

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

Edition: 08

SPEEDTOOLS RNA

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Date Updated: 02/03/23

VIRUS EXTRACTION KIT

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

1.1 Product identifier

REF 21.141 - 21.142
Product name SPEEDTOOLS RNA VIRUS EXTRACTION KIT

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 13 mL RNase-free H₂O
1 x 35 mL Buffer BAV1
1 x 30 mL Buffer BAW
1 x 12 mL Buffer BAV3
1 x 13 mL Buffer BRE
1 x 1 mg Carrier RNA

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

Biotoools B & M Labs, S.A.
Valle de Tobalina - 52 - Nave 39
28021 Madrid
SPAIN

Tel: +34 91 710 00 74
Fax: +34 91 505 31 18

1.4 Emergency telephone number

Please contact Biotoools distributor in your country. Spain only: 91 562 04 20

SECTION 2: Hazard identification

2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS02



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H412	Aquatic Chronic 3

2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

1 mg Carrier RNA

Do not need labelling as hazardous

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Signal word -

No hazard class

30 mL Buffer BAW



GHS02

GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2

35 mL Buffer BAV1



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H412	Aquatic Chronic 3

13 mL RNase-free H₂O

Signal word Do not need labelling as hazardous
-

No hazard class

12 mL Buffer BAV3

Signal word Do not need labelling as hazardous
-

No hazard class

13 mL Buffer BRE

Signal word Do not need labelling as hazardous
-

No hazard class

List of H phrases: see section 16.2

2.2 Label elements according regulation (EC) 1272/2008

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).

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1 mg Carrier RNA

Do not need labelling as hazardous

Signal word: -

30 mL Buffer BAW



GHS02



GHS07

Signal word: WARNING

35 mL Buffer BAV1



GHS07

Signal word: WARNING

13 mL RNase-free H₂O

Do not need labelling as hazardous

Signal word: -

12 mL Buffer BAV3

Do not need labelling as hazardous

Signal word: -

13 mL Buffer BRE

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS02



GHS07

Signal word: WARNING

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

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

Information pertaining to particular risks to the environment

Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

30 mL Buffer BAW

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Substance name: *guanidine hydrochloride*
CAS No.: 50-01-1
Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: CH_6N_3
Pseudonym (de): Guanidiniumchlorid
REACH Reg. No.: 01-2119977063-35-0005
EC No.: 200-002-3
Concentration: 24 - <36 %
acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2
Indice No.: 607-148-00-0

Substance name: *ethanol*
CAS No.: 64-17-5
(denatured with 1% 2-butanone)
Substance rating: H225, Flam. Liq. 2
Formula: $\text{C}_2\text{H}_6\text{O}$; $\text{C}_2\text{H}_5\text{OH}$
Pseudonym (de): Äthylalkohol, vergällter Spiritus
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
Concentration: 35 - <55 %
acc. CLP (GHS): H226, Flam. Liq. 3
Indice No.: 603-002-00-5

12 mL Buffer BAV3

Substance name: *chemicals/mixture until 1%*
CAS No.: -
Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

13 mL Buffer BRE

Substance name: *chemicals/mixture until 1%*
CAS No.: -
Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

35 mL Buffer BAV1

Substance name: *guanidinium thiocyanate*
CAS No.: 593-84-0
Substance rating: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1C, H332, Acute Tox. 4 inh., H412, Aquatic Chronic 3
Formula: $\text{C}_2\text{H}_6\text{N}_4\text{S}$
Pseudonym (de): Guanidiniumrhodanid
REACH Reg. No.: 01-2120735072-65-0001
EC No.: 209-812-1
Concentration: 45 - <60 %
acc. CLP (GHS): H302, Acute Tox. 4 oral, H412, Aquatic Chronic 3
Indice No.: 615-004-00-3

Substance name: *Triton® X-100*
CAS No.: 9002-93-1
Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 2
Formula: $\text{C}_{33}\text{H}_{60}\text{O}_{10,5}$
Pseudonym (de): Octylphenoxyethoxyethanol
SVHC listed: **listed (19/12/2012) Cand. Lst. REACH Art59(10)+Annex XIV No. 42 (-2023)**
Concentration: 0,25 - <2,5 %
acc. CLP (GHS): H412, Aquatic Chronic 3

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13 mL RNase-free H₂O

Substance name: *water*
CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical not required.
Formula: H₂O
REACH Reg. No.: exempt, Annex IV
EC No.: 231-791-2
Concentration: 90 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

1 mg Carrier RNA

Substance name: *carrier RNA*
CAS No.: 26763-19-9

Substance rating: No criteria for classification or naming of chemical not required.
Pseudonym (de): Polyadenylic acid, K salt
Concentration: 90 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%. List of H and P phrases: see section 16.2.

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.

- 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. ---
- 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

4.3 Indication of any immediate medical attention and special treatment needed

No additionally recommendations. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

- 5.1.1 **Suitable 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. 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.
- 5.1.2 **Unsuitable extinguishing media**
no data available

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5.2 Special hazards arising from the substance or mixture

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible.

5.3 Advice for firefighters

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

5.4 Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Regular staff training is necessary.

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.
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.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage is guaranteed in the original packaging . Storage class (German chemical industry): see chapter 12.1

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

30 mL Buffer BAW

Chemical: *guanidine hydrochloride*

CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): -
PNEC = Predicted No 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 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

12 mL Buffer BAV3

Chemical: *chemicals/mixture until 1%*

CAS No.: -

13 mL Buffer BRE

Chemical: *chemicals/mixture until 1%*

CAS No.: -

35 mL Buffer BAV1

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: *Triton® X-100*

CAS No.: 9002-93-1

13 mL RNase-free H₂O

Chemical: *water*

CAS No.: 7732-18-5

1 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-9

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

No additional recommendations.

8.2.2 Skin protection / 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 / Face Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

8.2.4 Skin protection

Not necessary.

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.

8.2.6 Thermal hazards

no data available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

30 mL Buffer BAW

a) State of aggregation:

liquid

b) Colour:

colourless

c) Odor:

alcoholic

d) Melting point:

no data available

e) Boiling point:

no data available

f) Flammability:

no data available

g) Explosive limits (lower / upper):

no data available

h) Flash point:

23 °C

i) Flashing temperature:

no data available

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j) Decomposition temperature:	no data available
k) pH value:	5-5.5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	0.98 g/cm ³
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

12 mL Buffer BAV3

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	7-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.00 g/cm ³
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

13 mL Buffer BRE

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	0 °C
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	8-9
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.0 g/cm ³
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

35 mL Buffer BAV1

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	7.0-7.5
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available

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VIRUS EXTRACTION KIT

n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.12 g/cm ³
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

13 mL RNase-free H₂O

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	6-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.0 g/cm ³
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

1 mg Carrier RNA

a) State of aggregation:	solid (lyophilized)
b) Colour:	colourless
c) Odor:	odorless
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

9.2 Other information

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.
Properties relevant to substance groups

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

no known instability.

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10.3 Possibility of hazardous reactions

Note: Can form very reactive substances with oxidizing agents. Possible: &H:EUH031& No further data available.

10.4 Conditions to avoid

10.5 Incompatible materials

no additional data available

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 the hazard classes according regulation (EC) 1272/2008

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

30 mL Buffer BAW

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-18111
LD50 orl rat : 475-907 mg/kg
LC50 ihl rat : 3181-7655 µg/m³/4H
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 orl rat : 6200 mg/kg
LC_{Low} ihl gpg : 21,900 mg/L
LC_{Low} orl hmn : 1400 mg/kg
LC50 ihl mus : 123,4 mg/L/4H
LC50 ihl rat : 115,9-133,8 mg/L/4H
LD50 orl mus : 3450 mg/kg
TRGS 905 (DE): K5, M5, R_F C

12 mL Buffer BAV3

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

13 mL Buffer BRE

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

35 mL Buffer BAV1

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

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Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: not listed
LD50 orl rat : 593 mg/kg
LC50 ihl rat : 5,319 mg/L/4H
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

Chemical: *Triton® X-100* CAS No.: 9002-93-1
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-33568
LD50 orl rat : 707-1800 mg/kg

13 mL RNase-free H₂O

Chemical: *water* CAS No.: 7732-18-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400
LD50 orl rat : > 90000 mg/kg

1 mg Carrier RNA

Chemical: *carrier RNA* CAS No.: 26763-19-9
Japan CSCL/PRTR: not listed, Japan PDSCCL: not listed
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-30341
LD50 orl rat : 11250 mg/kg
LD50 orl mus : 13791 mg/kg
LD50 scu rat : 1493 mg/kg

11.2 Other hazards

Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Other information

no additional data available

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

30 mL Buffer BAW

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1
PNEC (fresh water) : -
PNEC = Predicted No Effect Concentration
LC50 leuciscus idus/96h : 1759 mg/L
LC50 fish/96h : [4d] 690-1850; [48h] 1758-2420 mg/L
EC50 daphnia/48h : 70.2 mg/L
EC10 pseudomonas putita/16h : [72h] 11.8-33.5 mg/L
Water hazard class (DE): 1 WGK No.: 0788
Storage class (VCI): 12

Chemical: *ethanol* CAS No.: 64-17-5
PNEC (fresh water) : 0.96 mg/L
PNEC = Predicted No 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 putita/16h : [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096

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Dispersion coefficient (o/w) : -0,31
Storage class (VCI): 3

12 mL Buffer BAV3

Chemical: *chemicals/mixture until 1%*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS No.: -

13 mL Buffer BRE

Chemical: *chemicals/mixture until 1%*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS No.: -

35 mL Buffer BAV1

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 (o/w) : -1,11 pH 5.1
Storage class (VCI): 12

CAS No.: 593-84-0

Chemical: *Triton® X-100*
Water hazard class (DE): 1 WGK No.: n.n.
Storage class (VCI): 12-13

CAS No.: 9002-93-1

13 mL RNase-free H₂O

Chemical: *water*

CAS No.: 7732-18-5

1 mg Carrier RNA

Chemical: *carrier RNA*

CAS No.: 26763-19-9

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Endocrine disrupting properties

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 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).

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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** (≤ 30 mL/ $\Sigma \leq 1$ 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 ADR

Classification code: F1

Limited Quantity: 5 L

Excepted Quantity: E 1

Tunnel restriction code: D/E

Special instructions: 640E

Air transport ICAO

Limited Quantity: LQ 7

Excepted Quantity: E 1

PAX: 355

max. weight PAX: 60 L

CAO: 366

max. weight CAO: 220 L

Maritime transport IMDG

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

Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020

Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017

TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017

TRGS 220, National aspects when preparing safety data sheets, Jan 2017

TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017

BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012

MN leaflet/instructions for use, also at www.mn-net.com

If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.2.4.7 and 2.2.2.2 following changes were applied: - 2 composition data corrected - 5 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

16.2.2 List of relevant P phrases

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16.3 Recommended restriction on use

Only for professional user.

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

16.4 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

SUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)

Regulation 1221/2015/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progress (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)

Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019

Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)

Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)

Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary

2014-04 adjustment according Regulation 487/2013/EU

2016-03 adjustment according Regulation 1221/2015/EU

2017-08 adjustment according the Ordinance on Ethanol Denaturation 2016/1867/EU

2017-11 adjustment according the ECHA registration dossier

2022-11 adjustment according Regulation 878/2020/EU

16.5 Further information

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16.6 Legend / Abbreviations

acc:	according
ADR:	Convention concerning the International Carriage of Dangerous Goods by Road
Act:	acute
BAT:	biological workplace tolerance value
CAO:	Cargo Aircraft Only
Carc:	carcinogen
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging regulation
CMR:	carcinogen, mutagen, reproduction toxic
Corr:	corrosive
COD:	chemical oxygen demand
CSCL:	Chemical Substance Control Law (Jp)
Dam:	damage
DNEL:	Derived No-Effect Level (for workers)
derm:	dermal
dog:	dog
EC10:	Concentration causing a toxic effect in 10% of the test organisms
EC:	European Community
EC-Nr:	Substance number of the EC substance inventory
EmS:	Guide to accident management measures on ships
EU:	European Union
fish:	fish (not specified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig
ICAO:	International Civil Aviation Organization

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ihl:	inhaled
IMDG:	International Maritime Dangerous Goods Code
intrav:	intravenous
ipt:	intraperitoneal
ISHL:	Industrial Safety and Health Law (Jp)
LC50:	lethal concentration 50%
LD50:	lethal dose 50%
leuciscus idus:	fish, ide, orfe
MAK:	maximum workplace concentration
Met:	Metal
mus:	mouse
Muta:	mutagen
NIOSH:	National Institute for Occupational Safety and Health (US)
NRD:	Non-rapidly degradable
onchorhynchus mykiss:	fish, rainbow trout
orl:	oral
OSHA:	Occupational Safety and Health Administration
PAX:	transport on passenger planes allowed
PBT:	persistent, bioaccumulating, toxic substance
pH:	pH value
pimephales promelas:	fish, fathead minnow
PNEC:	Predicted No Effect Concentration
PROC 15:	Process category 'for laboratory use'
PRTR:	Law for PRTR and Promotion of Chemical Management (Jp)
PVC:	polyvinyl chloride
quail:	bird, quail
rat:	rat
rbt:	rabbit
RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	Registration number
Repr:	harmful to reproduction
Resp:	respiratory
RIP:	REACH Implementations Projects
scu:	sub cutan
SDS:	safety data sheet
Sens:	sensitisation
STEL:	short term exposure limit
STOT:	Specific Target Organ Toxicity
SVHC:	Substance of Very High Concern
t/a:	tons per year
TCCA:	Toxic Chemicals Control Act (S. Korea)
Tox:	toxic
TSCA:	The Toxic Substances Control Act (US)
TWA:	time weighted average
TRGS:	technical regulations (DE)
vPvB:	very persistent, very bioaccumulating substance

16.7 Training advice

Regular safety training. 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.