

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 740955.240C
 Printing Date: 27.02.2020

NucleoSpin RNA (240)
 Date of Issue: 04.01.2019

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Section 1: Identification

1.1 Product Identifier / Product Name

REF	740955.240C
Product Name	NucleoSpin RNA (240)
-	1 x 30 mL Buffer for rDNase
	1 x 250 mL MDB
	1 x 250 mL RA1
	1 x 100 mL RA3
	5 x 1000 U rDNase Size F (Iyo)
	1 x 125 mL RNase-free H ₂ O

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

Relevant identified uses
 Product for Analytical Use.
 The Exposure scenario is integrated into sections 1-16.
Uses advised against
 not described

1.3 Details of the Supplier and of the Safety Data Sheet

Manufactured by:
 MACHEREY-NAGEL GmbH & Co. KG
 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

For Chemical Emergency
 Spill, Leak, Fire, Exposure, or Accident
 Call CHEMTREC Day or Night (CCN685047)
 Within USA and Canada: **1-800-424-9300**
 Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

You find our current versions of SDS (22 languages) in Internet: <http://www.mn-net.com/SDS>

Section 2: Hazard(s) Identification

2.0 Classification of the complete Product



GHS02 GHS07 GHS08

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H334	Resp. Sens. 1
H412	Aquatic Chronic 3

2.1 Classification of the Substance(s) or Mixture(s)

30 mL Buffer for rDNase

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

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250 mL MDB



GHS02

Signal Word: WARNING

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

250 mL RA1



GHS07

Signal Word: WARNING

Hazard Identification	Hazard Classes/Categories
H302	Acute Tox. 4 oral
H412	Aquatic Chronic 3

100 mL RA3

Signal Word: Do not need labelling as hazardous

No Hazard Class

1000 U rDNase Size F (Iyo)



GHS08

Signal Word: DANGER

Hazard Identification	Hazard Classes/Categories
H334	Resp. Sens. 1

125 mL RNase-free H₂O

Signal Word: Do not need labelling as hazardous

No Hazard Class

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

According to the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A. This labelling exemption is NOT valid for sensitizing substances.

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30 mL Buffer for rDNase

Do not need labelling as hazardous
Signal Word: -

250 mL MDB



GHS02

Signal Word: WARNING

H226
Flammable liquid and vapor.

P210
Keep away from heat/sparks/open flames/hot surfaces. No smoking.

250 mL RA1



GHS07

Signal Word: WARNING

H302, H412
Harmful if swallowed. Harmful to aquatic life with long lasting effects.

P264W, P273, P301+312, P330
Wash with water thoroughly after handling. Avoid release to the environment. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

100 mL RA3

Do not need labelling as hazardous
Signal Word: -

1000 U rDNase Size F (Iyo)



GHS08

Signal Word: DANGER

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

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

125 mL RNase-free H₂O

Do not need labelling as hazardous
Signal Word: -

2.3 Other Hazards

Possible Hazards from physicochemical Properties

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Flammable properties. Vapor forms explosive mixtures with air. 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. ---

Information pertaining to particular Risks to Human and possible Symptoms

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

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

Information pertaining to particular Risks to the Environment

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

PBT: not applicable

vPvB: not applicable

Other Hazards

Section 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

30 mL Buffer for rDNase

Chemical:	<i>chemicals/mixture < 2%</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical is not required.		
TSCA Inventory:	all listed, <2%		
Weight Percent:	1 - <2 %		
acc. GHS:	The criteria for classification are not fulfilled.		

250 mL MDB

Chemical:	<i>guanidinium thiocyanate</i>	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		
Chemical Formula:	C ₂ H ₆ N ₄ S		
Synonyms:	guanidine rhodanide		
TSCA Inventory:	listed		
RTECS:	XL1225000	MFCD:	00013027
EC No.:	209-812-1	Indice No.:	615-004-00-3
Weight Percent:	5 - <10 %		
acc. GHS:	The criteria for classification are not fulfilled.		

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

250 mL RA1

Chemical:	<i>guanidinium thiocyanate</i>	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		
Chemical Formula:	C ₂ H ₆ N ₄ S		
Synonyms:	guanidine rhodanide		
TSCA Inventory:	listed		
RTECS:	XL1225000	MFCD:	00013027
EC No.:	209-812-1	Indice No.:	615-004-00-3
Weight Percent:	45 - <60 %		
acc. GHS:	H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3		

100 mL RA3

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Chemical: <i>chemicals/mixture < 1%</i>	CAS No.: -
Classification: No criteria for classification or naming of chemical is not required.	
TSCA Inventory: all listed, <1%	
Weight Percent: 0,1 - <1 %	
acc. GHS: The criteria for classification are not fulfilled.	

1000 U rDNase Size F (Iyo)

Chemical: <i>rDNase</i>	CAS No.: 9003-98-9
Classification: H334, Resp. Sens. 1	
Chemical Formula: Enzyme Comm. No. 3.1.21.1,origin: cloned	
Synonyms: Nuclease, deoxyribo-	
TSCA Inventory: listed	
RTECS: RF0750000	
EC No.: 232-667-0	
Weight Percent: 90 - <100 %	
acc. GHS: H334, Resp. Sens. 1	

125 mL RNase-free H₂O

Chemical: <i>water</i>	CAS No.: 7732-18-5
Classification: No criteria for classification or naming of chemical is not required.	
Chemical Formula: H ₂ O	
TSCA Inventory: listed	
RTECS: ZC0110000	
EC No.: 231-791-2	
Weight Percent: 90 - <100 %	
acc. 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 Hazard and Precaution 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 Vapors

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

4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested.

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: Fire-Fighting Measures

5.1 Extinguishable 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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

5.2 Special Hazards arising from the Substance or Mixture

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

5.3 Advice for Firefighters

No, for listed product. The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting. Spray any vapors 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 Procedure

Do not breathe vapors. Wear suitable protective gloves (see 8.2.2). Keep product away from sources of ignition - No smoking. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Environmental Precautions

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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

see information in section 5.4 ---

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): 3

7.2.1 Conditions for Safe Storage, including any Incompatibilities

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 Buffer for rDNase

Chemical: *chemicals/mixture* < 2%

CAS No.: -

250 mL MDB

Chemical: *guanidinium thiocyanate*

DNEL: [inh] 1092 µg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 42.4 µg/L

PNEC = Predicted No Effect Concentration

NIOSH: not listed

CAS No.: 593-84-0

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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.: 64-17-5d

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 1000 ppm / 1900 mg/m³

250 mL RA1

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

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

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

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

OSHA: not listed

100 mL RA3

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

1000 U rDNase Size F (Iyo)

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

125 mL RNase-free H₂O

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

8.2.2 Hand Protection

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

8.2.3 Eye/Face Protection

Yes, Splash Goggles.

8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

8.2.5 Hygiene Measures

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

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

30 mL Buffer for rDNase

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	data not available	
d) pH:	6.5-7.5	
e) Melting Point:	data not available	
f) Boiling Point:	data not available	
g) Flash Point:	data not available	
h) Evaporation Rate _(ether=1) :	data not available	
i) Flammability (solid, gas):	data not available	
j) Explosive Limits:	data not available	

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- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: 1.01 g/cm³
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

250 mL MDB

- a) Appearance: liquid Color: colorless b) Odor: alcoholic
- c) Odor Threshold: data not available
- d) pH: 6.7-7.2
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: 55 °C
- h) Evaporation Rate_(ether=1): data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: 1.01 g/cm³
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

250 mL RA1

- a) Appearance: liquid Color: colorless b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: 6.5-7.5
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: data not available
- h) Evaporation Rate_(ether=1): data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: 1.13 g/cm³
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

100 mL RA3

- a) Appearance: liquid Color: colorless b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: 7-8
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: data not available
- h) Evaporation Rate_(ether=1): data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: 1.00 g/cm³
- n) Soluble in Water: data not available

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- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

1000 U rDNase Size F (lyo)

- a) Appearance: solid (lyoph.) Color: white
- b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: data not available
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: data not available
- h) Evaporation Rate_(ether=1): data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: data not available
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

125 mL RNase-free H₂O

- a) Appearance: liquid Color: colorless
- b) Odor: odorless
- c) Odor Threshold: data not available
- d) pH: 6-8
- e) Melting Point: data not available
- f) Boiling Point: data not available
- g) Flash Point: data not available
- h) Evaporation Rate_(ether=1): data not available
- i) Flammability (solid, gas): data not available
- j) Explosive Limits: data not available
- k) Vapor Pressure (68°F): data not available
- l) Vapor Density_(air=1): data not available
- m) Specific Gravity: 1.0 g/cm³
- n) Soluble in Water: data not available
- o) Partition Coefficient (o-w): data not available
- p) Autoignition Temperature: data not available
- q) Decomposition temperature: data not available
- r) Viscosity: data not available
- s) Explosive properties: data not available
- t) Oxidizing properties: ---

9.2 Other Information

Data for the other parameters of the mixtures are not available.

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

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But avoid reactions with oxidizing agents. Can form very reactive substances with oxidizing agents. Possibility: Contact with acids liberates toxic gas. No further data available.

10.4 Conditions to avoid

Not necessary. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

10.5 Incompatible Materials

Avoid contact with strong acids or alkalines. Avoid storage with oxidizing substances. ---

10.6 Hazardous Decomposition Products

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

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

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

30 mL Buffer for rDNase

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

250 mL MDB

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
TSCA Inventory: listed California Prop. 65 List: not listed
Canada CEPA 1999: DSL yes
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.: 64-17-5d
TSCA Inventory: listed California Prop. 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
liver damage; anemia; reproductive, teratogenic
Canada CEPA 1999: DSL yes
LD50_{orl rat}: 6200 mg/kg
LC_{LoWhl gpg}: 21.9 g/m³
LC_{LoWorl 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

250 mL RA1

Chemical: *guanidinium thiocyanate* CAS No.: 593-84-0
TSCA Inventory: listed California Prop. 65 List: not listed
Canada CEPA 1999: DSL yes
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.

100 mL RA3

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

1000 U rDNase Size F (Iyo)

Chemical: *rDNase* CAS No.: 9003-98-9
TSCA Inventory: listed
Acute Effects: Cause after impairments of health when ingested in small quantities.
Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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125 mL RNase-free H₂O

Chemical: *water*
 TSCA Inventory: listed

CAS No.: 7732-18-5

Section 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

30 mL Buffer for rDNase

Chemical: *chemicals/mixture < 2%*

CAS No.: -

250 mL MDB

Chemical: *guanidinium thiocyanate*
 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
 Partition Coefficient (o-w): [pH 5.1] -1.11

CAS No.: 593-84-0

Chemical: *ethanol*
 PNEC(fresh water) : 0.96 mg/L
 PNEC = Predicted No Effected Concentration
 LC50_{daphnia magna/48h} : >100 g/L
 LC50_{pimephales promelas/96h} : 13.4-15.1 g/L
 LC50_{leuciscus idus/96h} : [48h] 8.14 g/L
 LC50_{fish/96h} : 13 g/L
 EC50_{daphnia/48h} : 9.3-14.2 g/L
 IC50_{scenedesmus quadricauda/72h} : [7d] 5000 mg/L
 EC10_{pseudomonas putita/16h} : [EC5] 6500 mg/L
 Partition Coefficient (o-w): -0.31

CAS No.: 64-17-5d

250 mL RA1

Chemical: *guanidinium thiocyanate*
 Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.
 Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).
 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
 Partition Coefficient (o-w): [pH 5.1] -1.11

CAS No.: 593-84-0

100 mL RA3

Chemical: *chemicals/mixture < 1%*

CAS No.: -

1000 U rDNase Size F (Iyo)

Chemical: *rDNase*

CAS No.: 9003-98-9

125 mL RNase-free H₂O

Chemical: *water*

CAS No.: 7732-18-5

12.2 Persistence and Degradability

not necessary

12.3 Bioaccumulative Potential

not necessary

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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 (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

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

Section 14: Transport Information

14.1 - 14.4: No dangerous goods according the Transport regulations (Ethanol: ADR S1144/ IATA A58)

14.5 Environmental Hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special Precautions for User

not necessary

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

not applicable

Section 15: Regulatory Information

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

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

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

Canada

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

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

15.2 Chemical Safety Assessment

not necessary for these small amounts ---

Section 16: Other Information

16.1 List of Hazard and Precaution Phrases

16.1.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with long lasting effects.

16.1.2 List of relevant P Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261sh	Avoid breathing dust/vapors.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.

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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!

Look about employee restrictions for pregnant women and nursing women!

An individual package of this product or test kit has a moderate hazardous potential.

16.4 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

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC

SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets

EU-Directive 1999/92/EC Minimum Requirements for Improving the Safety and Health Protection of Workers at Risk from potentially Explosive Atmospheres

KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

Revisions/Updates

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

You find our current Versions of SDS in Internet:

<http://www.mn-net.com/SDS> [U.S. English]