

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740110.4	NucleoSpin 96 DNA RapidLyse (4x96)	Page: 1/16
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## SECTION 1: Identification of the substance/mixture and of the company

### 1.1 Product identifier

REF	740110.4
Product name	NucleoSpin 96 DNA RapidLyse (4x96)
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 70 mL RLY	UFI: GXGW-X302-C20G-6UF8
2 x 100 mL RLB	UFI: D0HW-E3PF-P200-V61A
1 x 200 mL RLW	
1 x 60 mL RLE	
1 x 4.5 mL Liquid Proteinase	UFI: TTWV-43C9-R202-NTGN

### 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  
Valenciener Str. 11, 52355 Düren, Germany  
Phone: +49 2421 969 0

E-mail: [sds@mn-net.com](mailto:sds@mn-net.com) ([msds@mn-net.com](mailto: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 Gif tinformat ionszentrum (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 GHS05 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H334	Resp. Sens. 1
H411	Aquatic Chronic 2

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

100 mL RLB



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Signal word	DANGER
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H318	Eye Dam. 1
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

## 70 mL RLY

Signal word	Do not need labelling as hazardous
No hazard class	-

## 4.5 mL Liquid Proteinase



GHS08

Signal word	DANGER
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H334	Resp. Sens. 1

## 200 mL RLW

Signal word	Do not need labelling as hazardous
No hazard class	-

## 60 mL RLE

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 sensiblizing substances.

## 100 mL RLB



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Signal word: DANGER

H314, H317

Causes severe skin burns and eye damage. May cause an allergic skin reaction.

P260sh, P264, P272, P280sh, P303+361+353, P305+351+338, P310, P333+313, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. 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. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container to regulated waste treatment.

## 70 mL RLY

Do not need labelling as hazardous

Signal word: -

## 4.5 mL Liquid Proteinase



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.

## 200 mL RLW

Do not need labelling as hazardous

Signal word: -

## 60 mL RLE

Do not need labelling as hazardous

Signal word: -

## Label elements of the complete product



GHS02



GHS05



GHS08



GHS09

Signal word: DANGER

H314, H317, H334

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P260sh, P264, P272, P280sh, P284, P303+361+353, P305+351+338, P310, P333+313, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. 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. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container to regulated waste treatment.

## 2.3 Other hazards

### Possible hazards from physicochemical properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. Flammable properties. For guanidine thiocyanate CAS 593-84-0: The properties H314, H332 "Causes severe skin burns and eye damage. Harmful if inhaled." are not relevant, because the mixture solution is buffered to pH 4-9 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.).

### Information pertaining to particular risks to human and possible symptoms

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapours especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs.

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

Kit contains small amounts of enzymes: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. In liquid form no hazard H334.

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**Information pertaining to particular risks to the environment**

Should not be released into 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

**100 mL RLB**

Substance name: *1-dodecylpyridiniumchloride*  
 CAS No.: 104-74-5

Substance rating: H301, Acute Tox. 3 oral, H312, Acute Tox. 4 derm., H317, Skin Sens. 1, H319, Eye Irrit. 2, H410, Aquatic Chronic 1  
 Formula: C<sub>17</sub>H<sub>30</sub>CIN  
 REACH Reg. No.: -  
 EC No.: 203-232-2  
 Concentration: 2,5 - <5 %  
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H317, Skin Sens. 1, H318, Eye Dam. 1, H411, Aquatic Chronic 2

Substance name: *guanidinium thiocyanate*  
 CAS No.: 593-84-0

Substance rating: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1 B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3  
 Formula: C<sub>2</sub>H<sub>6</sub>N<sub>4</sub>S  
 Pseudonym (de): Guanidiniumrhodanid  
 REACH Reg. No.: 01-2120735072-65-0001  
 EC No.: 209-812-1  
 Concentration: 30 - <45 %  
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H314, Skin Corr. 1 B, H412, Aquatic Chronic 3

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

Substance rating: H225, Flam. Liq. 2  
 Formula: C<sub>2</sub>H<sub>6</sub>O; C<sub>2</sub>H<sub>5</sub>OH  
 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

**70 mL RLY**

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<sub>12</sub>H<sub>25</sub>NaO<sub>4</sub>S  
 Pseudonym (de): Natriumlaurylsulfat  
 REACH Reg. No.: 01-2119489461-32-xxxx  
 EC No.: 205-788-1  
 Concentration: 1 - <2,5 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**4.5 mL Liquid Proteinase**





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- 4.1.4 After ORAL Intake**  
After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. 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. Rapid penetration and destruction of the skin. Especially in the heated form. Causes severe skin burns and eye damage.
- 4.3 Indication of any immediate medical attention and special treatment needed**  
CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTRESSES ensure that the patient inhales oxygen. 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. Product package burns like paper or plastic. 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, respectively face protection. 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**  
Should not be released into the environment.  
PBT: not applicable  
vPvB: not applicable
- 6.3 Methods and material for containment and cleaning up**  
Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.
- 6.4 Reference to other sections**  
see information in section 5.4,7,8 and 13



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## 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): 3

### 7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage. Use inbreakable container for transport of glass bottles.

### 7.3 Specific end use(s)

Product for analytical use.

## SECTION 8: Exposure controls /personal protection

### 8.1 Control parameters

#### 100 mL RLB

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5

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

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>  
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/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 4 (I), 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/m<sup>3</sup>

NIOSH: [TWA] 1000 ppm / 1900 mg/m<sup>3</sup>  
[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/m<sup>3</sup>

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0

DNEL: [inh] 1092 µg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 42.4 µg/L  
PNEC = Predicted No Effect Concentration

NIOSH: not listed  
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: not listed

#### 200 mL RLW

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

#### 60 mL RLE

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

#### 4.5 mL Liquid Proteinase

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

DNEL: [inh] 56 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

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

TRGS 900 (DE): 200 E mg/m<sup>3</sup>  
E/e respirable

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

SUVA(CH) MAK value: 50 e\* mg/m<sup>3</sup>



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Chemical: *proteinase K, liquid* CAS No.: 39450-01-6  
 SUVA(CH) MAK value: 0,00006 15min mg/m<sup>3</sup>

**70 mL RLY**  
 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.

### 8.2.3 Eye / Face Protection

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

### 8.2.4 Skin protection

Recommended to avoid clothing damage, and 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

### 100 mL RLB

a) State of aggregation:	liquid
b) Colour:	slightly yellow
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:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6,5-7,5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K <sub>ow</sub> ):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

### 200 mL RLW

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



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- h) Flash point: no data available
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: 7-8
- l) Kinematic viscosity: no data available
- m) Solubility in water: no data available
- n) Dispersion coefficient (K<sub>o/w</sub>): no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: 1.00 g/cm<sup>3</sup>
- q) Relative vapour density (air=1): no data available
- r) Particle size: no data available

### 60 mL RLE

- 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: 8-9
- l) Kinematic viscosity: no data available
- m) Solubility in water: no data available
- n) Dispersion coefficient (K<sub>o/w</sub>): no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: 1.0 g/cm<sup>3</sup>
- q) Relative vapour density (air=1): no data available
- r) Particle size: no data available

### 4.5 mL Liquid Proteinase

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

### 70 mL RLY

- 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: 8.5-9.5



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l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K <sub>o/w</sub> ):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.01 g/cm <sup>3</sup>
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

## 9.2 Other information

### 9.2.1 Information on physical hazard classes

no data available

### 9.2.2 Other safety-related parameters

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

Substances are highly corrosive.

## 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

Can react violently with organic material. Note: Can form very reactive substances with oxidizing agents. Possible: &H:EUH031& 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.

## 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.

#### 100 mL RLB

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5

TSCA Inventory: listed

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

Japan ISHL: not listed

Korea Exist.Chem.Inventory: KE-13023

LD50 orl rat : 203 mg/kg

Acute Effects: Cause after oral intake, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts.

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



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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<sub>Low</sub> ihl gpg : 21,900 mg/L  
 LC<sub>Low</sub> 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<sub>F</sub> C

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
 Japan ISHL: not listed  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: not listed  
 LD50 orl rat : 593 mg/kg  
 LC50 ihl rat : 5,319 mg/L/4H  
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

### 200 mL RLW

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

### 60 mL RLE

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

### 4.5 mL Liquid Proteinase

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

TRGS 905 (DE): R<sub>F</sub> C

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

### 70 mL RLY

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



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## 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.

**100 mL RLB**

Substance name: *1-dodecylpyridiniumchloride*

CAS-Nr.: 104-74-5

Toxic to aquatic life with long lasting effects. Do not release into the environment.

Environmentally hazardous substances/mixtures up to 125 mL do not have to be labeled with H and P statements (EU 1272/2008 Annex I Paragraph 1.5.2).

Water hazard class (DE): 3  
Storage class (VCI): 12-13

Substance name: *ethanol*

CAS-Nr.: 64-17-5

PNEC (fresh water): 0.96 mg/L  
PNEC = Predicted No Effected 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 putita/16h : [EC5] 6500 mg/L  
Water hazard class (DE): 1 WGK No.: 0096  
Storage class (VCI): 3

Substance name: *guanidinium thiocyanate*

CAS-Nr.: 593-84-0

Harmful to aquatic life with long lasting effects. Do not release into the environment.

Environmentally hazardous substances/mixtures do not have to be labeled with P-phrases up to 125 mL (EU 1272/2008 Annex I Paragraph 1.5.2).

PNEC (fresh water): 42.4 µg/L  
PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected  
LC50 fish/96h : [4d] 89.1 mg/L  
EC50 daphnia/48h : 42.4 mg/L  
IC50 scenedesmus quadricauda/72h : 130 mg/L  
EC10 pseudomonas putita/16h : [10d] 200 mg/L  
Water hazard class (DE): 3  
Storage class (VCI): 12

**200 mL RLW**

Substance name: *chemicals/mixture until 1%*

CAS-Nr.: -

Water hazard class (DE): 1  
Storage class (VCI): 12-13

**60 mL RLE**

Substance name: *chemicals/mixture until 1%*

CAS-Nr.: -

Water hazard class (DE): 1  
Storage class (VCI): 12-13

**4.5 mL Liquid Proteinase**

Substance name: *glycerole*

CAS-Nr.: 56-81-5

PNEC (fresh water): 0.885 mg/L  
PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h : >5000 24h mg/L  
EC50 daphnia/48h : >10 24h g/L  
IC50 scenedesmus quadricauda/72h : IC5 7d >10 g/L  
EC10 pseudomonas putita/16h : EC5: >10 g/L



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Water hazard class (DE): 0  
Storage class (VCI): 10

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

**70 mL RLY**  
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: *ethanol* CAS-Nr.: 64-17-5  
Dispersion coefficient (K<sub>o/w</sub>): -0,31  
Substance name: *guanidinium thiocyanate* CAS-Nr.: 593-84-0  
Dispersion coefficient (K<sub>o/w</sub>): -1,11 pH 5.1

**4.5 mL Liquid Proteinase**  
Substance name: *glycerole* CAS-Nr.: 56-81-5  
Dispersion coefficient (K<sub>o/w</sub>): -1,76

**70 mL RLY**  
Substance name: *dodecyl sulfate, sodium salt* CAS-Nr.: 151-21-3  
Dispersion coefficient (K<sub>o/w</sub>): 1,6

## 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

Do not collect in acidic waste. May form toxic gases.

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. Empty containers of corrosive reagents prior to disposal, rinse with water.

## 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, contains only small amounts of these substances

### 14.6 Special precautions for user

not necessary



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## 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  
 TRGS 500, Protective measures, Mai 2008  
 TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015  
 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](http://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 2.3.10.21 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 8 composition data corrected - 19 substance data corrected

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

H	Between versions 2.3.10.21 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 8 composition data corrected - 19 substance data corrected
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

#### 16.2.2 List of relevant P phrases

P260sh	Do not breathe dust/vapours.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
P310	Immediately call a POISON CENTER/doctor.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container to regulated waste treatment.

### 16.3 Recommended restriction on use

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

### 16.4 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021  
 Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres  
 SUVA .CH, limit values in the air at work 2009, revised on 01/2009  
 Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)



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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
- 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%



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leuciscus idus: fisch, ide, orfe  
 MAK: maximum workplace concentration  
 Met: Metall  
 mus: mouse  
 Muta: mutagen  
 NIOSH: National Institute for Occupational Safety and Health (US)  
 NRD: Non-rapidly degradable  
 onchorhynchus mykiss: fish, rainbow trout  
 orl: oral  
 OSHA: Occupational Safety and Health Administration  
 PAX: transport on passenger planes allowed  
 PBT: persistent, bioaccumulating, toxic substance  
 pH: pH value  
 pimephales promelas: fish, fathead minnow  
 PNEC: Predicted No Effect Concentration  
 PROC 15: Process category 'for laboratory use'  
 PRTR: Law for PRTR and Promotion of Chemical Management (Jp)  
 PVC: polyvinyl chloride  
 quail: bird, quail  
 rat: rat  
 rb: 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.

