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

1.1 Product identifier

<table>
<thead>
<tr>
<th>REF</th>
<th>740770.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>NucleoSpin Plant II (50)</td>
</tr>
</tbody>
</table>

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.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses
Product for analytical use.

Uses advised against
not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY
Tel.: +49 2421 969 0
E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

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

Signal word
DANGER

Hazard identification
Hazard classes/categories

H226 Flam. Liq. 3
H302 Acute Tox. 4 oral
H319 Eye Irrit. 2
H334 Resp. Sens. 1
H336, H335 STOT SE 3

2.1 Classification of the substance or mixture

30 mL PC
## Hazard identification

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Hazard classes/categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS02</td>
<td>Flam. Liq. 3</td>
</tr>
<tr>
<td>GHS07</td>
<td>Acute Tox. 4 oral</td>
</tr>
</tbody>
</table>

### 13 mL PE

- **Signal word**: WARNING
- **No hazard class**

### 25 mL PL1

- **Signal word**: No need labelling as hazardous
- **No hazard class**

### 20 mL PL2

- **Signal word**: No need labelling as hazardous
- **No hazard class**

### 10 mL PL3

- **Signal word**: No need labelling as hazardous
- **No hazard class**

### 30 mL PW1

- **Signal word**: WARNING

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Hazard classes/categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS02</td>
<td>Flam. Liq. 3</td>
</tr>
<tr>
<td>GHS07</td>
<td>Acute Tox. 4 oral</td>
</tr>
</tbody>
</table>

### 25 mL PW2

- **Signal word**: No need labelling as hazardous
- **No hazard class**
0.6-20 mg RNase A (lyo)

GHS08

Signal word: DANGER

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

2.2 Label elements

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

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

The irritant hazard should be eliminated, because of buffer chemicals inside.

30 mL PC

GHS02 GHS07

Signal word: WARNING

13 mL PE

Do not need labelling as hazardous

Signal word: -

25 mL PL1

Do not need labelling as hazardous

Signal word: -

20 mL PL2

Do not need labelling as hazardous

Signal word: -

10 mL PL3

Do not need labelling as hazardous

Signal word: -

30 mL PW1

GHS02 GHS07

Signal word: WARNING

25 mL PW2

Do not need labelling as hazardous

Signal word: -
0.6-20 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/vapours. 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. ---

Information pertaining to particular risks to human and possible symptoms
Cause after oral intake, 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. -

Information pertaining to particular risks to the environment

PBT: not applicable
vPvB: not applicable

Other hazards
---

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

30 mL PC

Chemical: guanidine hydrochloride
Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: CH₆ClN₃
Pseudonym: guanidinium chloride
TSCA Inventory: listed
REACH Reg. No.: 01-2119977063-35-005
EC No.: 200-002-3
RTECS: MF4300000
KE No.: KE-18111
Concentration: 24 - <36 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

Chemical: ethanol (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)
Classification: H225, Flam. Liq. 2
Formula: C₂H₆O; C₂H₅OH
Pseudonym: ethyl alcohol, methylated spirit
TSCA Inventory: listed
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
RTECS: KQ6300000
KE No.: KE-13217
Concentration: 35 - <55 %
acc. CLP (GHS): H226, Flam. Liq. 3

13 mL PE
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

Chemical: chemicals/mixture < 1%
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.

25 mL PL1
Chemical: sodium chloride
Classification: No criteria for classification or naming of chemical not required.
Formula: NaCl
Pseudonym: salt
TSCA Inventory: exempt, Annex V
EC No.: 231-598-3
RTECS: VZ4725000
KE No.: KE-31387
Concentration: 5 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: dodecyl sulfate, sodium salt
Classification: H228, Flam. Sol. 1, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H332, Acute Tox. 4 inh., H335, STOT SE 3, H412, Aquatic Chronic 3
Formula: C12H25NaO4S
Pseudonym: sodium lauryl sulfate, sulfuric acid monododecyl ester sodium salt
TSCA Inventory: listed
REACH Reg. No.: 01-2119489461-32-xxxx
EC No.: 205-788-1
RTECS: WT1050000
KE No.: KE-21884
Concentration: 1 - <2.5 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: sodium chloride
Classification: No criteria for classification or naming of chemical not required.
Formula: NaCl
Pseudonym: salt
TSCA Inventory: listed
REACH Reg. No.: exempt, Annex V
EC No.: 231-598-3
RTECS: VZ4725000
KE No.: KE-31387
Concentration: 1 - <5 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: acetate buffer solution
Classification: No criteria for classification or naming of chemical not required.
Formula: CH3COOH/K/Na•H2O
TSCA Inventory: all listed
KE No.: listed
Concentration: 45 - <60 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: chemicals/mixture < 2%
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.
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. Take to a doctor, in a raised position if there are breathing difficulties.

4.1.1 After SKIN Contact
Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

4.1.2 After EYE Contact
After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of vapoers
After inhalation of foam or vapour 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 should be drunk after it has been ingested. ---

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. ---

4.3 Indication of any immediate medical attention and special treatment needed
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. Formation of hazardous and caustic vapour-air mixtures possible. ---

5.3 Advice for firefighters
No, for listed product. Product package burns like paper or plastic.

5.4 Additional information
---

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Do not breathe vapours. 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

6.3 Methods and material for containment and cleaning up
Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections
---

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for safe storage, including any incompatibilities
The original product package of MACHEFREY-NAGEL allows a safe storage.
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

30 mL PC
Chemical: guanidine hydrochloride
CAS No.: 50-01-1
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water) -

DNEL: [inh] 3.5 mg/m³

PNEC = Predicted No Effect Concentration

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

OSHA: not listed

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

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
PNEC = Predicted No Effect 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

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

25 mL PL1
Chemical: sodium chloride  CAS No.: 7647-14-5

20 mL PL2
Chemical: dodecyl sulfate, sodium salt  CAS No.: 151-21-3

Chemical: sodium chloride  CAS No.: 7647-14-5

10 mL PL3
Chemical: acetate buffer solution  CAS No.: -

30 mL PW1
Chemical: guanidine hydrochloride  CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m³
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 ppm / 500 mg/m³

E/e respirable

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

SUVA(CH) MAK value: [Aceton B/b, U/b] 25 mg/L

TRGS 903 (DE): [B] blood, [U] urine, a no limitation, b end of exposition or shift

NIOSH STEL: [TWA] 400 ppm / 980 mg/m³

OSHA: [TWA] 400 ppm / 980 mg/m³
8.2 Exposure controls

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.

8.2.4 Skin protection
Recommended to avoid contamination with these hazards.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Volume</th>
<th>Type</th>
<th>Appearance</th>
<th>Colour</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 mL</td>
<td>PC</td>
<td>liquid</td>
<td>yellow</td>
<td>alcoholic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 5-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flash point: 23 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.01 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 mL</td>
<td>PE</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 8-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.0 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 mL</td>
<td>PL1</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 7.5-8.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.06 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 mL</td>
<td>PL2</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 7.5-8.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.03 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 mL</td>
<td>PL3</td>
<td>liquid</td>
<td>colourless</td>
<td>acetic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 5-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.19 g/cm³</td>
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</tr>
<tr>
<td>30 mL</td>
<td>PW1</td>
<td>liquid</td>
<td>colourless</td>
<td>alcoholic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 7-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flash point: 25 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific gravity: 1.06 g/cm³</td>
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<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

REF: 740770.50
Printing date: 14.02.2020

NucleoSpin Plant II (50)
Date of issue: 23.01.2020

Version: M V 4.12.0

25 mL PW2
Appearance: liquid
pH: 7-8
Specific gravity: 1.00 g/cm³

0.6-20 mg RNase A (lyo)
Appearance: solid (lyoph.)
Solubility in water: 0-100 %

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

Relevant Properties of Substance Group

SECTION 10: Stability and reactivity

10.1 Reactivity
no further data available.

10.2 Chemical stability
No known instability.

10.3 Possibility of hazardous reactions
Note: Can form very reactive substances with oxidizing agents.

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.

30 mL PC

Chemical: guanidine hydrochloride
CAS No.: 50-01-1
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: listed Canada CEPA 1999: DSL yes
Japan CScI/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/orl rat : [4h] 3181-7655 µg/m³
LD50/drm rat : 2000 mg/kg

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

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 CScI/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0.1%/≥0.1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD50/orl rat : 6200 mg/kg
LC50/orl gpg : 21.9 g/m³

LD50/orl rat : 6200 mg/kg
LC50/orl gpg : 21.9 g/m³

LD50/orl rat : 6200 mg/kg
LC50/orl gpg : 21.9 g/m³

LC50/orl gpg : 21.9 g/m³
LC_Low orl hmn : 1400 mg/kg
LC50 inh mouse : [4h] 39 g/m³
LC50 inh rat : [10h] 20 g/m³
LD50 orl rat : 20 000 mg/kg
LD50 orl mouse : 3450 mg/kg
TRGS 905 (DE): K5, M5, Rf C

13 ml PE
Chemical: chemicals/mixture < 1%
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

25 ml PL1
Chemical: sodium chloride
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31387
LD50 orl rat : 3000 mg/kg
LD50 orl rat : 10 g/kg

20 ml PL2
Chemical: dodecyl sulfate, sodium salt
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-21884
LD50 orl rat : 1288 mg/kg
LC50 inh rat : 3900 mg/m³
LD50 orl rat : 10 g/kg

Chemical: sodium chloride
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31387
LD50 orl rat : 3000 mg/kg
LD50 orl rat : 10 g/kg

Chemical: chemicals/mixture < 2%
TSCA Inventory: all listed, <2%
Korea Exist.Chem.Inventory: listed

10 ml PL3
Chemical: acetate buffer solution
TSCA Inventory: all listed
Korea Exist.Chem.Inventory: listed

30 ml PW1
Chemical: guanidine hydrochloride
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 inh rat : [4h] 3181-7655 µg/m³
LD50 orl rat : 2000 mg/kg

TSCA Inventory: listed
Australia NICNAS: not listed
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-18111
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

<table>
<thead>
<tr>
<th>Chemical: 2-propanol</th>
<th>CAS No.: 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Inventory:</td>
<td>listed</td>
</tr>
<tr>
<td>ACGIH: 1230 ppm</td>
<td></td>
</tr>
<tr>
<td>Exposure Routes:</td>
<td>inhalation, ingestion, skin and/or eye contact</td>
</tr>
<tr>
<td>Target Organs:</td>
<td>Eyes, skin, respiratory system</td>
</tr>
<tr>
<td>Symptoms:</td>
<td>irritation eyes, nose, throat; dry cracking skin; in animals: narcosis</td>
</tr>
<tr>
<td>Australia NICNAS:</td>
<td>California CEPA 1999: DSL yes</td>
</tr>
<tr>
<td>Japan CSCL/PRTR:</td>
<td>PAC yes. Japan PDSCL: -</td>
</tr>
<tr>
<td>Japan ISHL:</td>
<td>listed ≥1%, ≥0.1%, Article 57-2 (SDS required)</td>
</tr>
<tr>
<td>South Korea TCCA:</td>
<td>KE-29363</td>
</tr>
<tr>
<td>Korea Exist.Chem.Inventory:</td>
<td>KE-29363</td>
</tr>
<tr>
<td>LD50oral rat: 5045 mg/kg</td>
<td></td>
</tr>
<tr>
<td>LC50oral hmn: 3570 mg/kg</td>
<td></td>
</tr>
<tr>
<td>LC50inhalation: 18Bq/gm³</td>
<td></td>
</tr>
<tr>
<td>LD50inhalation: 12.8 g/kg</td>
<td></td>
</tr>
<tr>
<td>TRGS 905 (DE): Rf C</td>
<td></td>
</tr>
</tbody>
</table>

25 mL PW2

<table>
<thead>
<tr>
<th>Chemical: chemicals/mixture &lt; 1%</th>
<th>CAS No.: -</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Inventory:</td>
<td>all listed, &lt;1%</td>
</tr>
<tr>
<td>Korea Exist.Chem.Inventory:</td>
<td>listed</td>
</tr>
</tbody>
</table>

0.6-20 mg RNase A (lyo)

<table>
<thead>
<tr>
<th>Chemical: RNase</th>
<th>CAS No.: 9001-99-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Inventory:</td>
<td>listed</td>
</tr>
<tr>
<td>Japan CSCL/PRTR:</td>
<td>not listed</td>
</tr>
<tr>
<td>Japan ISHL:</td>
<td>not listed</td>
</tr>
<tr>
<td>Korea Exist.Chem.Inventory:</td>
<td>KE-30341</td>
</tr>
<tr>
<td>LD50intraperitonaleal rat: 392 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

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.

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

30 mL PC

<table>
<thead>
<tr>
<th>Chemical: guanidine hydrochloride</th>
<th>CAS No.: 50-01-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC(fresh water): - PNEC = Predicted No Effected Concentration</td>
<td></td>
</tr>
<tr>
<td>LC50leuciscus idus/96h: 1759 mg/L</td>
<td></td>
</tr>
<tr>
<td>LC50fish/96h: [4d] 690-1850; [48h] 1758-2420 mg/L</td>
<td></td>
</tr>
<tr>
<td>EC50daphnia/48h: 70.2 mg/L</td>
<td></td>
</tr>
<tr>
<td>EC10pseudomonas putita/16h: [72h] 11.8-33.5 mg/L</td>
<td></td>
</tr>
<tr>
<td>Water hazard class (DE): 1 WGK No.: 0788</td>
<td></td>
</tr>
<tr>
<td>Storage class (VCI): 12</td>
<td></td>
</tr>
<tr>
<td>Chemical: ethanol</td>
<td>CAS No.: 64-17-5</td>
</tr>
<tr>
<td>PNEC(fresh water): 0.96 mg/L</td>
<td></td>
</tr>
<tr>
<td>PNEC = Predicted No Effected Concentration</td>
<td></td>
</tr>
<tr>
<td>LC50daphnia magna/48h: &gt;100 mg/L</td>
<td></td>
</tr>
<tr>
<td>LC50pimephales promelas/96h: 13400 - 15100 mg/L</td>
<td></td>
</tr>
<tr>
<td>LC50leuciscus idus/96h: [48h] 8140 mg/L</td>
<td></td>
</tr>
<tr>
<td>LC50fish/96h: 13 g/L</td>
<td></td>
</tr>
<tr>
<td>EC50daphnia/48h: 9.3-14.2 g/L</td>
<td></td>
</tr>
<tr>
<td>IC50scenedesmus quadricauda/72h: [7d] 5000 mg/L</td>
<td></td>
</tr>
<tr>
<td>EC10pseudomonas putita/16h: [EC5] 6500 mg/L</td>
<td></td>
</tr>
<tr>
<td>Water hazard class (DE): 1 WGK No.: 0096</td>
<td></td>
</tr>
<tr>
<td>Dispersion coefficient(Octanol-water): -0.31</td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

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Storage class (VCI): 3

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

25 mL PL1
Chemical: sodium chloride CAS No.: 7647-14-5
Water hazard class (DE): 1
Storage class (VCI): 12-13

20 mL PL2
Chemical: dodecyl sulfate, sodium salt CAS No.: 151-21-3
LC50daphnia magna/48h: 6.3 mg/L
LC50fish/96h: 1.31-22.5 mg/L
Water hazard class (DE): 2
Dispersion coefficient_{octanol-water}: 1.6
Storage class (VCI): 12-13
Chemical: sodium chloride CAS No.: 7647-14-5
Water hazard class (DE): 1
Storage class (VCI): 12-13
Chemical: chemicals/mixture < 2% CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

10 mL PL3
Chemical: acetate buffer solution CAS No.: -
Storage class (VCI): 12

30 mL PW1
Chemical: guanidine hydrochloride CAS No.: 50-01-1
PNEC(fresh water): -
PNEC = Predicted No Effected Concentration
LC50leuciscus idus/96h: 1759 mg/L
LC50fish/96h: [4d] 690-1850; [48h] 1758-2420 mg/L
EC50daphnia/48h: 70.2 mg/L
EC10 pseudomonas putit/a/16h: [72h] 11.8-33.5 mg/L
Water hazard class (DE): 1 WGK No.: 0788
Storage class (VCI): 12
Chemical: 2-propanol CAS No.: 67-63-0
PNEC(fresh water): 140.9 mg/L
PNEC = Predicted No Effected Concentration
LC50fish/96h: 1400 mg/L
EC50daphnia/48h: 13.3 g/L
IC50 coccon dabicaud/a/72h: >1000 mg/L
EC10 pseudomonas putit/a/16h: EC5: 1050 mg/L
Water hazard class (DE): 1 WGK No.: 0135
Dispersion coefficient_{octanol-water}: 0.05
Storage class (VCI): 3

25 mL PW2
Chemical: chemicals/mixture < 1% CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

0.6-20 mg RNase A (lyo)
Chemical: RNase CAS No.: 9001-99-4
Water hazard class (DE): 1
Storage class (VCI): 13

www.mn-net.com
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
Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods
Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport information

14.1 UN number: 1993
14.2 UN proper shipping name: Flammable liquid, n.o.s. (ethanol, 2-propanol mixture)
14.3 Class: 3
14.4 Packing group: III

Road transport
Classification code: F1
Limited Quantity: 5 L
Tunnel restriction code: E

Air transport
Exceptional Quantity: E 1
Special instructions: 640E

Maritime transport
EmS: F-E, S-E
Storage category: A

14.5 Environmental hazards
none, contains only small quantities of hazardous substances

14.6 Special precautions for user
not necessary

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

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC
TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011
MN Leaflet/User manual, also see www.mn-net.com
Look for your country-specific regulations.

15.2 Chemical safety assessment
not necessary for these small amounts ---
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according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

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SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336 May cause drowsiness or dizziness.

16.1.2 List of relevant P phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260D Do not breathe vapours.
P261sh Avoid breathing dust/vapours.
P264W Wash with water thoroughly after handling.
P280sh Wear protective gloves/eye protection.
P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330 Rinse mouth.
P342+311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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 use.
Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 J ArbSchG)!
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
MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.
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16.5 Sources of key data
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
TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011
KÜHN, BIRETT Merkblätter Gefährliche Arzneistoffe (Data Sheets of Hazardous Substances)

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