

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 740160.20

NucleoBond HMW DNA (20)

Page: 1/19

Printing date: 15.04.2026

Date of issue: 05.02.2026

Version: 2.8.10.8

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

1.1 Product identifier

REF 740160.20
Product name NucleoBond HMW DNA (20)

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.

| | |
|--------------------------------|--------------------------|
| 3 x 1,5 mL Liquid Proteinase K | UFI: TTWV-43C9-R202-NTGN |
| 1 x 13 mL HE | |
| 1 x 125 mL H1 | |
| 1 x 500 mL H2 | UFI: ATTW-43CQ-K20E-93FP |
| 1 x 125 mL H3 | |
| 1 x 250 mL H4 | UFI: 1VTW-N323-V20W-XF1R |
| 1 x 125 mL H5 | UFI: EPXU-G32Y-720C-FYYO |
| 4 x 600 µL Liquid RNase | |

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
Valenciener Str. 11, 52355 Düren, Germany
Phone: +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, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

<<http://www.mn-net.com/SDS>>

SECTION 2: Hazard identification

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



GHS02



GHS08

Signal word

DANGER

Hazard identification

H226
H334

Hazard classes/categories

Flam. Liq. 3
Resp. Sens. 1

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

1,5 mL Liquid Proteinase K



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GHS08

Signal word DANGER

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

500 mL H2



GHS02

Signal word WARNING

| Hazard identification | Hazard classes/categories |
|-----------------------|---------------------------|
| H226 | Flam. Liq. 3 |

125 mL H5



GHS02

Signal word WARNING

| Hazard identification | Hazard classes/categories |
|-----------------------|---------------------------|
| H226 | Flam. Liq. 3 |

250 mL H4



GHS02

Signal word WARNING

| Hazard identification | Hazard classes/categories |
|-----------------------|---------------------------|
| H226 | Flam. Liq. 3 |

125 mL H1

Signal word Do not need labelling as hazardous
-

No hazard class

125 mL H3

Signal word Do not need labelling as hazardous
-

No hazard class



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600 µL Liquid RNase

Signal word Do not need labelling as hazardous
-
No hazard class

13 mL HE

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). This labelling exemption is NOT valid for sensibilizing substances.

1,5 mL Liquid Proteinase K



GHS08

Signal word: DANGER
H334
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
P261sh, P284, P342+311, P501
Avoid breathing dust/vapours. [In case of inadequate ventilation] wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Dispose of contents/container to regulated waste treatment.

500 mL H2



GHS02

Signal word: WARNING
H226
Flammable liquid and vapour.
P210, P233, P241, P242, P243, P280, P303+361+353, P370+378, P403+235, P501
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. In case of fire: Use suitable extinguisher media to extinguish. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

125 mL H5



GHS02

Signal word: WARNING

250 mL H4



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GHS02

Signal word: WARNING

H226

Flammable liquid and vapour.

P210, P233, P241, P242, P243, P280, P303+361+353, P403+235, P501

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

125 mL H1

Do not need labelling as hazardous

Signal word: -

125 mL H3

Do not need labelling as hazardous

Signal word: -

600 µL Liquid RNase

Do not need labelling as hazardous

Signal word: -

13 mL HE

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS02



GHS08

Signal word: DANGER

H226, H334

Flammable liquid and vapour. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P210, P233, P241, P242, P243, P261sh, P280, P284, P303+361+353, P342+311, P370+378, P403+235, P501

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/vapours. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. In case of fire: Use suitable extinguisher media to extinguish. Store in a well-ventilated place. Keep cool. Dispose of contents/container to regulated waste treatment.

2.3 Other hazards

Possible hazards from physicochemical properties

Flammable properties. Vapour forms explosive mixtures with air.

Information pertaining to particular risks to human and possible symptoms

Cause after 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. In liquid form no hazard H334.

Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

no data available



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SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

1,5 mL Liquid Proteinase K

Substance name: *proteinase K, liquid*
 CAS No.: 39450-01-6

Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1
 Formula: Enzyme C. No. 3.4.21.64, origin: tritirachium album
 Pseudonym (de): Endopeptidase K
 EC No.: 254-457-8 Index No.: 647-014-00-9
 Concentration: 1 - <3 %
 acc. CLP (GHS): H334, Resp. Sens. 1

Substance name: *glycerole*
 CAS No.: 56-81-5

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: C₃H₈O₃
 Pseudonym (de): 1,2,3-Propantriol
 REACH Reg. No.: 01-2119471987-18-xxxx
 EC No.: 200-289-5 Index No.: n/a
 Concentration: 10 - <50 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

500 mL H2

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6 Index No.: 603-002-00-5
 Concentration: 5 - <20 %
 acc. CLP (GHS): H226, Flam. Liq. 3

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.

125 mL H5

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6 Index No.: 603-002-00-5
 Concentration: 5 - <20 %
 acc. CLP (GHS): H226, Flam. Liq. 3



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Substance name: *potassium chloride*
 CAS No.: 7447-40-7

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: KCl
 Pseudonym (de): KCl
 REACH Reg. No.: 01-2119539416-36-xxxx
 EC No.: 231-211-8
 Concentration: 1 - <10 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *Stabilisators. Buffers. Detergents < 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.

250 mL H4

Substance name: *ethanol*
 CAS No.: 64-17-5
 (denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2
 Formula: C₂H₆O; C₂H₅OH
 Pseudonym (de): Äthylalkohol, vergällter Spiritus
 REACH Reg. No.: 01-2119457610-43-xxxx
 EC No.: 200-578-6
 Concentration: 5 - <20 %
 acc. CLP (GHS): H226, Flam. Liq. 3

Indice No.: 603-002-00-5

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.

125 mL H1

Substance name: *sodium chloride*
 CAS No.: 7647-14-5

Substance rating: No criteria for classification or naming of chemical not required.
 Formula: NaCl
 Pseudonym (de): Kochsalz
 REACH Reg. No.: exempt, Annex V
 EC No.: 231-598-3
 Concentration: 5 - <10 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

125 mL H3

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.



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600 µL Liquid RNase

13 mL HE

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.

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. 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

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Chronic effects: Repeated contact, even in small amounts, can lead to sensitization.

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

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.

5.1.2 Unsuitable extinguishing media

no data available

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

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.

5.4 Additional information

no data available



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SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
Do not breathe vapours. 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**
PBT: not applicable
vPvB: not applicable
- 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**
no data available

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**
Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Storage class (German chemical industry): see chapter 12.1
Storage class (VCI): 3
Water hazard class (DE): 1
- 7.2.1 Requirements for stock rooms and containers**
Keep original product packages tightly closed during handling and storage.
- 7.3 Specific end use(s)**
Product for analytical use.

SECTION 8: Exposure controls /personal protection

- 8.1 Control parameters**
 - 125 mL H5**
Chemical: *potassium chloride* CAS No.: 7447-40-7
 - 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
 - OSHA: 1000 ppm / 1900 mg/m³
 - Chemical: *Stabilisators. Buffers. Detergents < 1%* CAS No.: -
 - 13 mL HE**
Chemical: *chemicals/mixture until 1%* CAS No.: -
 - 500 mL H2**
Chemical: *chemicals/mixture until 1%* CAS No.: -



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Chemical: *ethanol* CAS No.: 64-17-5
 DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration
 TRGS 900 (DE): 200 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
 OSHA: 1000 ppm / 1900 mg/m³

250 mL H4

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

Chemical: *ethanol* CAS No.: 64-17-5
 DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration
 TRGS 900 (DE): 200 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
 OSHA: 1000 ppm / 1900 mg/m³

1,5 mL Liquid Proteinase K

Chemical: *glycerole* CAS No.: 56-81-5
 DNEL: [inh] 56 mg/m³
DNEL = Derived No-Effect Level (for workers)
 PNEC (fresh water): 0.885 mg/L
PNEC = Predicted No Effected Concentration
 TRGS 900 (DE): 200 E mg/m³
E/e respirable
 Short-term exposure factor: 2 (I), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 50 e* mg/m³
 Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 SUVA(CH) MAK value: 0,00006 15min mg/m³

125 mL H1

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

125 mL H3

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 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.



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- 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.
- 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

125 mL H5

- | | |
|---|------------------------|
| 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: | 38 °C |
| 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 (K _{ow}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1.03 g/cm ³ |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

13 mL HE

- | | |
|---|-----------------------|
| 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: | 8-9 |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | no data available |
| n) Dispersion coefficient (K _{ow}): | 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 |

500 mL H2

- | | |
|--------------------------------------|-------------------|
| 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: | no data available |



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| | |
|--|-------------------|
| 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 ($K_{o/w}$): | 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 |

250 mL H4

| | |
|--|-------------------|
| 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: | 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 ($K_{o/w}$): | 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 |

1,5 mL Liquid Proteinase K

| | |
|--|-----------------------|
| 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: | 0-100 % |
| n) Dispersion coefficient ($K_{o/w}$): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1.1 g/cm ³ |
| q) Relative vapour density ($air=1$): | no data available |
| r) Particle size: | no data available |

125 mL H1

| | |
|--------------------------------------|-------------------|
| 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: | 7.5-8.5 |
| l) Kinematic viscosity: | no data available |



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| | |
|--|------------------------|
| m) Solubility in water: | no data available |
| n) Dispersion coefficient ($K_{o/w}$): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1.06 g/cm ³ |
| q) Relative vapour density ($air=1$): | no data available |
| r) Particle size: | no data available |

125 mL H3

| | |
|--|-----------------------|
| 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 ($K_{o/w}$): | 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 |

9.2 Other information

9.2.1 Information on physical hazard classes

no data available

9.2.2 Other safety-related parameters

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.

□ □

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

But avoid reactions with oxidizing agents. No further data available.

10.4 Conditions to avoid

But formation of explosive gases/vapours with air is possible. Use only in well ventilated rooms. No more required.

10.5 Incompatible materials

Avoid storage with oxidising 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.



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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.

125 mL H5

Chemical: *potassium chloride* CAS No.: 7447-40-7
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-29086
 LD50 orl rat : 2600 mg/kg

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

Chemical: *Stabilisators. Buffers. Detergents < 1%* CAS No.: -
 TSCA Inventory: all listed, <1%
 Korea Exist.Chem.Inventory: listed

13 mL HE

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

500 mL H2

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

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



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

250 mL H4

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

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

1,5 mL Liquid Proteinase K

Chemical: *glycerole* CAS No.: 56-81-5
 TSCA Inventory: listed (1,2,3-Propanetriol)
 Exposure Routes: inhalation, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, kidneys
 Symptoms: irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury
 Japan CSCL/PRTR: not listed, Japan PDSCl: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: KE-29297
 LD50 orl rat : 12600 mg/kg

TRGS 905 (DE): R_F C

Chemical: *proteinase K, liquid* CAS No.: 39450-01-6
 TSCA Inventory: listed (CAS 102925-54-2)
 Japan CSCL/PRTR: not listed
 Japan ISHL: not listed
 Korea Exist.Chem.Inventory: not 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.

125 mL H1

Chemical: *sodium chloride* CAS No.: 7647-14-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-31387
 LD50 orl rat : 3000 mg/kg

125 mL H3

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



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11.2 Other hazards

Possible endocrine disrupting effects
no data available

Other information
no additional data available

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

125 mL H5

Substance name: *potassium chloride* CAS-Nr.: 7447-40-7
Water hazard class (DE): 1
Storage class (VCI): 12-13

Substance name: *ethanol* CAS-Nr.: 64-17-5

PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

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
Storage class (VCI): 3

Substance name: *Stabilisators. Buffers. Detergents < 1%* CAS-Nr.: -
Storage class (VCI): 12-13

13 mL HE

Substance name: *chemicals/mixture until 1%* CAS-Nr.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

500 mL H2

Substance name: *chemicals/mixture until 1%* CAS-Nr.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

Substance name: *ethanol* CAS-Nr.: 64-17-5

PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

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
Storage class (VCI): 3

250 mL H4

Substance name: *chemicals/mixture until 1%* CAS-Nr.: -
Water hazard class (DE): 1
Storage class (VCI): 12-13

Substance name: *ethanol* CAS-Nr.: 64-17-5

PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

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



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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
 Storage class (VCI): 3

1,5 mL Liquid Proteinase K

Substance name: *glycerole* CAS-Nr.: 56-81-5

PNEC (fresh water) : 0.885 mg/L
 PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h : >5000 24h mg/L
 EC50 daphnia/48h : >10 24h g/L
 IC50 scenedesmus quadricauda/72h : IC50 7d >10 g/L
 EC10 pseudomonas putita/16h : EC5: >10 g/L
 Water hazard class (DE): 0
 Storage class (VCI): 10

Substance name: *proteinase K, liquid* CAS-Nr.: 39450-01-6

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

125 mL H1

Substance name: *sodium chloride* CAS-Nr.: 7647-14-5

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

125 mL H3

Substance name: *water* CAS-Nr.: 7732-18-5

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Substance name: *ethanol* CAS-Nr.: 64-17-5

Dispersion coefficient (K_{o/w}): -0,31

Substance name: *ethanol* CAS-Nr.: 64-17-5

Dispersion coefficient (K_{o/w}): -0,31

Substance name: *ethanol* CAS-Nr.: 64-17-5

Dispersion coefficient (K_{o/w}): -0,31

1,5 mL Liquid Proteinase K

Substance name: *glycerole* CAS-Nr.: 56-81-5

Dispersion coefficient (K_{o/w}): -1,76

12.4 Mobility in soil

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

no data available

12.7 Other adverse effects

no additional data available



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SECTION 13: Disposal considerations

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

13.1 Waste treatment methods

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

SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations (Ethanol: ADR SI144/ IATA A58)

14.5 Environmental hazards

none, contains only small quantities of hazardous substances

14.6 Special precautions for user

not necessary

14.7 Carriage in bulk by sea in accordance with IMO instruments

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
 Betriebsicherheitsverordnung (BetrSichV), Sept 2002
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016
 MN leaflet/instructions for use, also at www.mn-net.com
 If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

no data available

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.8.10.8 and 2.2.2.2 following changes were applied: - 6 product component data corrected - 8 composition data corrected - 6 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

| | |
|------|--|
| H | Between versions 2.8.10.8 and 2.2.2.2 following changes were applied: - 6 product component data corrected - 8 composition data corrected - 6 substance data corrected |
| H226 | Flammable liquid and vapour. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

16.2.2 List of relevant P phrases

| | |
|--------------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P241 | Use explosion-proof [electrical/ventilating/lighting] equipment. |
| P242 | Use non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261sh | Avoid breathing dust/vapours. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P284 | [In case of inadequate ventilation] wear respiratory protection. |
| P303+361+353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P342+311 | If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |
| P370+378 | In case of fire: Use suitable extinguisher media to extinguish. |
| P403+235 | Store in a well-ventilated place. Keep cool. |



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P501 Dispose of contents/container to regulated waste treatment.

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 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
 TRGS 907, German technical rules for listing substances and causes of sensitization, updated November 2011 Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)
 Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)
 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 progressText (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)
 Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th 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



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| | |
|-----------------------|--|
| 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 |
| 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: | Metall |
| 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.

