

Safety Data Sheet

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

REF: 740902.250
Printing date: 15.11.2021

NucleoSpin RNA XS (250)
Date of issue: 08.11.2021

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

1.1 Product identifier

REF 740902.250
Product name NucleoSpin RNA XS (250)

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 0.09-1.0 mg Carrier RNA
1 x 50 mL MDB
1 x 125 mL RA1
2 x 15 mL RA2
1 x 50 mL RA3
1 x 30 mL Reaction Buffer for rDNase
2 x 107 mg TCEP
1 x 200 U, Size D, rDNase
1 x 13 mL RNase-free H₂O

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
Valenciennner 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

H226 Flam. Liq. 3
H302 Acute Tox. 4 oral
H315 Skin Irrit. 2
H319 Eye Irrit. 2
H334 Resp. Sens. 1
H412 Aquatic Chronic 3

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2.1 Classification of the substance or mixture

0.09-1.0 mg Carrier RNA

Signal word

Do not need labelling as hazardous

No hazard class

50 mL MDB



GHS02

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

125 mL RA1



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H302

Acute Tox. 4 oral

H412

Aquatic Chronic 3

15 mL RA2



GHS02



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H302

Acute Tox. 4 oral

H412

Aquatic Chronic 3

50 mL RA3

Signal word

Do not need labelling as hazardous

No hazard class

30 mL Reaction Buffer for rDNase

Signal word

Do not need labelling as hazardous

No hazard class

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107 mg TCEP



GHS07

Signal word

WARNING

Hazard identification

H315
H319

Hazard classes/categories

Skin Irrit. 2
Eye Irrit. 2

200 U, Size D, rDNase



GHS08

Signal word

DANGER

Hazard identification

H334

Hazard classes/categories

Resp. Sens. 1

13 mL RNase-free H₂O

Signal word

Do not need labelling as hazardous
-

No hazard class

2.2

Label elements

According **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 sensibilizing substances.

0.09-1.0 mg Carrier RNA

Do not need labelling as hazardous
Signal word: -

50 mL MDB



GHS02

Signal word: WARNING

125 mL RA1



GHS07

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Signal word: WARNING

H412
Harmful to aquatic life with long lasting effects.

15 mL RA2



GHS02



GHS07

Signal word: WARNING

H412
Harmful to aquatic life with long lasting effects.

50 mL RA3

Do not need labelling as hazardous
Signal word: -

30 mL Reaction Buffer for rDNase

Do not need labelling as hazardous
Signal word: -

107 mg TCEP



GHS07

Signal word: WARNING

200 U, Size D, rDNase



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.

13 mL RNase-free H₂O

Do not need labelling as hazardous
Signal word: -

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. 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

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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

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

0.09-1.0 mg Carrier RNA

Chemical:	<i>carrier RNA</i>	CAS No.:	26763-19-6
Classification:	No criteria for classification or naming of chemical not required.		
RTECS:	-	MFCD:	00131937
KE No.:	KE-30341		
Concentration:	90 - <100 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

50 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		
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:	<i>ethanol</i> (diluted < 20 %) (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)	CAS No.:	64-17-5d
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:	5 - <20 %		
acc. CLP (GHS):	H226, Flam. Liq. 3		

125 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		
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:	45 - <60 %		
acc. CLP (GHS):	H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3		

15 mL RA2

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Chemical: <i>guanidinium thiocyanate</i> 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 RTECS: XL1225000 KE No.: not listed Concentration: 30 - <45 % acc. CLP (GHS): H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3	CAS No.: 593-84-0 Indice No.: 615-004-00-3 MFCD: 00013027
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Chemical: <i>ethanol</i> (denatured with 1%IPA/1%MEK, acc.2016/1867/EU) Classification: H225, Flam. Liq. 2 Formula: C_2H_6O ; C_2H_5OH 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: 20 - <35 % acc. CLP (GHS): H226, Flam. Liq. 3	CAS No.: 64-17-5 Indice No.: 603-002-00-5 MFCD: 00003568
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50 mL RA3

Chemical: <i>chemicals/mixture < 1%</i> 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.	CAS No.: -
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30 mL Reaction Buffer for rDNase

Chemical: <i>chemicals/mixture < 2%</i> 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.	CAS No.: -
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107 mg TCEP

Chemical: <i>tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)</i> Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2 Formula: $C_9H_{16}ClO_6P$ Pseudonym: TCEP•HCl TSCA Inventory: LVE KE No.: not listed Concentration: 70 - <100 % acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2	CAS No.: 51805-45-9 MFCD: 00145469
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Chemical: <i>inorganic salts, declaration not necessary</i> Classification: No criteria for classification or naming of chemical not required. Pseudonym: not hazardous TSCA Inventory: all listed KE No.: listed Concentration: 25 - <50 % acc. CLP (GHS): The criteria for classification are not fulfilled.	CAS No.: -
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200 U, Size D, rDNase

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Chemical: *rDNase*
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

CAS No.: 9003-98-9

13 mL RNase-free H₂O

Chemical: *water*
Classification: No criteria for classification or naming of chemical not required.
Formula: H₂O
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.

CAS No.: 7732-18-5

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. ---

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. ---

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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, 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

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 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-6

50 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

[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

TRGS 900 (DE): 200 ppm / 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

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OSHA: 1000 ppm / 1900 mg/m³

125 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

15 mL RA2

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

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 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

50 mL RA3

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

30 mL Reaction Buffer for rDNase

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

107 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9

Chemical: *inorganic salts, declaration not necessary* CAS No.: -

200 U, Size D, rDNase

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

13 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 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.

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- 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

0.09-1.0 mg Carrier RNA
Appearance: solid (lyoph.)

Colour: colourless

Odor: odorless

50 mL MDB

Appearance: liquid
pH:
Flash point:
Specific gravity:

Colour: colourless
6.7-7.2
55 °C
1.01 g/cm³

Odor: alcoholic

125 mL RA1

Appearance: liquid
pH:
Specific gravity:

Colour: colourless
6.5-7.5
1.13 g/cm³

Odor: odorless

15 mL RA2

Appearance: liquid
pH:
Flash point:
Specific gravity:

Colour: colourless
7.0-7.5
28 °C
1.03 g/cm³

Odor: alcoholic

50 mL RA3

Appearance: liquid
pH:
Specific gravity:

Colour: colourless
7-8
1.00 g/cm³

Odor: odorless

30 mL Reaction Buffer for rDNase

Appearance: liquid
pH:
Specific gravity:

Colour: colourless
6.5-7.5
1.01 g/cm³

Odor: odorless

107 mg TCEP

Appearance: solid (lyoph.)
pH:

Colour: colourless
6.5-7

Odor: penetrative

200 U, Size D, rDNase

Appearance: solid (lyoph.)

Colour: white

Odor: odorless

13 mL RNase-free H₂O

Appearance: liquid
pH:
Specific gravity:

Colour: colourless
6-8
1.0 g/cm³

Odor: odorless

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

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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. 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.

0.09-1.0 mg Carrier RNA

Chemical:	carrier RNA	CAS No.:	26763-19-6
Japan CSCL/PRTR:	not listed, Japan PDSCL:	not listed	
Japan ISHL:	not listed		
Korea Exist.Chem.Inventory:	KE-30341		

50 mL MDB

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 _{oral} rat :	593 mg/kg		
LC50 _{drum} rbt :	>2000 mg/m ³		
LC50 _{inhal} rat :	[4h] 5.319 mg/L		
LD50 _{ipr} mus :	300 mg/kg		

Chemical:	ethanol	CAS No.:	64-17-5d
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 _{oral} rat :	6200 mg/kg		
LC _{LoW} ihl gpg :	21.9 g/m ³		
LC _{LoW} ihl hmn :	1400 mg/kg		
LC50 _{ihl} mouse :	[4h] 39 g/m ³		
LC50 _{ihl} rat :	[10h] 20 g/m ³		
LD50 _{drum} rbt :	20 000 mg/kg		
LD50 _{oral} mouse :	3450 mg/kg		

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

125 mL RA1

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_{oral rat}: 593 mg/kg
LC50_{drum 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.

15 mL RA2

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_{oral rat}: 593 mg/kg
LC50_{drum 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: *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_{oral rat}: 6200 mg/kg
LC_{Lowihl gpg}: 21.9 g/m³
LC_{Loworal hmn}: 1400 mg/kg
LC50_{ihl mouse}: [4h] 39 g/m³
LC50_{ihl rat}: [10h] 20 g/m³
LD50_{drum rbt}: 20 000 mg/kg
LD50_{oral mouse}: 3450 mg/kg

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

50 mL RA3

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

30 mL Reaction Buffer for rDNase

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

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107 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)*
TSCA Inventory: LVE
Korea Exist.Chem.Inventory: not listed
LD50_{orl rat}: 3500 mg/kg
LD50_{intraperitoneal rat}: 1024 mg/kg
LD50_{scu rat}: >3000 mg/kg

CAS No.: 51805-45-9

Chemical: *inorganic salts, declaration not necessary*
TSCA Inventory: all listed
Korea Exist.Chem.Inventory: listed

CAS No.: -

200 U, Size D, rDNase

Chemical: *rDNase*
TSCA Inventory: listed
Japan CSCL/PRTR: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-09612

CAS No.: 9003-98-9

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.

13 mL RNase-free H₂O

Chemical: *water*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400

CAS No.: 7732-18-5

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

0.09-1.0 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-6

50 mL MDB

Chemical: *guanidinium thiocyanate*
PNEC(fresh water): 42.4 µg/L
PNEC = Predicted No Effect 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 putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient(octanol-water): [pH 5.1] -1.11
Storage class (VCI): 12

CAS No.: 593-84-0

Chemical: *ethanol*
PNEC(fresh water): 0.96 mg/L
PNEC = Predicted No Effect Concentration
LC50_{daphnia magna/48h}: >100 g/L
LC50_{pimephales promelas/96h}: 13.4-15.1 g/L
LC50_{leuciscus idus/96h}: [48h] 8.14 g/L
LC50_{fish/96h}: 13 g/L
EC50_{daphnia/48h}: 9.3-14.2 g/L
IC50_{scenedesmus quadricauda/72h}: [7d] 5000 mg/L
EC10_{pseudomonas putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient(octanol-water): -0.31
Storage class (VCI): 3

CAS No.: 64-17-5d

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125 mL RA1

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 putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient_(octanol-water): [pH 5.1] -1.11
Storage class (VCI): 12

15 mL RA2

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 putida/16h}: [10d] 200 mg/L
Water hazard class (DE): 3
Dispersion coefficient_(octanol-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 putida/16h}: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion coefficient_(octanol-water): -0.31
Storage class (VCI): 3

50 mL RA3

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

30 mL Reaction Buffer for rDNase

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

107 mg TCEP

Chemical: *tris-(2-carboxyethyl)phosphine hydrochloride, TCEP(•HCl)* CAS No.: 51805-45-9
Storage class (VCI): 12-13

Chemical: *inorganic salts, declaration not necessary* CAS No.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

200 U, Size D, rDNase

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

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13 mL RNase-free H₂O

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).

13.1 Waste treatment methods

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

SECTION 14: Transport information

UN 1993 class 3 III, Excepted Quantities ($\leq 30 \text{ mL} / \sum \leq 1 \text{ L}$) = ADR/ IATA E1
or

14.1 UN number: 1993 14.2 UN proper shipping name: Flammable liquid, n.o.s. (ethanol mixture)

14.3 Class: 3 14.4 Packing group: III

Road transport

Classification code: F1

Limited Quantity: 5 L

Excepted Quantity: E 1

Tunnel restriction code: E

Special instructions: 640E

Air transport

PAX: 355

max. weight PAX: 60 L

CAO: 366

max. weight CAO: 220 L

Maritime transport

EmS: F-E, S-E

Storage category: A

14.5 Environmental hazards

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

14.6 Special precautions for user

not necessary

14.7 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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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.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with long lasting effects.

16.1.2 List of relevant P phrases

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

Regulation 849/2021/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

2017-11 Adaption of ECHA Registration dossier