447-40-7

Water hazard class (DE): 1

Storage class (VCI): 12-13

Substance name: *chemicals/mixture until 1%*

CAS-Nr.: -

Water hazard class (DE): 1

Storage class (VCI): 12-13

Substance name: *2-propanol*

CAS-Nr.: 67-63-0

PNEC (fresh water) : 140.9 mg/L

PNEC = Predicted No Effect 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

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EC10 *pseudomonas putida*/16h : EC5: 1050 mg/L
Water hazard class (DE): 1 WGK No.: 0135
Storage class (VCI): 3

150 mL RES

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

CAS-Nr.: -

150 mL NEU

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

CAS-Nr.: -

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Substance name: *dodecyl sulfate, sodium salt* CAS-Nr.: 151-21-3
Dispersion coefficient (K_{o/w}): 1,6
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
Substance name: *2-propanol* CAS-Nr.: 67-63-0
Dispersion coefficient (K_{o/w}): 0,05

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 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: III

Road transport ADR

Classification code: F1
Limited Quantity: 5 L
Excepted Quantity: E 1
Special instructions: 274, 601
Tunnel restriction code: D/E

Air transport IATA DGR

Limited Quantity: PAX: 355 max. quantity PAX: 60 L
CAO: 366 max. quantity CAO: 220 L
Excepted Quantity: E 1



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Maritime transport IMDG

EmS:

Special instructions:

F-E, S-E

223, 274, 955

Staukategorie:

A

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
TRGS 401, Skin contact hazard - identification, assessment, action, Jun 2008, status: Feb 2011
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

no data available

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.7.4.8 and 2.2.2.2 following changes were applied: - 5 product component data corrected - 2 composition data corrected - 6 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H Between versions 2.7.4.8 and 2.2.2.2 following changes were applied: - 5 product component data corrected - 2 composition data corrected - 6 substance data corrected
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

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
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.
P264 Wash hands thoroughly after handling.
P280sh Wear protective gloves/eye protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
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.
P332+313 If skin irritation occurs: Get medical advice/attention.
P337+313 If eye irritation persists: Get medical advice/attention.

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P342+311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P370+378 In case of fire: Use suitable extinguisher media to extinguish.
P403+235 Store in a well-ventilated place. Keep cool.
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 ArbSchG)!
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

16.5 Further information

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16.6 Legend / Abbreviations

acc: according
ADR: Convention concerning the International Carriage of Dangerous Goods by Road
Act: acute
BAT: biological workplace tolerance value
CAO: Cargo Aircraft Only
Carc: carcinogen
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging regulation
CMR: carcinogen, mutagen, reproduction toxic
Corr: corrosive
COD: chemical oxygen demand
CSCL: Chemical Substance Control Law (Jp)
Dam: damage
DNEL: Derived No-Effect Level (for workers)
derm: dermal
dog: dog



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Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740414.10

NucleoBond Xtra Maxi (10)

Page: 20/20

Printing date: 13.10.2025

Date of issue: 01.02.2024

Version: 2.7.4.8

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
 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.