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

1.1 Product identifier

REF 744400.1
Product name NucleoMag Plant (1x96)

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 3 mL C-Beads
1 x 60 mL MC1
1 x 50 mL MC2
1 x 75 mL MC3
1 x 75 mL MC4
1 x 125 mL MC5
1 x 30 mL MC6
1 x 0.6-20 mg RNase A (lyo)

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 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H336	STOT SE 3

2.1 Classification of the substance or mixture

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DE / international: Tel.: +49 24 21 969-0 Fax: +49 24 21 969-199 E-mail: info@mn-net.com
CH: Tel.: +41 62 388 55 00 Fax: +41 62 388 55 05 E-mail: sales-ch@mn-net.com
FR: Tel.: +33 388 68 22 68 Fax: +33 388 51 76 88 E-mail: sales-fr@mn-net.com
US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

MACHEREY-NAGEL ISO 9001 CERTIFIED
Version: M V 4.12.0

3 mL C-Beads

Do not need labelling as hazardous

Signal word -

No hazard class

60 mL MC1

Do not need labelling as hazardous

Signal word -

No hazard class

50 mL MC2

GHS02 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3

75 mL MC3

GHS02 GHS07

Signal word WARNING

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

75 mL MC4

GHS02 GHS07

Signal word WARNING

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

125 mL MC5

Do not need labelling as hazardous

Signal word -

No hazard class

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30 mL MC6

Do not need labelling as hazardous

Signal word -

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 **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.

3 mL C-Beads

Do not need labelling as hazardous
Signal word: -

60 mL MC1

Do not need labelling as hazardous
Signal word: -

50 mL MC2

GHS02 GHS07

Signal word: DANGER

75 mL MC3

GHS02 GHS07

Signal word: WARNING

75 mL MC4

GHS02 GHS07

Signal word: WARNING

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125 mL MC5

Do not need labelling as hazardous
Signal word: -

30 mL MC6

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

3 mL C-Beads
Chemical: *magnetic particles, suspended in water* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: listed (CAS 1309-38-2)
Concentration: 1 - <15 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

60 mL MC1
Chemical: *sodium chloride* CAS No.: 7647-14-5
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: 5 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

50 mL MC2

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Chemical: *2-propanol* CAS No.: 67-63-0
Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
Formula: $C_3 H_8 O$
Pseudonym: isopropanol, IPA, propan-2-ol
TSCA Inventory: listed
REACH Reg. No.: 01-2119457558-25-XXXX
EC No.: 200-661-7 Indice No.: 603-117-00-0
RTECS: NT8050000 MFCD: 00011674
KE No.: KE-29363
Concentration: 95 - <100 %
acc. CLP (GHS): H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3

75 mL MC3

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: 20 - <35 %
acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
Formula: $NaClO_4$
TSCA Inventory: listed
REACH Reg. No.: 01-2119540521-50-xxxx
EC No.: 231-511-9 Indice No.: 017-010-00-6
RTECS: SC9800000 MFCD: -
KE No.: KE-31569
Concentration: 15 - <40 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

75 mL MC4

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: 20 - <35 %
acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
Classification: H271, Ox. Sol. 1, H302, Acute Tox. 4 oral
Formula: $NaClO_4$
TSCA Inventory: listed
REACH Reg. No.: 01-2119540521-50-xxxx
EC No.: 231-511-9 Indice No.: 017-010-00-6
RTECS: SC9800000 MFCD: -
KE No.: KE-31569
Concentration: 15 - <40 %
acc. CLP (GHS): H302, Acute Tox. 4 oral

125 mL MC5

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

30 mL MC6

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.

0.6-20 mg RNase A (lyo)

Chemical: *RNase* CAS No.: 9001-99-4
Classification: H334, Resp. Sens. 1
Formula: Enzyme Comm. No. 3.1.27.5,origin: bovine pancreas (controlled population)
Pseudonym: Nuclease, ribo-
TSCA Inventory: listed
EC No.: 232-646-6
RTECS: RF0760000
KE No.: KE-30341
Concentration: 90 - <100 %
acc. CLP (GHS): H334, Resp. Sens. 1

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 vapours

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. ---

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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.

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 MACHEREY-NAGEL allows a safe storage.

Storage class (VCI):	3
Water hazard class (DE):	1

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

3 mL C-Beads
Chemical: *magnetic particles, suspended in water* CAS No.: -

60 mL MC1
Chemical: *sodium chloride* CAS No.: 7647-14-5

50 mL MC2
Chemical: *2-propanol* CAS No.: 67-63-0
DNEL: [inh] 500 mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : 140.9 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 200 ppm / 500 mg/m³
E/e respirable
Short-term exposure factor: 2 (II), Y

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

SUVA(CH) MAK value: 200 ppm / 500 mg/m³
TRGS 903 (DE): [Aceton B/b, U/b] 25 mg/L
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: [TWA] 400 ppm / 980 mg/m³
NIOSH STEL: 500 ppm / 1225 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] 400 ppm / 980 mg/m³

75 mL MC3
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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
DNEL = Derived No-Effect Level (for workers)
TRGS 900 (DE): -
E/e respirable
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

75 mL MC4
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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
DNEL: [derm] 2.16 mg/kg bw/day; [inh] 0.28 mg/m³
DNEL = Derived No-Effect Level (for workers)
TRGS 900 (DE): -
E/e respirable
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

125 mL MC5
Chemical: *chemicals/mixture < 1%* CAS No.: -

30 mL MC6
Chemical: *chemicals/mixture < 1%* CAS No.: -

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0.6-20 mg RNase A (lyo)
Chemical: *RNase* CAS No.: 9001-99-4

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.

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

3 mL C-Beads

Appearance: liquid	Colour: colourless	Odor: odorless

60 mL MC1

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	7.5-8.5	
Specific gravity:	1.06 g/cm³	

50 mL MC2

Appearance: liquid	Colour: colourless	Odor: alcoholic
Melting point:	-90 °C	
Boiling point:	82 °C	
Flash point:	12 °C	
Explosion limits:	2-12.7 Vol%	
Vapour pressure (20°C):	43 hPa	
Vapour density$_{(air=1)}$:	2.08	
Specific gravity:	0.78 g/cm³	
Solubility in water:	0-100 %	
Flashing temperature:	425 °C	
Volatiles by volume:	106 g/m³	

75 mL MC3

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH:	4.5-5.5	
Boiling point:	83,6 °C	
Flash point:	26 °C	
Specific gravity:	1.06 g/cm³	

75 mL MC4

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH:	4.5-5.5	
Boiling point:	83,6 °C	
Flash point:	26 °C	
Specific gravity:	1.06 g/cm³	

125 mL MC5

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Appearance: liquid | Colour: colourless | Odor: odorless
pH: 8-9
Specific gravity: 1.0 g/cm³

30 mL MC6
Appearance: liquid | Colour: colourless | Odor: odorless
pH: 8-9
Specific gravity: 1.0 g/cm³

0.6-20 mg RNase A (lyo)
Appearance: solid (lyoph.) | Colour: colourless | Odor: odorless
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
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

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.

3 mL C-Beads
Chemical: *magnetic particles, suspended in water* | CAS No.: -
TSCA Inventory: listed (CAS 1309-38-2)

60 mL MC1
Chemical: *sodium chloride* | CAS No.: 7647-14-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31387
$LD50_{orl\ rat}$: 3000 mg/kg
$LD50_{drm\ rbt}$: 10 g/kg

50 mL MC2
Chemical: *2-propanol* | CAS No.: 67-63-0
TSCA Inventory: listed | California Proposition 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
Australia NICNAS: | Canada CEPA 1999: DSL yes

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US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

Japan CSCL/PRTR: PAC yes, Japan PDSCL: -
Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA:
Korea Exist.Chem.Inventory: KE-29363
$LD50_{orl\ rat}$: 5045 mg/kg
$LC\_Low_{orl\ hmn}$: 3570 mg/kg
$LC50_{ihl\ rat}$: 16_{4h} g/m³
$LD50_{drm\ rbt}$: 12.8 g/kg

TRGS 905 (DE): R_F C

75 mL MC3

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0
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: KE-31569
$LD50_{orl\ rat}$: 2100 mg/kg
$LD50_{ipr\ mus}$: 551 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

75 mL MC4

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

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Chemical: *sodium perchlorate* CAS No.: 7601-89-0
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: KE-31569
$LD50_{orl\ rat}$: 2100 mg/kg
$LD50_{ipr\ mus}$: 551 mg/kg
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

125 mL MC5

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

30 mL MC6

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

0.6-20 mg RNase A (lyo)

Chemical: *RNase* CAS No.: 9001-99-4
TSCA Inventory: listed
Japan CSCL/PRTR: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-30341
$LD50_{intraperitonaeal\ rat}$: 392 mg/kg
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.

3 mL C-Beads

Chemical: *magnetic particles, suspended in water* CAS No.: -
Storage class (VCI): 12

60 mL MC1

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

50 mL MC2

Chemical: *2-propanol* CAS No.: 67-63-0
$PNEC_{(fresh\ water)}$: 140.9 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: 1400 mg/L
$EC50_{daphnia/48h}$: 13.3 g/L
$IC50_{scenedesmus\ quadricauda/72h}$: >1000 mg/L
$EC10_{pseudomonas\ putita/16h}$: EC5: 1050 mg/L
Water hazard class (DE): 1 WGK No.: 0135
$Dispersion\ coefficient_{(octanol\text{-}water)}$: 0.05
Storage class (VCI): 3

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75 mL MC3

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

Water hazard class (DE):	1 WGK No.: 0382
Storage class (VCI):	12

75 mL MC4

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

Chemical: *sodium perchlorate* CAS No.: 7601-89-0

Water hazard class (DE):	1 WGK No.: 0382
Storage class (VCI):	12

125 mL MC5

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

Water hazard class (DE):	1
Storage class (VCI):	12-13

30 mL MC6

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

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

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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. (2-propanol, ethanol mixture)**
14.3 Class: 3 **14.4 Packing group: II**

Road transport			
Classification code:	F1		
Limited Quantity:	1 L	Tunnel restriction code:	E
Excepted Quantity:	E 2	Special instructions:	640C
Air transport			
PAX:	353	max. weight PAX:	5 L
CAO:	364	max. weight CAO:	60 L
Maritime transport			
EmS:	F-E, S-E	Storage category:	B

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 ---

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.
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.
P233	Keep container tightly closed.
P260D	Do not breathe vapours.

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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 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
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

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