

Safety Data Sheet

according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

REF: 740650

NucleoBond RNA/DNA 80 (25)

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Printing date: 15.11.2021

Date of issue: 20.04.2021

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

1.1 Product identifier

REF 740650
Product name NucleoBond RNA/DNA 80 (25)

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 125 mL N5
2 x 125 mL R0
2 x 125 mL R1
2 x 125 mL R2
1 x 125 mL R3
1 x 75 mL R4
1 x 36 g UREA
1 x 30 mL W1
1 x 10 mL W3
1 x 30 mL W4
1 x 80 mL W5
1 x 30 mL W6

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
Tel.: +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

You find our current versions of SDS (22 languages) in Internet:

<http://www.mn-net.com/SDS>

SECTION 2: Hazard 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
H315 Skin Irrit. 2
H318 Eye Dam. 1
H411 Aquatic Chronic 2
H412 Aquatic Chronic 3

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2.1 Classification of the substance or mixture

125 mL N5



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

125 mL R0



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

125 mL R1



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

125 mL R2



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

125 mL R3



GHS02

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Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

75 mL R4



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

36 g UREA

Signal word

Do not need labelling as hazardous

No hazard class

30 mL W1



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H302

Acute Tox. 4 oral

H412

Aquatic Chronic 3

10 mL W3



GHS05



GHS07



GHS09

Signal word

DANGER

Hazard identification

Hazard classes/categories

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H318

Eye Dam. 1

H411

Aquatic Chronic 2

30 mL W4

Signal word

Do not need labelling as hazardous

No hazard class

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80 mL W5

Signal word Do not need labelling as hazardous
-

No hazard class

30 mL W6

Signal word Do not need labelling as hazardous
-

No hazard class

2.2 Label elements

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).

125 mL N5



GHS02

Signal word: WARNING

125 mL R0



GHS02

Signal word: WARNING

125 mL R1



GHS02

Signal word: WARNING

125 mL R2



GHS02

Signal word: WARNING

125 mL R3



GHS02

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Signal word: WARNING

75 mL R4



GHS02

Signal word: WARNING

36 g UREA

Do not need labelling as hazardous

Signal word: -

30 mL W1



GHS07

Signal word: WARNING

H412

Harmful to aquatic life with long lasting effects.

10 mL W3



GHS05



GHS07



GHS09

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

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.

30 mL W4

Do not need labelling as hazardous

Signal word: -

80 mL W5

Do not need labelling as hazardous

Signal word: -

30 mL W6

Do not need labelling as hazardous

Signal word: -

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 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.). ---

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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, impairments of health when ingested in small quantities. -

Information pertaining to particular risks to the environment

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

PBT: not applicable

vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

125 mL N5

Chemical:	<i>ethanol</i> (diluted < 20 %)	CAS No.:	64-17-5d
	(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)		
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

Chemical:	<i>potassium chloride</i>	CAS No.:	7447-40-7
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	KCl		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119539416-36-xxxx		
EC No.:	231-211-8		
RTECS:	TS8050000	MFCD:	00011360
KE No.:	KE-29086		
Concentration:	1 - <10 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>Stabilisators. Buffers. Detergents < 1%</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical not required.		
TSCA Inventory:	all listed, <1%		
KE No.:	listed		
Concentration:	0.1 - <1 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

125 mL R0

Chemical:	<i>ethanol</i> (diluted < 20 %)	CAS No.:	64-17-5d
	(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)		
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

125 mL R1

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Chemical:	<i>ethanol</i> (diluted < 20 %) (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5d
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

125 mL R2

Chemical:	<i>ethanol</i> (diluted < 20 %) (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5d
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

125 mL R3

Chemical:	<i>ethanol</i> (diluted < 20 %) (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5d
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

75 mL R4

Chemical:	<i>ethanol</i> (diluted < 20 %) (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5d
Classification:	H225, Flam. Liq. 2		
Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

Chemical:	<i>potassium chloride</i>	CAS No.:	7447-40-7
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	KCl		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119539416-36-xxxx		
EC No.:	231-211-8		
RTECS:	TS8050000	MFCD:	00011360
KE No.:	KE-29086		
Concentration:	10 - <20 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

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36 g UREA

Chemical: *urea*

CAS No.: 57-13-6

Classification:

No criteria for classification or naming of chemical not required.

Formula:

$\text{CH}_4 \text{N}_2 \text{O}$

Pseudonym:

carbamide

TSCA Inventory:

listed

REACH Reg. No.:

01-2119463277-33-xxxx

EC No.:

200-315-5

RTECS:

YR6250000

MFCD:

00008022

KE No.:

KE-35144

Concentration:

90 - <100 %

acc. CLP (GHS):

The criteria for classification are not fulfilled.

30 mL W1

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

Formula:

$\text{C}_2 \text{H}_6 \text{N}_4 \text{S}$

Pseudonym:

guanidine rhodanide

TSCA Inventory:

listed

REACH Reg. No.:

01-2120735072-65-0001

EC No.:

209-812-1

Indice No.:

615-004-00-3

RTECS:

XL1225000

MFCD:

00013027

KE No.:

not listed

Concentration:

30 - <45 %

acc. CLP (GHS):

H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3

10 mL W3

Chemical: *Triton® X-100*

CAS No.: 9002-93-1

Classification:

H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1

Formula:

$\text{C}_{33} \text{H}_{60} \text{O}_{10,5}$

Pseudonym:

octoxynol-9

TSCA Inventory:

listed

SVHC listed:

listed

RTECS:

MD0907700

MFCD:

00132505

KE No.:

KE-33568

Concentration:

15 - <25 %

acc. CLP (GHS):

H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H411, Aquatic Chronic 2

30 mL W4

Chemical: *acetate buffer solution*

CAS No.: -

Classification:

No criteria for classification or naming of chemical not required.

Formula:

$\text{CH}_3 \text{COOH}/\text{K}/\text{Na} \cdot \text{H}_2 \text{O}$

TSCA Inventory:

all listed

KE No.:

listed

Concentration:

15 - <25 %

acc. CLP (GHS):

The criteria for classification are not fulfilled.

80 mL W5

Chemical: *chemicals/mixture < 1%*

CAS No.: -

Classification:

No criteria for classification or naming of chemical not required.

TSCA Inventory:

all listed, <1%

KE No.:

listed

Concentration:

0.1 - <1 %

acc. CLP (GHS):

The criteria for classification are not fulfilled.

30 mL W6

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Chemical:	potassium chloride	CAS No.:	7447-40-7
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	KCl		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119539416-36-xxxx		
EC No.:	231-211-8		
RTECS:	TS8050000	MFCD:	00011360
KE No.:	KE-29086		
Concentration:	10 - <20 %		
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 16.1

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. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open 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. ---

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

4.3 Indication of any immediate medical attention and special treatment needed

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. ---

SECTION 5: Firefighting measures

5.1 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.

5.2 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.

5.4 Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. 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.

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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 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

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 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

125 mL N5

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 Effect Concentration

TRGS 900 (DE): 200 ppm / 380 mg/m³

E/e respirable

Short-term exposure factor: 4 (II), Y

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m³

NIOSH: [TWA] 1000 ppm / 1900 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 1000 ppm / 1900 mg/m³

Chemical: *potassium chloride*

CAS No.: 7447-40-7

Chemical: *Stabilisators. Buffers. Detergents < 1%*

CAS No.: -

125 mL R0

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 Effect Concentration

TRGS 900 (DE): 200 ppm / 380 mg/m³

E/e respirable

Short-term exposure factor: 4 (II), Y

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m³

NIOSH: [TWA] 1000 ppm / 1900 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 1000 ppm / 1900 mg/m³

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125 mL R1

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 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

125 mL R2

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 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

125 mL R3

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 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

75 mL R4

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 Effect Concentration

TRGS 900 (DE): 200 ppm / 380 mg/m³

E/e respirable

Short-term exposure factor: 4 (II), Y

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m³

NIOSH: [TWA] 1000 ppm / 1900 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 1000 ppm / 1900 mg/m³

Chemical: *potassium chloride*

CAS No.: 7447-40-7

36 g UREA

Chemical: *urea*

CAS No.: 57-13-6

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30 mL W1

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 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

10 mL W3

Chemical: *Triton® X-100*

CAS No.: 9002-93-1

30 mL W4

Chemical: *acetate buffer solution*

CAS No.: -

80 mL W5

Chemical: *chemicals/mixture < 1%*

CAS No.: -

30 mL W6

Chemical: *potassium chloride*

CAS No.: 7447-40-7

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 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 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 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

125 mL N5

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

8-9

Flash point:

38 °C

Specific gravity:

1.03 g/cm³

125 mL R0

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

6.0-6.5

Flash point:

38 °C

Specific gravity:

0.99 g/cm³

125 mL R1

Appearance: -

Colour: colourless

Odor: -

pH:

6.0-6.5

Flash point:

38 °C

Specific gravity:

1.03 g/cm³

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125 mL R2

Appearance: liquid

pH:

Flash point:

Specific gravity:

Colour: colourless

6.0-6.5

38 °C

1.03 g/cm³

Odor: alcoholic

125 mL R3

Appearance: liquid

pH:

Flash point:

Specific gravity:

Colour: colourless

6.0-6.5

38 °C

1.04 g/cm³

Odor: alcoholic

75 mL R4

Appearance: liquid

pH:

Flash point:

Specific gravity:

Colour: colourless

6-6.5

36 °C

1.05 g/cm³

Odor: alcoholic

36 g UREA

Appearance: powder (solid)

pH:

Melting point:

Vapour pressure (20°C):

Specific gravity:

Solubility in water:

Colour: colourless

9 (10%)

133 °C

< 0.1

1.34 sol. g/cm³

0-50 %

Odor: odorless

30 mL W1

Appearance: liquid

pH:

Specific gravity:

Colour: colourless

7.5-8

1.11 g/cm³

Odor: odorless

10 mL W3

Appearance: liquid

Specific gravity:

Colour: colourless

1.02 g/cm³

Odor: odorless

30 mL W4

Appearance: liquid

pH:

Colour: colourless

6-7

Odor: odorless

80 mL W5

Appearance: liquid

pH:

Colour: colourless

7.5-8

Odor: odorless

30 mL W6

Appearance: liquid

pH:

Specific gravity:

Colour: colourless

6-6.5

1.08 g/cm³

Odor: odorless

9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

Relevant Properties of Substance Group

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

No known instability.

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10.3 Possibility of hazardous reactions

Note: Can form very reactive substances with oxidizing agents. Possible: 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 substances. Quantitative data on the toxicity of this product are not available.

125 mL N5

Chemical:	ethanol	CAS No.: 64-17-5d
TSCA Inventory:	listed	California Proposition 65 List: not listed
ACGIH:	1000 ppm	
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system	
Symptoms:	irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL yes
Japan CSCL/PRTR:	not listed, Japan PDSCL: not listed	
Japan ISHL:	listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)	
South Korea TCCA:	not listed	
Korea Exist.Chem.Inventory:	KE-13217	
LD50 _{oral} rat :	6200 mg/kg	
LC ₅₀ _{inhal} gpg :	21.9 g/m ³	
LC ₅₀ _{inhal} hmn :	1400 mg/kg	
LC50 _{inhal} mouse :	[4h] 39 g/m ³	
LC50 _{inhal} rat :	[10h] 20 g/m ³	
LD50 _{derm} rbt :	20 000 mg/kg	
LD50 _{oral} mouse :	3450 mg/kg	
TRGS 905 (DE):	K5, M5, R _F C	

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

Chemical:	Stabilisators. Buffers. Detergents < 1%	CAS No.: -
TSCA Inventory:	all listed, <1%	
Korea Exist.Chem.Inventory:	listed	

125 mL R0

Chemical:	ethanol	CAS No.: 64-17-5d
TSCA Inventory:	listed	California Proposition 65 List: not listed
ACGIH:	1000 ppm	
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system	
Symptoms:	irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL yes
Japan CSCL/PRTR:	not listed, Japan PDSCL: not listed	
Japan ISHL:	listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)	
South Korea TCCA:	not listed	
Korea Exist.Chem.Inventory:	KE-13217	
LD50 _{oral} rat :	6200 mg/kg	
LC ₅₀ _{inhal} gpg :	21.9 g/m ³	

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LC₅₀oral hm_n : 1400 mg/kg
LC₅₀ihl mouse : [4h] 39 g/m³
LC₅₀ihl rat : [10h] 20 g/m³
LD₅₀drm rbt : 20 000 mg/kg
LD₅₀oral mouse : 3450 mg/kg

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

125 mL R1

Chemical: *ethanol* CAS No.: 64-17-5d
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD₅₀oral rat : 6200 mg/kg
LC₅₀ihl gpg : 21.9 g/m³
LC₅₀ihl hm_n : 1400 mg/kg
LC₅₀ihl mouse : [4h] 39 g/m³
LC₅₀ihl rat : [10h] 20 g/m³
LD₅₀drm rbt : 20 000 mg/kg
LD₅₀oral mouse : 3450 mg/kg

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

125 mL R2

Chemical: *ethanol* CAS No.: 64-17-5d
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD₅₀oral rat : 6200 mg/kg
LC₅₀ihl gpg : 21.9 g/m³
LC₅₀ihl hm_n : 1400 mg/kg
LC₅₀ihl mouse : [4h] 39 g/m³
LC₅₀ihl rat : [10h] 20 g/m³
LD₅₀drm rbt : 20 000 mg/kg
LD₅₀oral mouse : 3450 mg/kg

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

125 mL R3

Chemical: *ethanol* CAS No.: 64-17-5d
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed

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Korea Exist.Chem.Inventory: KE-13217
LD50_{orl rat}: 6200 mg/kg
LC₅₀_{ihl gpg}: 21.9 g/m³
LC₅₀_{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

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

75 mL R4

Chemical: *ethanol* CAS No.: 64-17-5d
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD50_{orl rat}: 6200 mg/kg
LC₅₀_{ihl gpg}: 21.9 g/m³
LC₅₀_{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

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

Chemical: *potassium chloride* CAS No.: 7447-40-7
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-29086
LD50_{orl rat}: 2600 mg/kg

36 g UREA

Chemical: *urea* CAS No.: 57-13-6
TSCA Inventory: listed
Symptoms: Carbamid, Urea
Korea Exist.Chem.Inventory: KE-35144
LD50_{orl rat}: 8471 mg/kg
LD50_{drm rat}: 8200 mg/kg

30 mL W1

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_{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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10 mL W3

Chemical: *Triton® X-100*

CAS No.: 9002-93-1

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-33568

LD50_{orl rat}: 707-1800 mg/kg

LD50_{drm rbt}: 3000-12300 mg/kg

Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

30 mL W4

Chemical: *acetate buffer solution*

CAS No.: -

TSCA Inventory: all listed

Korea Exist.Chem.Inventory: listed

80 mL W5

Chemical: *chemicals/mixture < 1%*

CAS No.: -

TSCA Inventory: all listed, <1%

Korea Exist.Chem.Inventory: listed

30 mL W6

Chemical: *potassium chloride*

CAS No.: 7447-40-7

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-29086

LD50_{orl rat}: 2600 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

125 mL N5

Chemical: *ethanol*

CAS No.: 64-17-5d

PNEC(fresh water): 0.96 mg/L

PNEC = Predicted No Effect Concentration

LC50_{daphnia magna/48h}: >100 g/L

LC50_{pimephales promelas/96h}: 13.4-15.1 g/L

LC50_{leuciscus idus/96h}: [48h] 8.14 g/L

LC50_{fish/96h}: 13 g/L

EC50_{daphnia/48h}: 9.3-14.2 g/L

IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L

EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L

Water hazard class (DE): 1 WGK No.: 0096

Dispersion coefficient(octanol-water): -0.31

Storage class (VCI): 3

Chemical: *potassium chloride*

CAS No.: 7447-40-7

Water hazard class (DE): 1

Storage class (VCI): 12-13

Chemical: *Stabilisators. Buffers. Detergents < 1%*

CAS No.: -

Storage class (VCI): 12-13

125 mL R0

Chemical: *ethanol*

CAS No.: 64-17-5d

PNEC(fresh water): 0.96 mg/L

PNEC = Predicted No Effect Concentration

LC50_{daphnia magna/48h}: >100 g/L

LC50_{pimephales promelas/96h}: 13.4-15.1 g/L

LC50_{leuciscus idus/96h}: [48h] 8.14 g/L

LC50_{fish/96h}: 13 g/L

EC50_{daphnia/48h}: 9.3-14.2 g/L

IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L

EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L

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Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

125 mL R1

Chemical: *ethanol*
PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
LC50_{daphnia magna/48h}: >100 g/L
LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
LC50_{leuciscus idus/96h}: [48h] 8.14 g/L
LC50_{fish/96h}: 13 g/L
EC50_{daphnia/48h}: 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

CAS No.: 64-17-5d

125 mL R2

Chemical: *ethanol*
PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
LC50_{daphnia magna/48h}: >100 g/L
LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
LC50_{leuciscus idus/96h}: [48h] 8.14 g/L
LC50_{fish/96h}: 13 g/L
EC50_{daphnia/48h}: 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

CAS No.: 64-17-5d

125 mL R3

Chemical: *ethanol*
PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
LC50_{daphnia magna/48h}: >100 g/L
LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
LC50_{leuciscus idus/96h}: [48h] 8.14 g/L
LC50_{fish/96h}: 13 g/L
EC50_{daphnia/48h}: 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

CAS No.: 64-17-5d

75 mL R4

Chemical: *ethanol*
PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
LC50_{daphnia magna/48h}: >100 g/L
LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
LC50_{leuciscus idus/96h}: [48h] 8.14 g/L
LC50_{fish/96h}: 13 g/L
EC50_{daphnia/48h}: 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

CAS No.: 64-17-5d

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

CAS No.: 7447-40-7

36 g UREA

Chemical: *urea*
LC50_{leuciscus idus/96h}: >6810 mg/L
EC50_{daphnia/48h}: >10 g/L
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS No.: 57-13-6

30 mL W1

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 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 putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient_(octanol-water): [pH 5.1] -1.11
Storage class (VCI): 12

10 mL W3

Chemical: *Triton® X-100* CAS No.: 9002-93-1
Toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
Water hazard class (DE): 1 WGK No.: n.n.
Storage class (VCI): 12-13

30 mL W4

Chemical: *acetate buffer solution*
Storage class (VCI): 12

CAS No.: -

80 mL W5

Chemical: *chemicals/mixture < 1%*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS No.: -

30 mL W6

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

CAS No.: 7447-40-7

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

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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

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC

TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011

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

Look for your country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
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.
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 (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.

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16.4 Further information

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16.5 Sources of key data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress

Regulation 849/2021/EU, 4th adaptation of CLP regulation to technical and scientific progress

TRGS 900, German engineering rules governing limits in air at work, updated 03/2019

SUVA .CH, Limits in air at work 2009, revised on 01.2009

KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU

2017-11 Adaption of ECHA Registration dossier