# Safety Data Sheet

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



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

### 1.1 Product identifier

REF 740130.10
Product name NucleoSpin RNA Stool (10)

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 6 mL NucleoZOL
1 x 200 U rDNase, RNase free (lyo)
1 x 7 mL Reaction Buffer for rDNase
1 x 10 mL RST1
1 x 13 mL RST2
1 x 6 mL RST3
1 x 10 mL RST4
1 x 6 mL RST5
10 x Bead Tubes Type A
1 x 13 mL RNase-free $H_2O$

### 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
Valencienner 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 GHS06 GHS07 GHS08

Signal word DANGER



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| Hazard identification | Hazard classes/categories |
|---|---|
| H225 | Flam. Liq. 2 |
| H226 | Flam. Liq. 3 |
| H301 | Acute Tox. 3 oral |
| H302 | Acute Tox. 4 oral |
| H311 | Acute Tox. 3 derm. |
| H314 | Skin Corr. 1B |
| H319 | Eye Irrit. 2 |
| H331 | Acute Tox. 3 inh. |
| H334 | Resp. Sens. 1 |
| H335 | STOT SE 3 |
| H341 | Muta. 2 |
| H351 | Carc. 2 |
| H373 | STOT RE 2 |
| H412 | Aquatic Chronic 3 |

### 2.1 Classification of the substance or mixture

**6 mL NucleoZOL**

GHS05 GHS06 GHS07 GHS08

Signal word DANGER

| Hazard identification | Hazard classes/categories |
|---|---|
| H301 | Acute Tox. 3 oral |
| H302 | Acute Tox. 4 oral |
| H311 | Acute Tox. 3 derm. |
| H314 | Skin Corr. 1B |
| H331 | Acute Tox. 3 inh. |
| H341 | Muta. 2 |
| H373 | STOT RE 2 |
| H412 | Aquatic Chronic 3 |

**200 U rDNase, RNase free (lyo)**

GHS08

Signal word DANGER

| Hazard identification | Hazard classes/categories |
|---|---|
| H334 | Resp. Sens. 1 |

**7 mL Reaction Buffer for rDNase**

Do not need labelling as hazardous

Signal word -

No hazard class

**10 mL RST1**

Do not need labelling as hazardous

Signal word -

No hazard class



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**13 mL RST2**

GHS02 GHS07 GHS08

Signal word DANGER

| Hazard identification | Hazard classes/categories |
|---|---|
| H225 | Flam. Liq. 2 |
| H319 | Eye Irrit. 2 |
| H335 | STOT SE 3 |
| H351 | Carc. 2 |

**6 mL RST3**

GHS02 GHS07

Signal word WARNING

| Hazard identification | Hazard classes/categories |
|---|---|
| H226 | Flam. Liq. 3 |
| H302 | Acute Tox. 4 oral |

**10 mL RST4**

GHS02

Signal word WARNING

| Hazard identification | Hazard classes/categories |
|---|---|
| H226 | Flam. Liq. 3 |

**6 mL RST5**

Do not need labelling as hazardous

Signal word -

No hazard class

**Bead Tubes Type A**

Do not need labelling as hazardous

Signal word -

No hazard class

**13 mL RNase-free $H_2O$**

Do not need labelling as hazardous

Signal word -

No hazard class



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### 2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances.

#### 6 mL NucleoZOL

GHS05 GHS06 GHS07 GHS08

Signal word: DANGER

H301, H311, H314, H331, H341, H412
Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. Suspected of causing genetic defects. Harmful to aquatic life with long lasting effects.

P201, P260sh, P280sh, P301+310, P303+361+353, P305+351+338, P405
Obtain special instructions before use. Do not breathe dust/vapours. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up.

#### 200 U rDNase, RNase free (lyo)

GHS08

Signal word: DANGER

H334
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P342+311
Avoid breathing dust/vapours. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

#### 7 mL Reaction Buffer for rDNase

Do not need labelling as hazardous
Signal word: -

#### 10 mL RST1

Do not need labelling as hazardous
Signal word: -

#### 13 mL RST2

GHS02 GHS07 GHS08

Signal word: DANGER

H351
Suspected of causing cancer.

P201, P280sh
Obtain special instructions before use. Wear protective gloves/eye protection.



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### 6 mL RST3

GHS02 GHS07

Signal word: WARNING

### 10 mL RST4

GHS02

Signal word: WARNING

### 6 mL RST5

Do not need labelling as hazardous
Signal word: -

### Bead Tubes Type A

Do not need labelling as hazardous
Signal word: -

### 13 mL RNase-free $H_2O$

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.). ---

**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 severe after oral intake, inhalation of vapours, skin contact, impairments of health or can lead to death even when only ingested in small quantities. Cause after oral intake, inhalation of vapours/dust, impairments of health when ingested in small quantities.
Kit contains small amounts of enzymes: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. -

**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**
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# SECTION 3: Composition/information on ingredients

## 3.1 Substances or 3.2 Mixtures

**6 mL NucleoZOL**



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Chemical: *phenol* CAS No.: 108-95-2
Classification: H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H314, Skin Corr. 1B, H331, Acute Tox. 3 inh., H341, Muta. 2, H373, STOT RE 2
Formula: $C_6H_6O$; $C_6H_5$-OH
Pseudonym: carbolic acid, hydroxybenzene, phenyl alcohol, phenyl hydroxide
TSCA Inventory: listed
REACH Reg. No.: 01-2119471329-32-xxxx
EC No.: 203-632-7 Indice No.: 604-001-00-2
RTECS: SJ3325000 MFCD: -
KE No.: KE-28209, >5% Toxic 97-1-332
Concentration: 30 - <60 %
acc. CLP (GHS): H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H314, Skin Corr. 1B, H331, Acute Tox. 3 inh., H341, Muta. 2, H373, STOT RE 2

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1B, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3
Formula: $C_2H_6N_4S$
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

Chemical: *colour dye(s)* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <1%
Concentration: < 0.10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

**200 U rDNase, RNase free (lyo)**

Chemical: *rDNase* CAS No.: 9003-98-9
Classification: H334, Resp. Sens. 1
Formula: Enzyme Comm. No. 3.1.21.1, origin: cloned
Pseudonym: Nuclease, deoxyribo-
TSCA Inventory: listed
EC No.: 232-667-0
RTECS: RF0750000
KE No.: KE-09612
Concentration: 90 - <100 %
acc. CLP (GHS): H334, Resp. Sens. 1

**7 mL Reaction Buffer for rDNase**

Chemical: *chemicals/mixture < 2%* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <2%
KE No.: listed
Concentration: 1 - <2 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

**10 mL RST1**

Chemical: *chemicals/mixture < 2%* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <2%
KE No.: listed
Concentration: 1 - <2 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

**13 mL RST2**



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Chemical: *1,4-dioxane* CAS No.: 123-91-1
Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H335, STOT SE 3, H351, Carc. 2
Formula: $C_4 H_8 O_2$
Pseudonym: diethylene dioxide; diethylene ether; p-dioxane
TSCA Inventory: listed
REACH Reg. No.: 01-2119462837-26-0001
EC No.: 204-661-8 Indice No.: 603-024-00-5
RTECS: JG8225000 MFCD: 00006571
KE No.: KE-10463
Concentration: 90 - <100 %
acc. CLP (GHS): H225, Flam. Liq. 2, H319, Eye Irrit. 2, H335, STOT SE 3, H351, Carc. 2

**6 mL RST3**

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: $CH_6 ClN_3$
Pseudonym: guanidinium chloride
TSCA Inventory: listed
REACH Reg. No.: 01-2119977063-35-0005
EC No.: 200-002-3 Indice No.: 607-148-00-0
RTECS: MF4300000 MFCD: 00013026
KE No.: KE-18111
Concentration: 24 - <36 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

Chemical: *ethanol* CAS No.: 64-17-5
(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: 35 - <55 %
acc. CLP (GHS): H226, Flam. Liq. 3

**10 mL RST4**

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: $C_2 H_6 N_4 S$
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: 5 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *ethanol* CAS No.: 64-17-5
(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: 35 - <55 %
acc. CLP (GHS): H226, Flam. Liq. 3



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**6 mL RST5**

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.

**Bead Tubes Type A**

Chemical: *Ceramic particles* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: not applicable
Concentration: 95 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

**13 mL RNase-free $H_2O$**

Chemical: *water* CAS No.: 7732-18-5
Classification: No criteria for classification or naming of chemical not required.
Formula: $H_2O$
TSCA Inventory: listed
REACH Reg. No.: exempt, Annex IV
EC No.: 231-791-2
RTECS: ZC0110000
KE No.: KE-35400
Concentration: 90 - <100 %
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. 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 vapours**

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

**4.1.4 After ORAL Intake**

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

### 4.2 Most important symptoms and effects, both acute and delayed

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.
CMR Effects: Suspected of causing genetic defects. Suspected of causing cancer. ---

### 4.3 Indication of any immediate medical attention and special treatment needed

CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTREES ensure that the patient inhales oxygen.



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TOXIFICATION: Treat symptomatically. Secure the breathing, heart and circulatory function. Remove the substance quickly from the body. Mechanically induce vomiting or ensure the patient eats medicinal charcoal compressed tablets or drinks aluminium oxide drug suspensions. In order to ensure rapid passage through the colon (administer 2 tablespoons of dissolved Glauber's salt). Alleviation of pain, if necessary sedation. Shock treatment. Administer a prophylaxis to counter pulmonary oedema.
Inform patient respectively further measures and the possibility of long-term damages. ---

## 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. DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---

### 5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.
For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

### 5.4 Additional information

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

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

### 6.2 Environmental precautions

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

see information in section 5.4 ---

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage. Products containing also toxic substances should be kept locked up.

| | |
|---|---|
| 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, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place, so that they are not immediately accessible to outside parties. Use inbreakable container for transport of glass bottles.

### 7.3 Specific end use(s)

Product for analytical use.



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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**6 mL NucleoZOL**

Chemical: *phenol* CAS No.: 108-95-2

PNEC(fresh water) : 0.0077 mg/L
PNEC = Predicted No Effected Concentration

EU value: 2 ppm / 7.8 mg/m³
TRGS 900 (DE): 2 mL/m³ / 8 mg/m³
E/e respirable

Short-term exposure factor: =1=, H
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 5 ppm / 19 mg/m³
SUVA(CH) BAT value: Krea U/b 250 mg/g
TRGS 903 (DE): U/b $120_{Kreatinin}$ mg/g
B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: [skin]TWA 5 ppm / 19 mg/m³ ; C 15.6 ppm / $60_{15min}$ mg/m³
NIOSH STEL: 15.6 ppm / $60_{15\ min}$ 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: [skin] TWA 5 ppm / 19 mg/m³

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

DNEL: [inh] 1092 µg/m³
DNEL = Derived No-Effect Level (for workers)

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

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

OSHA: not listed

Chemical: *colour dye(s)* CAS No.: -

**200 U rDNase, RNase free (lyo)**

Chemical: *rDNase* CAS No.: 9003-98-9

**7 mL Reaction Buffer for rDNase**

Chemical: *chemicals/mixture < 2%* CAS No.: -

**10 mL RST1**

Chemical: *chemicals/mixture < 2%* CAS No.: -

**13 mL RST2**

Chemical: *1,4-dioxane* CAS No.: 123-91-1

DNEL: 73 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water) : 10 mg/L
PNEC = Predicted No Effected Concentration

EU value: 20 ppm / 73 mg/m³
TRGS 900 (DE): 20 ppm / 73 mg/m³
E/e respirable

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

SUVA(CH) MAK value: 20 ppm / 72 mg/m³
TRGS 903 (DE): 2-Hydroxyethoxyessigsäure U/b Kreatinin 400 mg/g
B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: Occupational Carcinogen List Yes; $TWA_{30min}$ 1 ppm / 3.6 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: [skin] TWA 100 ppm / 360 mg/m³

**6 mL RST3**

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water) : -
PNEC = Predicted No Effected Concentration

NIOSH: not listed



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

OSHA: not listed

Chemical: *ethanol* CAS No.: 64-17-5
DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : 0.96 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 200 mL/m³ / 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: [TWA] 1000 ppm / 1900 mg/m³

**10 mL RST4**
Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
DNEL: [inh] 1092 µg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : 42.4 µg/L
PNEC = Predicted No Effected Concentration
NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: not listed

Chemical: *ethanol* CAS No.: 64-17-5
DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : 0.96 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 200 mL/m³ / 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: [TWA] 1000 ppm / 1900 mg/m³

**6 mL RST5**
Chemical: *chemicals/mixture < 1%* CAS No.: -

**Bead Tubes Type A**
Chemical: *Ceramic particles* CAS No.: -

**13 mL RNase-free $H_2O$**
Chemical: *water* 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 protection filter, class A/AX. 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**



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Recommended to avoid clothing damage, and to avoid contamination with these hazards.

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

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**6 mL NucleoZOL**

| | | |
|---|---|---|
| Appearance: liquid | Colour: blue | Odor: aromatic |
| Vapour pressure (20°C): | >0.46$_{25°C}$ hPa | |
| Oxidising properties: | | |

**200 U rDNase, RNase free (lyo)**

| | | |
|---|---|---|
| Appearance: solid (lyoph.) | Colour: white | Odor: odorless |

**7 mL Reaction Buffer for rDNase**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: odorless |
| pH: | 6.5-7.5 | |
| Specific gravity: | 1.01 g/cm³ | |

**10 mL RST1**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: odorless |
| pH: | 7.5-8.5 | |
| Specific gravity: | 1.02 g/cm³ | |

**13 mL RST2**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: odorless |
| Odor limit: | 10-620 mg/m³ | |
| pH: | 6-8 | |
| Melting point: | 12 °C | |
| Boiling point: | 101.5 °C | |
| Flash point: | 11 °C | |
| Evaporation rate$_{(ether=1)}$ : | 7,3 | |
| Explosion limits: | 1.9-22.5 Vol% | |
| Vapour pressure (20°C): | 41 hPa | |
| Vapour density$_{(air=1)}$ : | 3,04 | |
| Specific gravity: | 1.01-1.03 g/cm³ | |
| Solubility in water: | < 2 % | |
| Flashing temperature: | 375 °C | |
| Volatiles by volume: | 149 g/m³ | |

**6 mL RST3**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: alcoholic |
| pH: | 5-7 | |
| Flash point: | 26 °C | |
| Specific gravity: | 1.0 g/cm³ | |

**10 mL RST4**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: alcoholic |
| pH: | 6.5 - 7.5 | |
| Flash point: | 23 °C | |

**6 mL RST5**

| | | |
|---|---|---|
| Appearance: liquid | Colour: colourless | Odor: odorless |
| pH: | 7-8 | |
| Specific gravity: | 1.00 g/cm³ | |

**Bead Tubes Type A**

| | | |
|---|---|---|
| Appearance: solid | Colour: white | Odor: odorless |



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Particle size: 0.6-0.8 mm

**13 mL RNase-free $H_2O$**

Appearance: liquid | Colour: colourless | Odor: odorless
pH: 6-8
Specific gravity: 1.0 g/cm³

### 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**
Substances are very volantile and form flammable vapour-air mixtures. ---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no further data available.

### 10.2 Chemical stability

No known instability.

### 10.3 Possibility of hazardous reactions

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

#### 6 mL NucleoZOL

Chemical: *phenol* CAS No.: 108-95-2
TSCA Inventory: listed
ACGIH: 19 ppm
Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, liver, kidneys
Symptoms: irritation eyes, nose, throat; anorexia, weight loss; lassitude (weakness, exhaustion), muscle ache, pain; dark urine; cyanosis; liver, kidney damage
Japan CSCL/PRTR: Deleterious substance, PRTR: ≥1,0% class I, Japan PDSCL: Deleterious substance
Japan ISHL: listed ≥0,1%/≥0,1%,
Korea Exist.Chem.Inventory: KE-28209, >5% Toxic 97-1-332
$LD50_{orl\ rat}$ : 317 mg/kg
$LC\_Low_{orl\ hmn}$ : 140 mg/kg
$LC50_{inh\ rat}$ : 316 mg/m³
$LD50_{drm\ rat}$ : 669 mg/kg
$LD50_{orl\ mus}$ : 270 mg/kg
Acute Effects: Cause severe after oral intake, inhalation of vapours, skin contact, impairments of health or can lead to death even when only ingested in small quantities.
Chronic Effects: May cause damage to organs through prolonged or repeated exposure.
Carcinogenic Effects: Suspected of causing genetic defects.
EU carcinogen: Germ Cell Mutagenicity cat. 2
TRGS 905 (DE): M 3

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



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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.

Chemical: *colour dye(s)* CAS No.: -
TSCA Inventory: all listed, <1%

### 200 U rDNase, RNase free (lyo)

Chemical: *rDNase* CAS No.: 9003-98-9
TSCA Inventory: listed
Japan CSCL/PRTR: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-09612
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.

### 7 mL Reaction Buffer for rDNase

Chemical: *chemicals/mixture < 2%* CAS No.: -
TSCA Inventory: all listed, <2%
Korea Exist.Chem.Inventory: listed

### 10 mL RST1

Chemical: *chemicals/mixture < 2%* CAS No.: -
TSCA Inventory: all listed, <2%
Korea Exist.Chem.Inventory: listed

### 13 mL RST2

Chemical: *1,4-dioxane* CAS No.: 123-91-1
TSCA Inventory: listed California Proposition 65 List: listed cancer
Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, liver, kidneys; [in animals: lung, liver & nasal cavity tumors]
Symptoms: irritation eyes, skin, nose, throat; drowsiness, headache; nausea, vomiting; liver damage; kidney failure; [potential occupational carcinogen]
Australia NICNAS: Yes (PEC/7) Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: PAC Yes, PRTR - Class I Designated Chemical SubstanceYes, Japan PDSCL: PRTR: ≥1,0% class I
Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-1+2 (Labelling&SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-10463
$LD50_{orl\ rat}$ : 5150 mg/kg
$LC50_{ihl\ rat}$ : [LC0, 60min] 155 mg/L
Acute Effects: Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities.
Carcinogenic Effects: Suspected of causing cancer.
EU carcinogen: Carcinogenicity cat. 2
TRGS 905 (DE): K4, $R_F$ C

### 6 mL RST3

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
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: KE-18111
$LD50_{orl\ rat}$ : 475-907 mg/kg
$LC50_{ihl\ rat}$ : [4h] 3181-7655 µg/m³
$LD50_{drm\ rbt}$ : 2000 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.



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Chemical: *ethanol* CAS No.: 64-17-5
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥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
$LC\_Low_{ihl\ gpg}$ : 21.9 g/m³
$LC\_Low_{orl\ hmn}$ : 1400 mg/kg
$LC50_{ihl\ mouse}$ : [4h] 39 g/m³
$LC50_{ihl\ rat}$ : [10h] 20 g/m³
$LD50_{drm\ rbt}$ : 20 000 mg/kg
$LD50_{oral\ mouse}$ : 3450 mg/kg

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

### 10 mL RST4

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

Chemical: *ethanol* CAS No.: 64-17-5
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥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
$LC\_Low_{ihl\ gpg}$ : 21.9 g/m³
$LC\_Low_{orl\ hmn}$ : 1400 mg/kg
$LC50_{ihl\ mouse}$ : [4h] 39 g/m³
$LC50_{ihl\ rat}$ : [10h] 20 g/m³
$LD50_{drm\ rbt}$ : 20 000 mg/kg
$LD50_{oral\ mouse}$ : 3450 mg/kg

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

### 6 mL RST5

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



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### Bead Tubes Type A

Chemical: *Ceramic particles* CAS No.: -
TSCA Inventory: not applicable

### 13 mL RNase-free $H_2O$

Chemical: *water* CAS No.: 7732-18-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400

## SECTION 12: Ecological information

### 12.1 Toxicity

**Following information is valid for pure substances.**

**6 mL NucleoZOL**

Chemical: *phenol* CAS No.: 108-95-2
Avoid contact of substance/mixture to environment.
$PNEC_{(fresh\ water)}$ : 0.0077 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$ : $EC10_{16d}$ : 0,46 mg/L
$LC50_{fish/96h}$ : 8.9 mg/L
$EC50_{daphnia/48h}$ : 4.24-10.7/ 10.2-15.5 mg/L
$EC50_{pseudokirchneriella\ subcapitata/72h}$ : $EC50_{96h}$ : 46.42 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$ : EC50: 187-279 mg/L
Water hazard class (DE): 2 WGK No.: 0170
Dispersion coefficient$_{(octanol-water)}$ : 1.47
Storage class (VCI): 6.1 A

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
$EC10_{pseudomonas\ putita/16h}$ : [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient$_{(octanol-water)}$ : [pH 5.1] -1.11
Storage class (VCI): 12

Chemical: *colour dye(s)* CAS No.: -

**200 U rDNase, RNase free (lyo)**

Chemical: *rDNase* CAS No.: 9003-98-9
Water hazard class (DE): 1 WGK No.: n.n.
Storage class (VCI): 13

**7 mL Reaction Buffer for rDNase**

Chemical: *chemicals/mixture < 2%* CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

**10 mL RST1**

Chemical: *chemicals/mixture < 2%* CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

**13 mL RST2**

Chemical: *1,4-dioxane* CAS No.: 123-91-1
$PNEC_{(fresh\ water)}$ : 10 mg/L
PNEC = Predicted No Effected Concentration
Bio Toxicity: 1/2.1/2.6



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$LC50_{fish/96h}$ : [21d] 100 mg/L
$EC50_{daphnia/48h}$ : 1 g/L
$IC50_{scenedesmus\ quadricauda/72h}$ : [72h] 1 g/L
Water hazard class (DE): 2 WGK No.: 0086
$Dispersion\ coefficient_{(octanol\text{-}water)}$ : -0.42
Storage class (VCI): 3

**6 mL RST3**

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
$PNEC_{(fresh\ water)}$ : -
PNEC = Predicted No Effected Concentration
$LC50_{leuciscus\ idus/96h}$ : 1759 mg/L
$LC50_{fish/96h}$ : [4d] 690-1850; [48h] 1758-2420 mg/L
$EC50_{daphnia/48h}$ : 70.2 mg/L
$EC10_{pseudomonas\ putita/16h}$ : [72h] 11.8-33.5 mg/L
Water hazard class (DE): 1 WGK No.: 0788
Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
$PNEC_{(fresh\ water)}$ : 0.96 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$ : >100 mg/L
$LC50_{pimephales\ promelas/96h}$ : 13400 - 15100 mg/L
$LC50_{leuciscus\ idus/96h}$ : [48h] 8140 mg/L
$LC50_{fish/96h}$ : 13 g/L
$EC50_{daphnia/48h}$ : 9.3-14.2 g/L
$IC50_{scenedesmus\ quadricauda/72h}$ : [7d] 5000 mg/L
$EC10_{pseudomonas\ putita/16h}$ : [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
$Dispersion\ coefficient_{(octanol\text{-}water)}$ : -0.31
Storage class (VCI): 3

**10 mL RST4**

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
$PNEC_{(fresh\ water)}$ : 42.4 µg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$ : [4d] 89.1 mg/L
$EC50_{daphnia/48h}$ : 42.4 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$ : 130 mg/L
$EC10_{pseudomonas\ putita/16h}$ : [10d] 200 mg/L
Water hazard class (DE): 3
$Dispersion\ coefficient_{(octanol\text{-}water)}$ : [pH 5.1] -1.11
Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
$PNEC_{(fresh\ water)}$ : 0.96 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$ : >100 mg/L
$LC50_{pimephales\ promelas/96h}$ : 13400 - 15100 mg/L
$LC50_{leuciscus\ idus/96h}$ : [48h] 8140 mg/L
$LC50_{fish/96h}$ : 13 g/L
$EC50_{daphnia/48h}$ : 9.3-14.2 g/L
$IC50_{scenedesmus\ quadricauda/72h}$ : [7d] 5000 mg/L
$EC10_{pseudomonas\ putita/16h}$ : [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
$Dispersion\ coefficient_{(octanol\text{-}water)}$ : -0.31
Storage class (VCI): 3

**6 mL RST5**

Chemical: *chemicals/mixture < 1%* CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

**Bead Tubes Type A**



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Chemical: *Ceramic particles* CAS No.: -
Storage class (VCI): 12-13

**13 mL RNase-free $H_2O$**
Chemical: *water* CAS No.: 7732-18-5

### 12.2 Persistence and degradability
not necessary

### 12.3 Bioaccumulative potential
not necessary

### 12.4 Mobility in soil
not necessary

### 12.5 Results of PBT and vPvB assessment
no data available

### 12.6 Other adverse effects
no additional data available

## SECTION 13: Disposal considerations

Do not collect in acidic waste. May form toxic gases.
Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06). Close container tightly.

### 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.
Dispose of contents/container to regulated waste treatment.

## SECTION 14: Transport information

**14.1 UN number: 1992 14.2 UN proper shipping name: Flammable liquid, toxic, n.o.s. (phenol, 1,4-dioxane, ethanol solution)**
**14.3 Class: 3** Additionally class: **6.1 _14.4 Packing group: II**

| | | | |
|---|---|---|---|
| *Road transport* | | | |
| Classification code: | FT1 | | |
| Limited Quantity: | 1 L | Tunnel restriction code: | E |
| Excepted Quantity: | E 2 | Special instructions: | 274 |
| *Air transport* | | | |
| PAX: | 352 | max. weight PAX: | 1 L |
| CAO: | 364 | max. weight CAO: | 60 L |
| *Maritime transport* | | | |
| EmS: | F-E, S-D | Storage category: | B |

### 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.



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### 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**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H341 | Suspected of causing genetic defects. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H412 | Harmful to aquatic life with long lasting effects. |

**16.1.2 List of relevant P phrases**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P260sh | Do not breathe dust/vapours. |
| P261sh | Avoid breathing dust/vapours. |
| P264W | Wash with water thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280sh | Wear protective gloves/eye protection. |
| P301+310 | IF SWALLOWED: Immediately call a POISON CENTER/ doctor. |
| P301+312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. |
| P302+352 | IF ON SKIN: Wash with plenty of water. |
| P303+361+353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P304+340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| 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. |
| P311 | Call a POISON CENTER/doctor. |
| P312 | Call a POISON CENTER/doctor if you feel unwell. |
| P330 | Rinse mouth. |
| P342+311 | If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |
| P403+233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

### 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.

### 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
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
Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
TRGS 905, German engineering rules governing carcinogens and mutagens, updated 03/18
TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

**Revisions/Updates**

*Reason for Revision:* *2016-03 Adaptation of regulation 1221/2015/EU*
*2017-08 Adaption of new ethanol denaturation 2016/1867/EU*
*2017-11 Adaption of ECHA Registration dossier*



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