

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740424.50	NucleoBond Xtra Maxi EF (50)	Page: 1/27
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### SECTION 1: Identification of the substance/mixture and of the company

#### 1.1 Product Identifier / Product Name

REF	740424.50	
Product Name	NucleoBond Xtra Maxi EF (50)	
1 x 0.6-100 mg RNase A (lyo)		UFI: WWJV-U3PV-U207-MFGF
1 x 750 mL RES-EF		
1 x 750 mL LYS-EF		UFI: W24W-23R9-3206-XR1C
1 x 750 mL NEU-EF		
5 x 1000 mL ENDO-EF		
2 x 1000 mL EQU-EF		
1 x 600 mL FIL-EF		
2 x 1000 mL WASH-EF		UFI: PRDV-G392-F20H-XYHK
1 x 500 mL WASH-EF		UFI: PRDV-G392-F20H-XYHK
1 x 900 mL ELU-EF		UFI: HEDV-F3HG-720J-9M6A
1 x 60 mL H <sub>2</sub> O-EF		
1 x 60 mL TE-EF		
2 x 35 mL H <sub>2</sub> O-EF (for 70% ethanol)		

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

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

**Uses advised against**  
 not described

#### 1.3 Details of the Supplier and of the Safety Data Sheet

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

E-mail: [sds@mn-net.com](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.  
 USA: American Association Of Poison Control Centers  
 Rockville, MD 20857. tel. 1-800-222-1222, <<https://www.poisonhelp.org>>  
 DE: Gemeinsames Giftinformationszentrum (GGIZ)  
 99089 Erfurt tel. +49 361 730 730  
 <<https://www.ggiz-erfurt.de>>

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

### SECTION 2: Hazard(s) Identification

#### 2.0 Classification of the complete Product



Signal Word	DANGER
<b>Hazard Identification</b>	<b>Hazard Classes/Categories</b>
H226	Flam. Liq. 3
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H412	Aquatic Chronic 3



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### 2.1 Classification of the substance or mixture

#### 750 mL LYS-EF



GHS07

Signal Word                      WARNING

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

#### 1000 mL ENDO-EF



GHS02

Signal Word                      WARNING

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H412	Aquatic Chronic 3

#### 1000 mL EQU-EF



GHS02

Signal Word                      WARNING

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H412	Aquatic Chronic 3

#### 1000 mL WASH-EF



GHS02

Signal Word                      WARNING

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

#### 500 mL WASH-EF



GHS02



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Signal Word                      WARNING

<b>Hazard Identification</b>	<b>Hazard Classes/Categories</b>
H226	Flam. Liq. 3

**900 mL ELU-EF**



GHS02      GHS07

Signal Word                      WARNING

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

**600 mL FIL-EF**

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

**60 mL H<sub>2</sub>O-EF**

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

**35 mL H<sub>2</sub>O-EF (for 70% ethanol)**

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

**0.6-100 mg RNase A (lyo)**



GHS08

Signal Word                      DANGER

<b>Hazard Identification</b>	<b>Hazard Classes/Categories</b>
H334	Resp. Sens. 1

**60 mL TE-EF**

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

**750 mL RES-EF**

Do not need labelling as hazardous



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Signal Word -  
No Hazard Class

**750 mL NEU-EF**

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

List of H phrases: see section 16.2

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

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

**750 mL LYS-EF**



GHS07

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

**1000 mL ENDO-EF**



GHS02

Signal Word: WARNING  
H226, H412  
Flammable liquid and vapor.Harmful to aquatic life with long lasting effects.  
P210, P273  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.Avoid release to the environment.

**1000 mL EQU-EF**



GHS02

Signal Word: WARNING  
H226, H412  
Flammable liquid and vapor.Harmful to aquatic life with long lasting effects.  
P210, P273  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.Avoid release to the environment.

**1000 mL WASH-EF**



GHS02



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

### 500 mL WASH-EF



GHS02

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

### 900 mL ELU-EF



GHS02



GHS07

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

### 600 mL FIL-EF

Do not need labelling as hazardous  
 Signal Word: -

### 60 mL H<sub>2</sub> O-EF

Do not need labelling as hazardous  
 Signal Word: -

### 35 mL H<sub>2</sub> O-EF (for 70% ethanol)

Do not need labelling as hazardous  
 Signal Word: -

### 0.6-100 mg RNase A (lyo)



GHS08

Signal Word: DANGER  
 H334  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 P261sh, P342+311  
 Avoid breathing dust/vapors. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### 60 mL TE-EF

Do not need labelling as hazardous  
 Signal Word: -

### 750 mL RES-EF

Do not need labelling as hazardous  
 Signal Word: -

### 750 mL NEU-EF

Do not need labelling as hazardous



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Signal Word: -

### Label elements of the complete product



Signal Word: DANGER

H226, H315, H319, H334, H412

Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life with long lasting effects.

P210, P261sh, P273, P280sh, P342+311

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

### 2.3 Other Hazards

#### Possible Hazards from physicochemical Properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. Vapour forms explosive mixtures with air.

#### Information pertaining to particular Risks to Human and possible Symptoms

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

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

#### Information pertaining to particular Risks to the Environment

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

PBT: not applicable

vPvB: not applicable

#### Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

## SECTION 3: Composition/Information on Ingredients

### 3.1 Substances or 3.2 Mixtures

#### 0.6-100 mg RNase A (lyo)

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

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

#### 900 mL ELU-EF

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

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



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

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

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

Substance rating: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3  
Chemical Formula: C<sub>3</sub>H<sub>8</sub>O  
Synonyms (de): Isopropanol, IPA, Propan-2-ol  
REACH Reg. No.: 01-2119457558-25-XXXX  
EC No.: 200-661-7  
Concentration: 10 - <15 %  
acc. GHS: H226, Flam. Liq. 3, H319, Eye Irrit. 2  
Indice No.: 603-117-00-0

### 1000 mL ENDO-EF

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

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

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

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

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

Substance rating: H225, Flam. Liq. 2  
Chemical Formula: C<sub>2</sub>H<sub>6</sub>O; C<sub>2</sub>H<sub>5</sub>OH  
Synonyms (de): Äthylalkohol, vergällter Spiritus  
REACH Reg. No.: 01-2119457610-43-xxxx  
EC No.: 200-578-6  
Concentration: 5 - <20 %  
acc. GHS: H226, Flam. Liq. 3  
Indice No.: 603-002-00-5

Substance name: *Triton® X-114*  
CAS No.: 9036-19-5

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1  
Chemical Formula: C<sub>30</sub>H<sub>54</sub>O<sub>9</sub>  
Synonyms (de): PEG(7-8)p-t-octylphenol, Octaphenolpoly(ethylenglycolether)  
**SVHC listed: listed (19/12/2012) Cand. Lst. REACH Art59(10)+Annex XIV No. 42 (-2023)**  
EC No.: 232-658-1  
Concentration: 0,25 - <2,5 %  
acc. GHS: H412, Aquatic Chronic 3

### 1000 mL EQU-EF



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

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

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

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

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

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

Indice No.: 603-002-00-5

Substance name: *Triton® X-114*  
 CAS No.: 9036-19-5

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1  
 Chemical Formula: C<sub>30</sub>H<sub>54</sub>O<sub>9</sub>  
 Synonyms (de): PEG(7-8)p-t-octylphenol, Octaphenolpoly(ethylenglycoether)  
**SVHC listed: listed (19/12/2012) Cand. Lst. REACH Art59(10)+Annex XIV No. 42 (-2023)**  
 EC No.: 232-658-1  
 Concentration: 0,25 - <2,5 %  
 acc. GHS: H412, Aquatic Chronic 3

### 600 mL FIL-EF

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

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

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

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

### 1000 mL WASH-EF





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

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

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

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

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

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

Indice No.: 603-002-00-5

### 500 mL WASH-EF

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

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

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

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

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

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

Indice No.: 603-002-00-5

### 60 mL TE-EF

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

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



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### 750 mL RES-EF

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

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

### 750 mL NEU-EF

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

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

### 750 mL LYS-EF

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

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

Indice No.: 011-002-00-6

Substance name: *dodecyl sulfate, sodium salt*  
 CAS No.: 151-21-3

Substance rating: H228, Flam. Sol. 1, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H332, Acute Tox. 4 inh., H335, STOT SE 3, H412, Aquatic Chronic 3  
 Chemical Formula:  $\text{C}_{12}\text{H}_{25}\text{NaO}_4\text{S}$   
 Synonyms (de): Natriumlaurylsulfat  
 REACH Reg. No.: 01-2119489461-32-xxxx  
 EC No.: 205-788-1  
 Concentration: 0,1 - <1 %  
 acc. GHS: The criteria for classification are not fulfilled.

### 60 mL H<sub>2</sub>O-EF

Substance name: *water*  
 CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical is not required.  
 Chemical Formula:  $\text{H}_2\text{O}$   
 REACH Reg. No.: exempt, Annex IV  
 EC No.: 231-791-2  
 Concentration: 90 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.

### 35 mL H<sub>2</sub>O-EF (for 70% ethanol)

Substance name: *water*  
 CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical is not required.  
 Chemical Formula:  $\text{H}_2\text{O}$   
 REACH Reg. No.: exempt, Annex IV  
 EC No.: 231-791-2  
 Concentration: 90 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.



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### 3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%. List of Hazard and Precaution phrases: see section 16.2.

## SECTION 4: First-Aid Measures

### 4.1 Description of First-Aid Measures

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

#### 4.1.1 After SKIN Contact

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

#### 4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

#### 4.1.3 After INHALATION of Vapors

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

#### 4.1.4 After ORAL Intake

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

### 4.2 Most important Symptoms and Effects, both acute and delayed

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Chronic effects: Repeated contact, even in small amounts, can lead to sensitization.

Causes serious eye irritation.

### 4.3 Indication of any immediate Medical Attention and Special Treatment needed

After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive substance. Further treatment must to be carried out by an eye specialist. Inform patient respectively further measures and the possibility of long-term damages. ---

## SECTION 5: Fire-Fighting Measures

### 5.1 Extinguishable Media

#### 5.1.1 Suitable extinguishing media

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

#### 5.1.2 Unsuitable extinguishing media

data not available

### 5.2 Special Hazards arising from the Substance or Mixture

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

### 5.3 Advice for Firefighters

No, for listed product. The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

### 5.4 Additional Information

Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.



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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. Keep product away from sources of ignition - No smoking. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

#### 6.2 Environmental Precautions

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to 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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

#### 6.4 Reference to other Sections

see information in section 5.4,7,8 and 13

### SECTION 7: Handling and Storage

#### 7.1 Precautions for Safe Handling

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

#### 7.2 Conditions for Safe Storage, including any Incompatibilities

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

**Storage class (VCI):** 3

**Water hazard class (DE):** 2

#### 7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

#### 7.3 Specific End Use(s)

Product for analytical use.

### SECTION 8: Exposure Controls/Personal Protection

#### 8.1 Control Parameters

##### 0.6-100 mg RNase A (lyo)

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

##### 900 mL ELU-EF

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

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

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

DNEL: [inh] 500 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 140.9 mg/L

PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 400 ppm / 980 mg/m<sup>3</sup>

NIOSH STEL: 500 ppm / 1225 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: [TWA] 400 ppm / 980 mg/m<sup>3</sup>

##### 1000 mL ENDO-EF

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

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

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



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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: *Triton® X-114* CAS No.: 9036-19-5

### 1000 mL EQU-EF

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

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

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

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: *Triton® X-114* CAS No.: 9036-19-5

### 600 mL FIL-EF

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

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

### 1000 mL WASH-EF

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

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

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

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>

### 500 mL WASH-EF

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

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

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

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>

### 60 mL TE-EF

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

### 750 mL RES-EF

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

### 750 mL NEU-EF



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Chemical: <i>acetate buffer solution</i>	CAS No.: -
<b>750 mL LYS-EF</b>	
Chemical: <i>sodium hydroxide solution</i>	CAS No.: 1310-73-2
Chemical: <i>dodecyl sulfate, sodium salt</i>	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	
<b>60 mL H<sub>2</sub> O-EF</b>	
Chemical: <i>water</i>	CAS No.: 7732-18-5
<b>35 mL H<sub>2</sub> O-EF (for 70% ethanol)</b>	
Chemical: <i>water</i>	CAS No.: 7732-18-5

### 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 vapor/dust respirator, class A/AX. No additional recommendations.

#### 8.2.2 Skin protection / Hand protection

Yes, gloves (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

#### 8.2.3 Eye / Face Protection

Yes, Splash Goggles.

#### 8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Hygiene Measures

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

#### 8.2.6 Thermal hazards

data not available

### 8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

#### 0.6-100 mg RNase A (lyo)

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



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### 900 mL ELU-EF

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

### 1000 mL ENDO-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	39 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 1000 mL EQU-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	39 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 600 mL FIL-EF

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



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e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.06 g/cm³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 1000 mL WASH-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	39 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 500 mL WASH-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	alcoholic
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	39 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.04 g/cm³
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 60 mL TE-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available



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i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	7.2-7.7
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.0 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

**750 mL RES-EF**

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

**750 mL NEU-EF**

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

**750 mL LYS-EF**

a) State of aggregation:	liquid
b) Color:	blue
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	13
l) Kinematic Viscosity:	data not available



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m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.008 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 60 mL H<sub>2</sub> O-EF

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-8
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.0 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

### 35 mL H<sub>2</sub> O-EF (for 70% ethanol)

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	6-8
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	1.0 g/cm <sup>3</sup>
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

## 9.2 Further Information

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

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

No further data available.

### 10.2 Chemical Stability

no known instability.



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### 10.3 Possibility of Hazardous Reactions

But avoid reactions with oxidizing agents. No further data available.

### 10.4 Conditions to avoid

But formation of explosive gases/vapours with air is possible. Use only in well ventilated rooms. No more required.

### 10.5 Incompatible Materials

Avoid storage with oxidizing substances. ---

### 10.6 Hazardous Decomposition Products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

## SECTION 11: Toxicological Information

### 11.1 Information on Toxicological Effects

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

#### 0.6-100 mg RNase A (lyo)

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

TSCA Inventory: listed

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

Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

#### 900 mL ELU-EF

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

TSCA Inventory: listed

LD50 orl rat : 2600 mg/kg

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

TSCA Inventory: all listed, <1%

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

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

ACGIH: 1230 ppm

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

Target Organs: Eyes, skin, respiratory system

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

Canada CEPA 1999: DSL yes

LD50 orl rat : 5045 mg/kg

LC<sub>50</sub> Low orl hmn : 3570 mg/kg

LC50 ihl rat : 25 mg/L/4H

#### 1000 mL ENDO-EF

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

TSCA Inventory: listed

LD50 orl rat : 2600 mg/kg

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

TSCA Inventory: all listed, <1%

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

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

ACGIH: 1000 ppm

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

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

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

liver damage; anemia; reproductive, teratogenic

Canada CEPA 1999: DSL yes

LD50 orl rat : 6200 mg/kg

LC<sub>50</sub> Low ihl gpg : 21,900 mg/L

LC<sub>50</sub> Low orl hmn : 1400 mg/kg

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

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

LD50 orl mus : 3450 mg/kg



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Chemical: TSCA Inventory:	<i>Triton® X-114</i> listed	CAS No.: 9036-19-5
<b>1000 mL EQU-EF</b>		
Chemical: TSCA Inventory: LD50 orl rat :	<i>potassium chloride</i> listed 2600 mg/kg	CAS No.: 7447-40-7
Chemical: TSCA Inventory:	<i>chemicals/mixture until 1%</i> all listed, <1%	CAS No.: -
Chemical: TSCA Inventory: ACGIH: Exposure Routes: Target Organs: Symptoms: liver damage; anemia; reproductive, teratogenic Canada CEPA 1999: LD50 orl rat : LC_Low ihl gpg : LC_Low orl hmn : LC50 ihl mus : LC50 ihl rat : LD50 orl mus :	<i>ethanol</i> listed 1000 ppm inhalation, ingestion, skin and/or eye contact Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; DSL yes 6200 mg/kg 21,900 mg/L 1400 mg/kg 123,4 mg/L/4H 115,9-133,8 mg/L/4H 3450 mg/kg	CAS No.: 64-17-5 California Prop. 65 List: not listed
Chemical: TSCA Inventory:	<i>Triton® X-114</i> listed	CAS No.: 9036-19-5
<b>600 mL FIL-EF</b>		
Chemical: TSCA Inventory: LD50 orl rat :	<i>potassium chloride</i> listed 2600 mg/kg	CAS No.: 7447-40-7
Chemical: TSCA Inventory:	<i>chemicals/mixture until 1%</i> all listed, <1%	CAS No.: -
<b>1000 mL WASH-EF</b>		
Chemical: TSCA Inventory: LD50 orl rat :	<i>potassium chloride</i> listed 2600 mg/kg	CAS No.: 7447-40-7
Chemical: TSCA Inventory:	<i>chemicals/mixture until 1%</i> all listed, <1%	CAS No.: -
Chemical: TSCA Inventory: ACGIH: Exposure Routes: Target Organs: Symptoms: liver damage; anemia; reproductive, teratogenic Canada CEPA 1999: LD50 orl rat : LC_Low ihl gpg : LC_Low orl hmn : LC50 ihl mus : LC50 ihl rat : LD50 orl mus :	<i>ethanol</i> listed 1000 ppm inhalation, ingestion, skin and/or eye contact Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; DSL yes 6200 mg/kg 21,900 mg/L 1400 mg/kg 123,4 mg/L/4H 115,9-133,8 mg/L/4H 3450 mg/kg	CAS No.: 64-17-5 California Prop. 65 List: not listed
Chemical: TSCA Inventory: LD50 orl rat :	<i>potassium chloride</i> listed 2600 mg/kg	CAS No.: 7447-40-7



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Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.: -
TSCA Inventory:	all listed, <1%	
Chemical:	<i>ethanol</i>	CAS No.: 64-17-5
TSCA Inventory:	listed	California Prop. 65 List: not listed
ACGIH:	1000 ppm	
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system	
Symptoms:	irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic	
Canada CEPA 1999:	DSL yes	
LD50 orl rat :	6200 mg/kg	
LC <sub>50</sub> ihl gpg :	21,900 mg/L	
LC <sub>50</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	
<b>60 mL TE-EF</b>		
Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.: -
TSCA Inventory:	all listed, <1%	
<b>750 mL RES-EF</b>		
Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.: -
TSCA Inventory:	all listed, <1%	
<b>750 mL NEU-EF</b>		
Chemical:	<i>acetate buffer solution</i>	CAS No.: -
TSCA Inventory:	all listed	
<b>750 mL LYS-EF</b>		
Chemical:	<i>sodium hydroxide solution</i>	CAS No.: 1310-73-2
TSCA Inventory:	listed	California Prop. 65 List: not listed
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system	
Symptoms:	-	
LD50 orl rat :	[< 1%] > 50000 mg/kg	
LD50 orl mus :	[< 1%] > 4000 mg/kg	
Chemical:	<i>dodecyl sulfate, sodium salt</i>	CAS No.: 151-21-3
TSCA Inventory:	listed	California Prop. 65 List: not listed
Canada CEPA 1999:	DSL yes	
LD50 orl rat :	1288 mg/kg	
LC50 ihl rat :	3,900 mg/L/1H	
<b>60 mL H<sub>2</sub> O-EF</b>		
Chemical:	<i>water</i>	CAS No.: 7732-18-5
TSCA Inventory:	listed	
LD50 orl rat :	> 90000 mg/kg	
<b>35 mL H<sub>2</sub> O-EF (for 70% ethanol)</b>		
Chemical:	<i>water</i>	CAS No.: 7732-18-5
TSCA Inventory:	listed	
LD50 orl rat :	> 90000 mg/kg	

### 11.2 Other Hazards

#### Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

#### Other Information

no additional data available



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### SECTION 12: Ecological Information

#### 12.1 Toxicity

Following information is valid for pure chemicals.

##### 0.6-100 mg RNase A (lyo)

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

##### 900 mL ELU-EF

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

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

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

PNEC (fresh water) : 140.9 mg/L

PNEC = Predicted No Effect Concentration

LC50 fish/96h : 1400 mg/L

EC50 daphnia/48h : 13.3 g/L

LC50 *scenedesmus quadricauda*/72h : >1000 mg/L

EC10 *pseudomonas putida*/16h : EC5: 1050 mg/L

Partition Coefficient (o/w) : 0,05

##### 1000 mL ENDO-EF

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

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

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

PNEC (fresh water) : 0.96 mg/L

PNEC = Predicted No Effect Concentration

LC50 *daphnia magna*/48h : >100 g/L

LC50 *pimephales promelas*/96h : 13.4-15.1 g/L

LC50 *leuciscus idus*/96h : [48h] 8.14 g/L

LC50 fish/96h : 13 g/L

EC50 *daphnia*/48h : 9.3-14.2 g/L

LC50 *scenedesmus quadricauda*/72h : [7d] 5000 mg/L

EC10 *pseudomonas putida*/16h : [EC5] 6500 mg/L

Partition Coefficient (o/w) : -0,31

Chemical: *Triton® X-114* CAS No.: 9036-19-5

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).

##### 1000 mL EQU-EF

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

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

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

PNEC (fresh water) : 0.96 mg/L

PNEC = Predicted No Effect Concentration

LC50 *daphnia magna*/48h : >100 g/L

LC50 *pimephales promelas*/96h : 13.4-15.1 g/L

LC50 *leuciscus idus*/96h : [48h] 8.14 g/L

LC50 fish/96h : 13 g/L

EC50 *daphnia*/48h : 9.3-14.2 g/L

LC50 *scenedesmus quadricauda*/72h : [7d] 5000 mg/L

EC10 *pseudomonas putida*/16h : [EC5] 6500 mg/L

Partition Coefficient (o/w) : -0,31

Chemical: *Triton® X-114* CAS No.: 9036-19-5

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).

##### 600 mL FIL-EF



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

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

### 1000 mL WASH-EF

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

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

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

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

### 500 mL WASH-EF

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

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

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

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

### 60 mL TE-EF

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

### 750 mL RES-EF

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

### 750 mL NEU-EF

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

### 750 mL LYS-EF

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

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

Chemical: *dodecyl sulfate, sodium salt* CAS No.: 151-21-3

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

### 60 mL H<sub>2</sub>O-EF

Chemical: *water* CAS No.: 7732-18-5

### 35 mL H<sub>2</sub>O-EF (for 70% ethanol)

Chemical: *water* CAS No.: 7732-18-5





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### 12.2 Persistence and Degradability

not necessary

### 12.3 Bioaccumulative Potential

not necessary

### 12.4 Mobility in Soil

not necessary

### 12.5 Results of PBT and vPvB Assessment

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

### 12.6 Endocrine disrupting properties

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

### 12.7 Other Adverse Effects

no additional data available

## SECTION 13: Disposal Considerations

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

### 13.1 Waste Treatment Methods

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

## SECTION 14: Transport Information

<b>14.1. UN/NA:</b> 1993	<b>14.2. Proper Shipping Name:</b> Flammable liquid, n.o.s. (2-propanol, ethanol mixture)
<b>14.3. Hazard Class:</b> 3	<b>14.4. Packing Group:</b> III
<i>Transportation by Road</i>	
Classification code: F1	
Limited Quantity: 5 L	Tunnel restriction code: D/E
Excepted Quantity: E 1	Special instructions: 640E
<i>Air Transportation</i>	
Limited Quantity: LQ 7	
Excepted Quantity: E 1	
PAX: 355	max. weight PAX: 60 L
CAO: 366	max. weight CAO: 220 L
<i>Maritime Transport</i>	
EmS: F-E, S-E	Storage Category: A

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

Not applicable.

## SECTION 15: Regulatory Information

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

#### U.S. Federal Regulations

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

#### U.S. State Regulations

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

#### Canada



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

MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)

### 15.2 Chemical Safety Assessment not necessary for these small amounts

## SECTION 16: Other Information

### 16.1 Changes compared to the last version

Between versions 2.4.2.7 and 2.2.2.2 following changes were applied: - 2 product component data corrected - 5 substance data corrected

### 16.2 List of Hazard and Precaution Phrases

#### 16.2.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with long lasting effects.

#### 16.2.2 List of relevant P Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261sh	Avoid breathing dust/vapors.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### 16.3 Recommended Restriction on Use

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

### 16.4 Sources of Key Data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021  
Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres  
SUVA .CH, limit values in the air at work 2009, revised on 01/2009  
Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)  
Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG  
TRGS 907, German technical rules for listing substances and causes of sensitization, updated November 2011 Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)  
Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)  
Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)  
  
Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)  
Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)  
Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)  
TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019  
Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)  
Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG  
Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)  
Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)  
Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

#### revisions/updates

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



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



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Repr: harmful to reproduction  
 Resp: respiratory  
 scu: sub cutan  
 RIP: REACH Implementations Projects  
 SDS: safety data sheet  
 Sens: sensitisation  
 STEL: short term exposure limit  
 STOT: Specific Target Organ Toxicity  
 SVHC: Substance of Very High Concern  
 t/a: tons per year  
 TCCA: Toxic Chemicals Control Act (S. Korea)  
 Tox: toxic  
 TSCA: The Toxic Substances Control Act (US)  
 TWA: time weighted average  
 TRGS: technical regulations (DE)  
 vPvB: very persistent, very bioaccumulating substance

### 16.7 Training Advice

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



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