



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740952.250  
 Printing Date: 04.04.2023

NucleoSpin Tissue (250)  
 Date of Issue: 03.03.2023

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GHS07



GHS08

Signal Word **DANGER**

| Hazard Identification | Hazard Classes/Categories |
|-----------------------|---------------------------|
| H315                  | Skin Irrit. 2             |
| H319                  | Eye Irrit. 2              |
| H334                  | Resp. Sens. 1             |

### 75 mL B3



GHS07

Signal Word **WARNING**

| Hazard Identification | Hazard Classes/Categories |
|-----------------------|---------------------------|
| H302                  | Acute Tox. 4 oral         |
| H315                  | Skin Irrit. 2             |
| H319                  | Eye Irrit. 2              |

### 150 mL BW



GHS02



GHS07

Signal Word **WARNING**

| Hazard Identification | Hazard Classes/Categories |
|-----------------------|---------------------------|
| H226                  | Flam. Liq. 3              |
| H302                  | Acute Tox. 4 oral         |
| H315                  | Skin Irrit. 2             |
| H319                  | Eye Irrit. 2              |
| H336                  | STOT SE 3                 |

### 8 mL PB

Signal Word Do not need labelling as hazardous

No Hazard Class -

### 50 mL B5

Signal Word Do not need labelling as hazardous

No Hazard Class -

### 60 mL BE

Do not need labelling as hazardous



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Signal Word -  
No Hazard Class

**100 mL T1**

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

List of H phrases: see section 16.2

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

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012). Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A. This labelling exemption is NOT valid for sensiblizing substances.

**1-75 mg Proteinase K (Iyo)**



Signal Word: DANGER  
H334  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
P261sh, P342+311  
Avoid breathing dust/vapors.If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

**75 mL B3**



Signal Word: WARNING

**150 mL BW**



Signal Word: WARNING  
H226, H302, H315, H319, H336  
Flammable liquid and vapor.Harmful if swallowed.Causes skin irritation.Causes serious eye irritation.May cause drowsiness or dizziness.  
P210, P260D, P264W, P280sh, P301+312, P330  
Do not breathe vapors.Wash with water thoroughly after handling.IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.Keep away from heat/sparks/open flames/hot surfaces. No smoking.Wear protective gloves/eye protection.Rinse mouth.

**8 mL PB**

Do not need labelling as hazardous  
Signal Word: -

**50 mL B5**

Do not need labelling as hazardous  
Signal Word: -

**60 mL BE**

Do not need labelling as hazardous



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Signal Word: -

**100 mL T1**

Do not need labelling as hazardous

Signal Word: -

**Label elements of the complete product**



Signal Word: DANGER  
 H226, H302, H315, H319, H334, H336  
 Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.  
 P210, P260D, P264W, P280sh, P301+312, P330, P342+311  
 Do not breathe vapors. Wash with water thoroughly after handling. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/eye protection. Rinse mouth. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### 2.3 Other Hazards

**Possible Hazards from physicochemical Properties**  
 In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. Vapour forms explosive mixtures with air.

**Information pertaining to particular Risks to Human and possible Symptoms**  
 Cause after oral intake, impairments of health when ingested in small quantities. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.  
 Kit contains small amounts of enzymes, which may cause sensitization by direct and repeated contact.

**Information pertaining to particular Risks to the Environment**  
**PBT:** not applicable  
**vPvB:** not applicable

**Possible endocrine disrupting effects**  
 data not available

## SECTION 3: Composition/Information on Ingredients

### 3.1 Substances or 3.2 Mixtures

**1-75 mg Proteinase K (Iyo)**

Substance name: *proteinase K*  
 CAS No.: 39450-01-6  
 Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1  
 Chemical Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album  
 Synonyms (de): Endopeptidase K  
 EC No.: 254-457-8 Index No.: 647-014-00-9  
 Concentration: 90 - <100 %  
 acc. GHS: H315, Skin Irrit. 2, H319, Eye Irrit. 2, H334, Resp. Sens. 1

**150 mL BW**

Substance name: *2-propanol*  
 CAS No.: 67-63-0  
 Substance rating: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3  
 Chemical Formula: C<sub>3</sub>H<sub>8</sub>O  
 Synonyms (de): Isopropanol, IPA, Propan-2-ol  
 REACH Reg. No.: 01-2119457558-25-XXXX  
 EC No.: 200-661-7 Index No.: 603-117-00-0  
 Concentration: 20 - <35 %  
 acc. GHS: H226, Flam. Liq. 3, H319, Eye Irrit. 2, H336, STOT SE 3





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Substance name: *polyoxyethylene sorbitan monolaurate (Tween® 20)*  
CAS No.: 9005-64-5

Substance rating: No criteria for classification or naming of chemical is not required.  
Chemical Formula: C<sub>58</sub> H<sub>114</sub> O<sub>26</sub>  
Synonyms (de): E432  
Concentration: 10 - <20 %  
acc. GHS: The criteria for classification are not fulfilled.

### 3.3 Remarks

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

## 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 immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

#### 4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

#### 4.1.3 After INHALATION of Vapors

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

#### 4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. Do not induce vomiting under any circumstances. Do not make any efforts to neutralize it. Contact medical advice for possible consequences.

### 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.  
Causes serious eye irritation.

### 4.3 Indication of any immediate Medical Attention and Special Treatment needed

After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive substance. Further treatment must to be carried out by an eye specialist. Inform patient respectively further measures and the possibility of long-term damages. ---

## SECTION 5: Fire-Fighting Measures

### 5.1 Extinguishable 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

data not available

### 5.2 Special Hazards arising from the Substance or Mixture

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

### 5.3 Advice for Firefighters

No, for listed product. The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.



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### 5.4 Additional Information

Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

## SECTION 6: Accidental Release Measures

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. Wear suitable protective gloves (see 8.2.2). Wear eye protection. 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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

### 6.4 Reference to other Sections

see information in section 5.4,7,8 and 13

## 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 allows a safe storage. 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

**1-75 mg Proteinase K (Iyo)**  
 Chemical: *proteinase K*

CAS No.: 39450-01-6

**150 mL BW**

Chemical: *2-propanol*

CAS No.: 67-63-0

DNEL: [inh] 500 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 140.9 mg/L  
 PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 400 ppm / 980 mg/m<sup>3</sup>

NIOSH STEL: 500 ppm / 1225 mg/m<sup>3</sup>  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 400 ppm / 980 mg/m<sup>3</sup>

Chemical: *guanidine hydrochloride*

CAS No.: 50-01-1

DNEL: [inh] 3.5 mg/m<sup>3</sup>  
 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





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|  |                    |
|--|--------------------|
| <b>50 mL B5</b><br>Chemical: <i>chemicals/mixture until 1%</i>   | CAS No.: -         |
| <b>60 mL BE</b><br>Chemical: <i>chemicals/mixture until 1%</i>   | CAS No.: -         |
| <b>8 mL PB</b><br>Chemical: <i>glycerole</i><br>DNEL: [inh] 56 mg/m <sup>3</sup><br>DNEL = Derived No-Effect Level (for workers)<br>PNEC (fresh water): 0.885 mg/L<br>PNEC = Predicted No Effect Concentration   | CAS No.: 56-81-5   |
| <b>100 mL T1</b><br>Chemical: <i>chemicals/mixture until 2%</i>  | CAS No.: -         |
| <b>75 mL B3</b><br>Chemical: <i>guanidine hydrochloride</i><br>DNEL: [inh] 3.5 mg/m <sup>3</sup><br>DNEL = Derived No-Effect Level (for workers)<br>PNEC (fresh water): -<br>PNEC = Predicted No Effect Concentration<br>NIOSH: not listed<br>[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period<br>OSHA: not listed | CAS No.: 50-01-1   |
| Chemical: <i>polyoxyethylene sorbitan monolaurate (Tween® 20)</i>  | CAS No.: 9005-64-5 |

### 8.2 Exposure Controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

#### 8.2.1 Respiratory Protection

Use for open access of these substances for example a vapor/dust respirator, class A/AX. No additional recommendations.

#### 8.2.2 Skin protection / Hand protection

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

#### 8.2.3 Eye / Face Protection

Yes, Splash Goggles.

#### 8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Hygiene Measures

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

#### 8.2.6 Thermal hazards

data not 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

#### 1-75 mg Proteinase K (Iyo)

|                                      |                     |
|--------------------------------------|---------------------|
| a) State of aggregation:             | solid (lyophilized) |
| b) Color:                            | slightly grey       |
| c) Odor:                             | odorless            |
| d) Melting Point:                    | data not available  |
| e) Boiling Point:                    | data not available  |
| f) Flammability:                     | data not available  |
| g) Explosive Limits (lower / upper): | data not available  |





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|                                     |                    |
|-------------------------------------|--------------------|
| h) Flash Point:                     | data not available |
| i) Autoignition Temperature:        | data not available |
| j) Decomposition Temperature:       | data not available |
| k) pH Value:                        | data not available |
| l) Kinematic Viscosity:             | data not available |
| m) Soluble in Water:                | data not available |
| n) Partition Coefficient (o/w) :    | data not available |
| o) Vapor Pressure (68°F):           | data not available |
| p) Specific Gravity:                | data not available |
| q) Relative Vapor Density (air=1) : | data not available |
| r) Particle Size:                   | data not available |

**150 mL BW**

|                                      |                        |
|--------------------------------------|------------------------|
| a) State of aggregation:             | liquid                 |
| b) Color:                            | colorless              |
| c) Odor:                             | alcoholic              |
| d) Melting Point:                    | data not available     |
| e) Boiling Point:                    | data not available     |
| f) Flammability:                     | data not available     |
| g) Explosive Limits (lower / upper): | data not available     |
| h) Flash Point:                      | 25 °C                  |
| i) Autoignition Temperature:         | data not available     |
| j) Decomposition Temperature:        | data not available     |
| k) pH Value:                         | 7-8                    |
| l) Kinematic Viscosity:              | data not available     |
| m) Soluble in Water:                 | data not available     |
| n) Partition Coefficient (o/w) :     | data not available     |
| o) Vapor Pressure (68°F):            | data not available     |
| p) Specific Gravity:                 | 1.06 g/cm <sup>3</sup> |
| q) Relative Vapor Density (air=1) :  | data not available     |
| r) Particle Size:                    | data not available     |

**50 mL B5**

|                                      |                        |
|--------------------------------------|------------------------|
| a) State of aggregation:             | liquid                 |
| b) Color:                            | colorless              |
| c) Odor:                             | odorless               |
| d) Melting Point:                    | data not available     |
| e) Boiling Point:                    | data not available     |
| f) Flammability:                     | data not available     |
| g) Explosive Limits (lower / upper): | data not available     |
| h) Flash Point:                      | data not available     |
| i) Autoignition Temperature:         | data not available     |
| j) Decomposition Temperature:        | data not available     |
| k) pH Value:                         | 7-8                    |
| l) Kinematic Viscosity:              | data not available     |
| m) Soluble in Water:                 | data not available     |
| n) Partition Coefficient (o/w) :     | data not available     |
| o) Vapor Pressure (68°F):            | data not available     |
| p) Specific Gravity:                 | 1.00 g/cm <sup>3</sup> |
| q) Relative Vapor Density (air=1) :  | data not available     |
| r) Particle Size:                    | data not available     |

**60 mL BE**

|                                      |                    |
|--------------------------------------|--------------------|
| a) State of aggregation:             | liquid             |
| b) Color:                            | colorless          |
| c) Odor:                             | odorless           |
| d) Melting Point:                    | 0 °C               |
| e) Boiling Point:                    | data not available |
| f) Flammability:                     | data not available |
| g) Explosive Limits (lower / upper): | data not available |
| h) Flash Point:                      | data not available |
| i) Autoignition Temperature:         | data not available |
| j) Decomposition Temperature:        | data not available |
| k) pH Value:                         | 8-9                |



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|                                     |                       |
|-------------------------------------|-----------------------|
| l) Kinematic Viscosity:             | data not available    |
| m) Soluble in Water:                | data not available    |
| n) Partition Coefficient (o/w) :    | data not available    |
| o) Vapor Pressure (68°F):           | data not available    |
| p) Specific Gravity:                | 1.0 g/cm <sup>3</sup> |
| q) Relative Vapor Density (air=1) : | data not available    |
| r) Particle Size:                   | data not available    |

### 8 mL PB

|                                      |                        |
|--------------------------------------|------------------------|
| a) State of aggregation:             | liquid                 |
| b) Color:                            | colorless              |
| c) Odor:                             | alcoholic              |
| d) Melting Point:                    | data not available     |
| e) Boiling Point:                    | data not available     |
| f) Flammability:                     | data not available     |
| g) Explosive Limits (lower / upper): | data not available     |
| h) Flash Point:                      | data not available     |
| i) Autoignition Temperature:         | data not available     |
| j) Decomposition Temperature:        | data not available     |
| k) pH Value:                         | data not available     |
| l) Kinematic Viscosity:              | data not available     |
| m) Soluble in Water:                 | data not available     |
| n) Partition Coefficient (o/w) :     | data not available     |
| o) Vapor Pressure (68°F):            | data not available     |
| p) Specific Gravity:                 | 1.11 g/cm <sup>3</sup> |
| q) Relative Vapor Density (air=1) :  | data not available     |
| r) Particle Size:                    | data not available     |

### 100 mL T1

|                                      |                        |
|--------------------------------------|------------------------|
| a) State of aggregation:             | liquid                 |
| b) Color:                            | colorless              |
| c) Odor:                             | odorless               |
| d) Melting Point:                    | data not available     |
| e) Boiling Point:                    | data not available     |
| f) Flammability:                     | data not available     |
| g) Explosive Limits (lower / upper): | data not available     |
| h) Flash Point:                      | data not available     |
| i) Autoignition Temperature:         | data not available     |
| j) Decomposition Temperature:        | data not available     |
| k) pH Value:                         | 7.5-8.5                |
| l) Kinematic Viscosity:              | data not available     |
| m) Soluble in Water:                 | data not available     |
| n) Partition Coefficient (o/w) :     | data not available     |
| o) Vapor Pressure (68°F):            | data not available     |
| p) Specific Gravity:                 | 1.02 g/cm <sup>3</sup> |
| q) Relative Vapor Density (air=1) :  | data not available     |
| r) Particle Size:                    | data not available     |

### 75 mL B3

|                                      |                    |
|--------------------------------------|--------------------|
| a) State of aggregation:             | liquid             |
| b) Color:                            | colorless          |
| c) Odor:                             | odorless           |
| d) Melting Point:                    | data not available |
| e) Boiling Point:                    | data not available |
| f) Flammability:                     | data not available |
| g) Explosive Limits (lower / upper): | data not available |
| h) Flash Point:                      | data not available |
| i) Autoignition Temperature:         | data not available |
| j) Decomposition Temperature:        | data not available |
| k) pH Value:                         | 3.5-4.5            |
| l) Kinematic Viscosity:              | data not available |
| m) Soluble in Water:                 | data not available |
| n) Partition Coefficient (o/w) :     | data not available |
| o) Vapor Pressure (68°F):            | data not available |



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p) Specific Gravity: data not available  
 q) Relative Vapor Density (air=1): data not available  
 r) Particle Size: data not available

### 9.2 Further 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.

### 10.3 Possibility of Hazardous Reactions

But avoid reactions with oxidizing agents. Can form very reactive substances 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 oxidizing substances. ---

### 10.6 Hazardous Decomposition Products

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

## SECTION 11: Toxicological Information

### 11.1 Information on Toxicological Effects

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

#### 1-75 mg Proteinase K (Iyo)

Chemical: *proteinase K* CAS No.: 39450-01-6  
 TSCA Inventory: listed (CAS 102925-54-2)  
 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.

#### 150 mL BW

Chemical: *2-propanol* CAS No.: 67-63-0  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 ACGIH: 1230 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system  
 Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis  
 Canada CEPA 1999: DSL yes  
 LD50 orl rat : 5045 mg/kg  
 LC<sub>50</sub> Low orl hmn : 3570 mg/kg  
 LC50 ihl rat : 25 mg/L/4H

Chemical: *guanidine hydrochloride* CAS No.: 50-01-1  
 TSCA Inventory: listed California Prop. 65 List: not listed  
 Canada CEPA 1999: DSL yes  
 LD50 orl rat : 475-907 mg/kg  
 LC50 ihl rat : 3181-7655 µg/m<sup>3</sup>/4H  
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

#### 50 mL B5



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|                   |  |                                      |
|-------------------|--|--------------------------------------|
| Chemical:         | <i>chemicals/mixture until 1%</i>  | CAS No.: -                           |
| TSCA Inventory:   | all listed, <1%  |                                      |
| <b>60 mL BE</b>   |  |                                      |
| Chemical:         | <i>chemicals/mixture until 1%</i>  | CAS No.: -                           |
| TSCA Inventory:   | all listed, <1%  |                                      |
| <b>8 mL PB</b>    |  |                                      |
| Chemical:         | <i>glycerole</i>   | 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 |                                      |
| LD50 orl rat :    | 12600 mg/kg  |                                      |
| <b>100 mL T1</b>  |  |                                      |
| Chemical:         | <i>chemicals/mixture until 2%</i>  | CAS No.: -                           |
| TSCA Inventory:   | all listed, <2%  |                                      |
| <b>75 mL B3</b>   |  |                                      |
| Chemical:         | <i>guanidine hydrochloride</i>   | CAS No.: 50-01-1                     |
| TSCA Inventory:   | listed   | California Prop. 65 List: not listed |
| Canada CEPA 1999: | DSL yes  |                                      |
| 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:         | <i>polyoxyethylene sorbitan monolaurate (Tween® 20)</i>                              | CAS No.: 9005-64-5                   |
| TSCA Inventory:   | listed   |                                      |
| LC50 ihl rat :    | 5,1 mg/L/4H  |                                      |

### 11.2 Other Hazards

**Possible endocrine disrupting effects**

data not available

**Other Information**

no additional data available

## SECTION 12: Ecological Information

### 12.1 Toxicity

Following information is valid for pure chemicals.

|  |                                     |                     |
|--|-------------------------------------|---------------------|
| <b>1-75 mg Proteinase K (Iyo)</b>        |                                     |                     |
| Chemical:                                | <i>proteinase K</i>                 | CAS No.: 39450-01-6 |
| <b>150 mL BW</b>                         |                                     |                     |
| Chemical:                                | <i>2-propanol</i>                   | CAS No.: 67-63-0    |
| PNEC (fresh water) :                     | 140.9 mg/L                          |                     |
| PNEC = Predicted No Effect Concentration |                                     |                     |
| LC50 fish/96h :                          | 1400 mg/L                           |                     |
| EC50 daphnia/48h :                       | 13.3 g/L                            |                     |
| IC50 scenedesmus quadricauda/72h :       | >1000 mg/L                          |                     |
| EC10 pseudomonas putita/16h :            | EC5: 1050 mg/L                      |                     |
| Partition Coefficient (o/w) :            | 0,05                                |                     |
| Chemical: <i>guanidine hydrochloride</i> |                                     | 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                |                     |



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|  |   |                    |
|--|---|--------------------|
| <b>50 mL B5</b>                          |   |                    |
| Chemical:                                | <i>chemicals/mixture until 1%</i>                       | CAS No.: -         |
| <b>60 mL BE</b>                          |   |                    |
| Chemical:                                | <i>chemicals/mixture until 1%</i>                       | CAS No.: -         |
| <b>8 mL PB</b>                           |   |                    |
| Chemical:                                | <i>glycerole</i>  | CAS No.: 56-81-5   |
| PNEC (fresh water) :                     | 0.885 mg/L  |                    |
| PNEC = Predicted No Effect Concentration |   |                    |
| LC50 fish/96h :                          | >5000 24h mg/L  |                    |
| EC50 daphnia/48h :                       | >10 24h g/L   |                    |
| LC50 scenedesmus quadricauda/72h :       | IC5 7d >10 g/L  |                    |
| EC10 pseudomonas putita/16h :            | EC5: >10 g/L  |                    |
| Partition Coefficient (o/w) :            | -1,76   |                    |
| <b>100 mL T1</b>                         |   |                    |
| Chemical:                                | <i>chemicals/mixture until 2%</i>                       | CAS No.: -         |
| <b>75 mL B3</b>                          |   |                    |
| Chemical:                                | <i>guanidine hydrochloride</i>                          | 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                                    |                    |
| Chemical:                                | <i>polyoxyethylene sorbitan monolaurate (Tween® 20)</i> | CAS No.: 9005-64-5 |

### 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

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

data not available

### 12.7 Other Adverse Effects

no additional data available

## SECTION 13: Disposal Considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (RCRA Code D002/D003, EU waste code number 16 05 06).

### 13.1 Waste Treatment Methods

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

## SECTION 14: Transport Information

|                               |             |                                    |  |
|-------------------------------|-------------|------------------------------------|--|
| <b>14.1. UN/NA:</b>           | <b>1993</b> | <b>14.2. Proper Shipping Name:</b> | <b>Flammable liquid, n.o.s. (2-propanol mixture)</b> |
| <b>14.3. Hazard Class:</b>    | <b>3</b>    | <b>14.4. Packing Group:</b>        | <b>III</b>   |
| <i>Transportation by Road</i> |             |                                    |  |
| Classification code:          | F1          | Tunnel restriction code:           | D/E  |
| Limited Quantity:             | 5 L         | Special instructions:              | 640E   |
| Excepted Quantity:            | E 1         |                                    |  |



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*Air Transportation*  
 Limited Quantity: LQ 7  
 Excepted Quantity: E 1  
 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
- 14.6 Special Precautions for User**  
 not necessary
- 14.7 Carriage of bulk cargo 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

**U.S. Federal Regulations**

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"  
<https://www.osha.gov/dsg/hazcom/ghs.html>  
 29 CFR 1910.1200 Hazard communication.  
 NIOSH Pocket Guide to Chemical Hazards  
 NIOSH Workplace Safety & Health Topics  
 TSCA Inventory

**U.S. State Regulations**

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

**Canada**

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

MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)

#### 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 2.2.8.12 and 2.2.2.2 following changes were applied: - 6 composition data corrected - 10 substance data corrected

#### 16.2 List of Hazard and Precaution Phrases

##### 16.2.1 List of relevant H Phrases

H226 Flammable liquid and vapor.  
 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.  
 H336 May cause drowsiness or dizziness.

##### 16.2.2 List of relevant P Phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P260D Do not breathe vapors.  
 P264W Wash with water thoroughly after handling.  
 P280sh Wear protective gloves/eye protection.  
 P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P330 Rinse mouth.  
 P342+311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

#### 16.3 Recommended Restriction on Use

Only for Professional User.  
 Look about employee restrictions for young people!  
 Look about employee restrictions for pregnant women and nursing women!  
 An individual package of this product or test kit has a moderate hazardous potential.



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### 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 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  
  
 2017-11 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  
 ihl: inhaled  
 IMDG: International Maritime Dangerous Goods Code  
 intrav: intravenous



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|                       |  |
|-----------------------|--|
| 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.:              | rRegistration number   |
| Repr:                 | harmful to reproduction  |
| Resp:                 | respiratory  |
| scu:                  | sub cutan  |
| RIP:                  | REACH Implementations Projects                                       |
| 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.



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