Section 1: Identification

1.1 Product Identifier / Product Name

REF 740100.10
Product Name NucleoSpin DNA RapidLyse (10)
-

1 x 120 µL Liquid Proteinase K
1 x 25 mL RLB
1 x 13 mL RLE
1 x 6 mL RLW
1 x 13 mL RLY

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

Relevant identified uses
Product for Analytical Use.
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
Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY
Tel.: +49 2421 969 0 E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency Telephone Number

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night (CCN685047)
Within USA and Canada: **1-800-424-9300**
Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

You find our current versions of SDS (22 languages) in Internet: **http://www.mn-net.com/SDS**

Section 2: Hazard(s) Identification

2.0 Classification of the complete Product

GHS02 GHS05 GHS07 GHS09

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H317	Skin Sens. 1
H318	Eye Dam. 1
H319	Eye Irrit. 2
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

2.1 Classification of the Substance(s) or Mixture(s)

120 µL Liquid Proteinase K

Do not need labelling as hazardous
Signal Word -

No Hazard Class

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MACHEREY-NAGEL ISO 9001 CERTIFIED
Version: M V 4.10.1

25 mL RLB

GHS02 GHS05 GHS07 GHS09

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H317	Skin Sens. 1
H318	Eye Dam. 1
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

13 mL RLE

Do not need labelling as hazardous

Signal Word -

No Hazard Class

6 mL RLW

Do not need labelling as hazardous

Signal Word -

No Hazard Class

13 mL RLY

GHS07

Signal Word WARNING

Hazard Identification	Hazard Classes/Categories
H319	Eye Irrit. 2
H412	Aquatic Chronic 3

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 identificator(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 sensibilizing substances.

120 µL Liquid Proteinase K

Do not need labelling as hazardous
Signal Word: -

25 mL RLB

GHS02 GHS05 GHS07 GHS09

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Signal Word: DANGER

H317, H318
May cause an allergic skin reaction. Causes serious eye damage.

P261sh, P280sh, P305+351+338, P310
Avoid breathing dust/vapors. Wear protective gloves/eye protection. 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.

13 mL RLE

Do not need labelling as hazardous
Signal Word: -

6 mL RLW

Do not need labelling as hazardous
Signal Word: -

13 mL RLY

GHS07

Signal Word: WARNING

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. In the case of pH values are less than 5 or higher than 9 then it is irritant. 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. ---

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. Vapors 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. May cause sensitization by skin contact, also in repeated contact of small amounts.
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

Other Hazards

Section 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

120 µL Liquid Proteinase K

Chemical:	*proteinase K, liquid (origin: tritirachium album)*		CAS No.: 39450-01-6l
Classification:	H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1		
Chemical Formula:	Enzyme Comm. No. 3.4.21.64,origin: tritirachium album		
TSCA Inventory:	listed (CAS 102925-54-2)		
RTECS:	-	MFCD:	00132129
EC No.:	254-457-8	Indice No.:	647-014-00-9
Weight Percent:	1 - <3 %		
acc. GHS:	The criteria for classification are not fulfilled.		

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Chemical: *glycerole* CAS No.: 56-81-5
Classification: No criteria for classification or naming of chemical is not required.
Chemical Formula: $C_3 H_8 O_3$
Synonyms: glycerin, 1,2,3-propanetriol
TSCA Inventory: listed (1,2,3-Propanetriol)
RTECS: MA8050000 MFCD: 00004722
EC No.: 200-289-5 Indice No.: n/a
Weight Percent: 50 - <80 %
acc. GHS: The criteria for classification are not fulfilled.

25 mL RLB

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5
Classification: H301, Acute Tox. 3 oral, H314, Skin Corr. 1B, H317, Skin Sens. 1, H410, Aquatic Chronic 1
Chemical Formula: $C_{17} H_{30} ClN$
Synonyms: N-dodecylpyridinium chloride
TSCA Inventory: listed
RTECS: UU4017070 MFCD: 00011987
EC No.: 203-232-2
Weight Percent: 2,5 - <5 %
acc. GHS: H302, Acute Tox. 4 oral, H317, Skin Sens. 1, H318, Eye Dam. 1, H411, Aquatic Chronic 2

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3
Chemical Formula: $C_2 H_6 N_4 S$
Synonyms: guanidine rhodanide
TSCA Inventory: listed
RTECS: XL1225000 MFCD: 00013027
EC No.: 209-812-1 Indice No.: 615-004-00-3
Weight Percent: 30 - <45 %
acc. GHS: H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3

Chemical: *ethanol* (diluted < 20 %) CAS No.: 64-17-5d
(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
Classification: H225, Flam. Liq. 2
Chemical Formula: $C_2 H_6 O$; $C_2 H_5 OH$
Synonyms: ethyl alcohol, methylated spirit
TSCA Inventory: listed
RTECS: KQ6300000 MFCD: 00003568
EC No.: 200-578-6 Indice No.: 603-002-00-5
Weight Percent: 5 - <20 %
acc. GHS: H226, Flam. Liq. 3

13 mL RLE

Chemical: *chemicals/mixture < 1%* CAS No.: -
Classification: No criteria for classification or naming of chemical is not required.
TSCA Inventory: all listed, <1%
Weight Percent: 0,1 - <1 %
acc. GHS: The criteria for classification are not fulfilled.

6 mL RLW

Chemical: *chemicals/mixture < 1%* CAS No.: -
Classification: No criteria for classification or naming of chemical is not required.
TSCA Inventory: all listed, <1%
Weight Percent: 0,1 - <1 %
acc. GHS: The criteria for classification are not fulfilled.

13 mL RLY

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Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
Classification: 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: $C_{12}H_{25}NaO_4S$
Synonyms: sodium lauryl sulfate, sulfuric acid monododecyl ester sodium salt
TSCA Inventory: listed
RTECS: WT1050000 MFCD: 00036175
EC No.: 205-788-1
Weight Percent: 2,5 - <3 %
acc. GHS: H319, Eye Irrit. 2, H412, Aquatic Chronic 3

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 16.1

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. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

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.

4.1.4 After ORAL Intake
After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important Symptoms and Effects, both acute and delayed

May cause sensitization by skin contact, also in repeated contact of small amounts. ---

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

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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

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. Product package burns like paper or plastic. Spray any vapors 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. ---

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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, 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

not necessary, contains only small amounts of these substances

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 ---

Section 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.
Storage class (VCI): 3
Water hazard class (DE): 3

7.2.1 Conditions for Safe Storage, including any Incompatibilities

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

120 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l

Chemical: *glycerole* CAS No.: 56-81-5
DNEL: [inh] 56 mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 0.885 mg/L
PNEC = Predicted No Effected Concentration

25 mL RLB

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

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
DNEL: [inh] 1092 µg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 42.4 µg/L
PNEC = Predicted No Effected 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

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

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13 mL RLE
Chemical: *chemicals/mixture < 1%* CAS No.: -

6 mL RLW
Chemical: *chemicals/mixture < 1%* CAS No.: -

13 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
No additional recommendations.

8.2.2 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 or Face Protection.

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.

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

120 µL Liquid Proteinase K

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	7-8	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate$_{(ether=1)}$:	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density$_{(air=1)}$:	data not available	
m)	Specific Gravity:	1.1 g/cm³	
n)	Soluble in Water:	0-100 %	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

25 mL RLB

a)	Appearance: liquid	Color: slightly yellow	b) Odor: alcoholic
c)	Odor Threshold:	data not available	
d)	pH:	6.5-7.5	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate$_{(ether=1)}$:	data not available	
i)	Flammability (solid, gas):	data not available	

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j)	Explosive Limits:	data not available
k)	Vapor Pressure (68°F):	data not available
l)	Vapor Density$_{(air=1)}$:	data not available
m)	Specific Gravity:	data not available
n)	Soluble in Water:	data not available
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	data not available
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

13 mL RLE

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	8-9	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate$_{(ether=1)}$:	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density$_{(air=1)}$:	data not available	
m)	Specific Gravity:	1.0 g/cm³	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

6 mL RLW

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	7-8	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate$_{(ether=1)}$:	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density$_{(air=1)}$:	data not available	
m)	Specific Gravity:	1.00 g/cm³	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

13 mL RLY

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	8.5-9.5	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate$_{(ether=1)}$:	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density$_{(air=1)}$:	data not available	
m)	Specific Gravity:	1.01 g/cm³	

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n)	Soluble in Water:	data not available
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	data not available
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

9.2 Other Information

Data for the other parameters of the mixtures are not available.
Relevant Properties of Substance Group

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 form very reactive substances with oxidizing agents. Possibility: Contact with acids liberates toxic gas. No further data available.

10.4 Conditions to avoid

Not necessary. ---

10.5 Incompatible Materials

Avoid contact with strong acids or alkalines. ---

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 Toxicological Effects

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

120 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l
TSCA Inventory: listed (CAS 102925-54-2)

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
$LD50_{orl\ rat}$: 12.6 g/kg
$LD50_{drm\ rbt}$: >18.7 g/kg

25 mL RLB

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5
TSCA Inventory: listed
$LD50_{orl\ rat}$: 203 mg/kg
$LD50_{drm\ rat}$: 1684 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: *guanidinium thiocyanate* CAS No.: 593-84-0
TSCA Inventory: listed California Prop. 65 List: not listed
Canada CEPA 1999: DSL yes
$LD50_{orl\ rat}$: 593 mg/kg
$LC50_{drm\ rbt}$: >2000 mg/m³
$LC50_{ihl\ rat}$: [4h] 5.319 mg/L
$LD50_{ipr\ mus}$: 300 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

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Chemical: *ethanol* CAS No.: 64-17-5d
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
$LC\_Low_{ihl\ gpg}$: 21.9 g/m³
$LC\_Low_{orl\ hmn}$: 1400 mg/kg
$LC50_{ihl\ mouse}$: [4h] 39 g/m³
$LC50_{ihl\ rat}$: [10h] 20 g/m³
$LD50_{drm\ rbt}$: 20 000 mg/kg
$LD50_{oral\ mouse}$: 3450 mg/kg

13 mL RLE

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

6 mL RLW

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

13 mL RLY

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
$LC50_{inh\ rat}$: 3900_{1h} mg/m³
$LD50_{drm\ rbt}$: 10 g/kg

Section 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

120 µL Liquid Proteinase K

Chemical: *proteinase K, liquid (origin: tritirachium album)* CAS No.: 39450-01-6l

Chemical: *glycerole* CAS No.: 56-81-5
$PNEC_{(fresh\ water)}$: 0.885 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: $>5000_{24h}$ 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
Partition Coefficient (o-w): -1.76

25 mL RLB

Chemical: *1-dodecylpyridiniumchloride* CAS No.: 104-74-5
Toxic to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).
$PNEC_{(fresh\ water)}$: 42.4 µg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: [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
Partition Coefficient (o-w): [pH 5.1] -1.11

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Chemical: *ethanol* CAS No.: 64-17-5d
PNEC(fresh water) : 0.96 mg/L
PNEC = Predicted No Effected 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

13 mL RLE
Chemical: *chemicals/mixture < 1%* CAS No.: -

6 mL RLW
Chemical: *chemicals/mixture < 1%* CAS No.: -

13 mL RLY
Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3
Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).
$LC50_{daphnia\ magna/48h}$: 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
no data available

12.6 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 (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. 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

14.7 Transport in Bulk according to Annex II of MARPOL and the IBC Code
not applicable

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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 List of Hazard and Precaution Phrases

16.1.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.1.2 List of relevant P Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261sh	Avoid breathing dust/vapors.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
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.
P330	Rinse mouth.

16.2 Training Advice

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.

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 Further Information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.
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16.5 Sources of Key Data

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC
SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets
KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

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You find our current Versions of SDS in Internet:
http://www.mn-net.com/SDS [U.S. English]

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