

**Product name: NZYFood gDNA Isolation Kit**

**Catalogue reference(s):** MB21602, 50 columns

<b>Components</b>	<b>MB21602</b>	<b>Safety Information</b>	<b>Identificador Único de Fórmula (UFI)</b>
Buffer NFB	1 x 30 mL	See specific SDS	Y630-20AF-H006-ARW4
Buffer NFL	1 x 100 mL	Not Hazardous *	
Buffer NFW1	1 x 30 mL	See specific SDS	H830-K00U-T00Q-Y3G6
Buffer NFW2	1 x 12 mL	Not Hazardous *	
Buffer NFE	1 x 13 mL	Not Hazardous *	
Proteinase Buffer	1 x 1.8 mL	Not Hazardous *	
Proteinase K	1 x 6 mg	See specific SDS	
NZYSpin Food Columns with Collection Tubes	50 columns	Not Hazardous *	
Collection Tubes (2 ml)	50 units	Not Hazardous *	

\*The component mentioned above is not classified as hazardous according to CLP Regulation (EC) No 1272/2008. Consequently, does not require a Safety Data Sheet (SDS), according to Regulation (EC) No 1907/2006, emended by Regulation (EC) No 2020/878.

**MB21602 - Buffer NFB**

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Version: 2 (Replaced 1)

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** MB21602 - Buffer NFB  
**Other means of identification:**  
Non-applicable
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: Laboratory. For professional users only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**  
NZYtech, Lda  
Estrada do Paco do Lumiar Campus do Lumiar - Edif. E, r/c  
1649-038 Lisboa - Lisboa - Portugal  
Phone: +351 213643514  
info@nzytech.com  
www.nzytech.com
- 1.4 Emergency telephone number:** National Poison Center (Portugal) CIAV: +351 800 250 250; Outside Portugal: Call your regional Poisons Information Service or call local Life Saving Service.

**SECTION 2: HAZARDS IDENTIFICATION \*\***

- 2.1 Classification of the substance or mixture:**  
**CLP Regulation (EC) No 1272/2008:**  
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.  
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302  
Eye Irrit. 2: Eye irritation, Category 2, H319  
Skin Irrit. 2: Skin irritation, Category 2, H315
- 2.2 Label elements:**  
**CLP Regulation (EC) No 1272/2008:**  
Labelling of packages where the contents do not exceed 125 ml:  
**Warning**
- 
- Hazard statements:**  
Non-applicable
- Precautionary statements:**  
Non-applicable
- Substances that contribute to the classification**  
guanidinium chloride  
**UFI:** Y630-20AF-H006-ARW4
- 2.3 Other hazards:**  
Product does not meet PBT/vPvB criteria  
Endocrine-disrupting properties: The product does not meet the criteria.

*\*\* Changes with regards to the previous version***SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\***

- 3.1 Substance:**  
Non-applicable
- 3.2 Mixture:**

*\*\* Changes with regards to the previous version*

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\* (continued)

**Chemical description:** Mixture of substances

**Components:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 50-01-1 EC: 200-002-3 Index: 607-148-00-0 REACH: 01-2119977063-35-XXXX	<b>guanidinium chloride<sup>(1)</sup></b> <span style="float: right;">Self-classified</span> Regulation 1272/2008 <span style="margin-left: 20px;">Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315 - Warning</span>	 <b>36 - &lt;50 %</b>

(1) Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

*\*\* Changes with regards to the previous version*

### SECTION 4: FIRST AID MEASURES

**4.1 Description of first aid measures:**

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

**By inhalation:**

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

**By skin contact:**

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

**By eye contact:**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

**By ingestion/aspiration:**

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

**4.2 Most important symptoms and effects, both acute and delayed:**

Acute and delayed effects are indicated in sections 2 and 11.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Non-applicable

### SECTION 5: FIREFIGHTING MEASURES

**5.1 Extinguishing media:**

**Suitable extinguishing media:**

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

**Unsuitable extinguishing media:**

Non-applicable

**5.2 Special hazards arising from the substance or mixture:**

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

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**SECTION 5: FIREFIGHTING MEASURES (continued)****5.3 Advice for firefighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

**Additional provisions:**

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

**For emergency responders:**

Wear protective equipment. Keep unprotected persons away. See section 8.

**6.2 Environmental precautions:**

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

**6.3 Methods and material for containment and cleaning up:**

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**6.4 Reference to other sections:**

See sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling:**

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

**7.2 Conditions for safe storage, including any incompatibilities:**

A.- Technical measures for storage

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

There are no applicable occupational exposure limits for the substances contained in the product

#### DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	1 mg/kg	Non-applicable
	Inhalation	10,5 mg/m <sup>3</sup>	Non-applicable	3,5 mg/m <sup>3</sup>	Non-applicable

#### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	Oral	Non-applicable	Non-applicable	0,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0,87 mg/m <sup>3</sup>	Non-applicable

#### PNEC:

Non-applicable

### 8.2 Exposure controls:



A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands


Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks			Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN ISO 21420:2020 and EN ISO 374-1:2016+A1:2018

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.		EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing			Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994.

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

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#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Anti-slip work shoes		EN ISO 20347:2012	Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 20345:2012 y EN 13832-1:2007

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**Volatile organic compounds:**

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	0 % weight
V.O.C. density at 20 °C:	0 kg/m <sup>3</sup> (0 g/L)
Average carbon number:	Non-applicable
Average molecular weight:	Non-applicable

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C:	Liquid
Appearance:	Not available
Colour:	Yellowish
Odour:	Odourless
Odour threshold:	Non-applicable *

**Volatility:**

Boiling point at atmospheric pressure:	100 °C
Vapour pressure at 20 °C:	2350 Pa
Vapour pressure at 50 °C:	12381,01 Pa (12,38 kPa)
Evaporation rate at 20 °C:	Non-applicable *

**Product description:**

Density at 20 °C:	1150 kg/m <sup>3</sup>
Relative density at 20 °C:	1,182
Dynamic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	4,8 - 5,2
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Solubility in water at 20 °C: Non-applicable \*

Solubility properties: Non-applicable \*

Decomposition temperature: Non-applicable \*

Melting point/freezing point: Non-applicable \*

**Flammability:**

Flash Point: Non Flammable (>60 °C)

Flammability (solid, gas): Non-applicable \*

Autoignition temperature: Non-applicable \*

Lower flammability limit: Non-applicable \*

Upper flammability limit: Non-applicable \*

**Particle characteristics:**

Median equivalent diameter: Non-applicable

**9.2 Other information:**

**Information with regard to physical hazard classes:**

Explosive properties: Non-applicable \*

Oxidising properties: Non-applicable \*

Corrosive to metals: Non-applicable \*

Heat of combustion: Non-applicable \*

Aerosols-total percentage (by mass) of flammable components: Non-applicable \*

**Other safety characteristics:**

Surface tension at 20 °C: Non-applicable \*

Refraction index: Non-applicable \*

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

**10.2 Chemical stability:**

Chemically stable under the indicated conditions of storage, handling and use.

**10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

**10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

**10.5 Incompatible materials:**

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

**10.6 Hazardous decomposition products:**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

\*\* Changes with regards to the previous version

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### SECTION 11: TOXICOLOGICAL INFORMATION \*\*

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

The experimental information related to the toxicological properties of the product itself is not available

##### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: Non-applicable
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### Other information:

Non-applicable

##### Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
guanidinium chloride	907 mg/kg	>2000 mg/kg	Rat
CAS: 50-01-1		>5 mg/L	
EC: 200-002-3			

##### Acute Toxicity Estimate (ATE mix):

\*\* Changes with regards to the previous version

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### SECTION 11: TOXICOLOGICAL INFORMATION \*\* (continued)

ATE mix		Ingredient(s) of unknown toxicity
Oral	1851,02 mg/kg (Calculation method)	0 %
Dermal	>2000 mg/kg (Calculation method)	Non-applicable
Inhalation	>20 mg/L (4 h) (Calculation method)	Non-applicable

#### 11.2 Information on other hazards:

##### Endocrine disrupting properties

Endocrine-disrupting properties: The product does not meet the criteria.

##### Other information

Non-applicable

\*\* Changes with regards to the previous version

### SECTION 12: ECOLOGICAL INFORMATION \*\*

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

#### 12.1 Toxicity:

##### Chronic toxicity:

Identification	Concentration		Species	Genus
	NOEC			
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	NOEC	181 mg/L	Pimephales promelas	Fish
	NOEC	2,9 mg/L	Daphnia magna	Crustacean

#### 12.2 Persistence and degradability:

##### Substance-specific information:

Identification	Degradability		Biodegradability	
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	BOD5	Non-applicable	Concentration	20 mg/L
	COD	Non-applicable	Period	22 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %

#### 12.3 Bioaccumulative potential:

##### Substance-specific information:

Identification	Bioaccumulation potential	
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	BCF	1
	Pow Log	-1.63
	Potential	Low

#### 12.4 Mobility in soil:

Not available

#### 12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

#### 12.6 Endocrine disrupting properties:

Endocrine-disrupting properties: The product does not meet the criteria.

#### 12.7 Other adverse effects:

Not described

\*\* Changes with regards to the previous version

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Dangerous

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### SECTION 13: DISPOSAL CONSIDERATIONS (continued)

**Type of waste (Regulation (EU) No 1357/2014):**

HP6 Acute Toxicity, HP4 Irritant — skin irritation and eye damage

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

### SECTION 14: TRANSPORT INFORMATION

**Transport of dangerous goods by land:**

With regard to ADR 2023 and RID 2023:

- 14.1 UN number or ID number:** Non-applicable
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
- Labels: Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
- Special regulations: Non-applicable
- Tunnel restriction code: Non-applicable
- Physico-Chemical properties: see section 9
- Limited quantities: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

**Transport of dangerous goods by sea:**

With regard to IMDG 40-20:

- 14.1 UN number or ID number:** Non-applicable
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
- Labels: Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**
- Special regulations: Non-applicable
- EmS Codes:
- Physico-Chemical properties: see section 9
- Limited quantities: Non-applicable
- Segregation group: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2023:

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### SECTION 14: TRANSPORT INFORMATION (continued)

<b>14.1 UN number or ID number:</b>	Non-applicable
<b>14.2 UN proper shipping name:</b>	Non-applicable
<b>14.3 Transport hazard class(es):</b>	Non-applicable
Labels:	Non-applicable
<b>14.4 Packing group:</b>	Non-applicable
<b>14.5 Environmental hazards:</b>	No
<b>14.6 Special precautions for user</b>	
Physico-Chemical properties:	see section 9
<b>14.7 Maritime transport in bulk according to IMO instruments:</b>	Non-applicable

### SECTION 15: REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable  
 Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable  
 Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable  
 Article 95, REGULATION (EU) No 528/2012: Non-applicable  
 REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

**Seveso III:**

Non-applicable

**Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):**

Shall not be used in:  
 —ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,  
 —tricks and jokes,  
 —games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

**Other legislation:**

The product could be affected by sectorial legislation

**15.2 Chemical safety assessment:**

The supplier has not carried out evaluation of chemical safety.

### SECTION 16: OTHER INFORMATION \*\*

**Legislation related to safety data sheets:**

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

**Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:**

\*\* Changes with regards to the previous version

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**SECTION 16: OTHER INFORMATION \*\* (continued)**

COMMISSION REGULATION (EU) 2020/878

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3, SECTION 11, SECTION 12):

- New declared substances  
guanidinium chloride (50-01-1)
- Removed substances  
Dangerous substance 102

Substances that contribute to the classification (SECTION 2):

- New declared substances  
guanidinium chloride (50-01-1)
- Removed substances  
Dangerous substance 102

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

- Hazard statements
- Precautionary statements

**Texts of the legislative phrases mentioned in section 2:**

H315: Causes skin irritation.

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**CLP Regulation (EC) No 1272/2008:**

Acute Tox. 4: H302 - Harmful if swallowed.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Skin Irrit. 2: H315 - Causes skin irritation.

**Classification procedure:**

Skin Irrit. 2: Calculation method

Acute Tox. 4: Calculation method

Eye Irrit. 2: Calculation method

**Advice related to training:**

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**<http://echa.europa.eu><http://eur-lex.europa.eu>**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

**\*\* Changes with regards to the previous version**

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

**MB21602 - Buffer NFW1**

Date of compilation: 13/08/2020


Revised: 26/10/2023

Version: 2 (Replaced 1)

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** MB21602 - Buffer NFW1  
**Other means of identification:**  
Non-applicable
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: Laboratory. For professional users only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**  
NZYtech, Lda  
Estrada do Paco do Lumiar Campus do Lumiar - Edif. E, r/c  
1649-038 Lisboa - Lisboa - Portugal  
Phone: +351 213643514  
info@nzytech.com  
www.nzytech.com
- 1.4 Emergency telephone number:** Contact Local Poison Information Center or Local Emergency Number

**SECTION 2: HAZARDS IDENTIFICATION \*\***

- 2.1 Classification of the substance or mixture:**  
**CLP Regulation (EC) No 1272/2008:**  
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.  
Eye Irrit. 2: Eye irritation, Category 2, H319  
Flam. Liq. 3: Flammable liquids, Category 3, H226  
Skin Irrit. 2: Skin irritation, Category 2, H315
- 2.2 Label elements:**  
**CLP Regulation (EC) No 1272/2008:**  
Labelling of packages where the contents do not exceed 125 ml:  
**Warning**  
  
**Hazard statements:**  
Non-applicable  
**Precautionary statements:**  
Non-applicable  
**UFI:** H830-K00U-T00Q-Y3G6
- 2.3 Other hazards:**  
Product does not meet PBT/vPvB criteria  
Endocrine-disrupting properties: The product does not meet the criteria.

*\*\* Changes with regards to the previous version***SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\***

- 3.1 Substance:**  
Non-applicable
- 3.2 Mixture:**  
**Chemical description:** Mixture of substances  
**Components:**

*\*\* Changes with regards to the previous version*

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\* (continued)

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 50-01-1 EC: 200-002-3 Index: 607-148-00-0 REACH: 01-2119977063-35-XXXX	<b>guanidinium chloride<sup>(1)</sup></b>	Self-classified
	Regulation 1272/2008 Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315 - Warning	

<sup>(1)</sup> Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

**\*\* Changes with regards to the previous version**

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

##### By inhalation:

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

##### By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

##### By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

##### By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

#### 4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed:

Non-applicable

### SECTION 5: FIREFIGHTING MEASURES

#### 5.1 Extinguishing media:

##### Suitable extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO<sub>2</sub>).

##### Unsuitable extinguishing media:

IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

#### 5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

#### 5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

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### SECTION 5: FIREFIGHTING MEASURES (continued)

#### Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures:

##### For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

##### For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

#### 6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

#### 6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

#### 6.4 Reference to other sections:

See sections 8 and 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 2014/34/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

#### 7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

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### SECTION 7: HANDLING AND STORAGE (continued)

#### 7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

There are no applicable occupational exposure limits for the substances contained in the product

#### DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	1 mg/kg	Non-applicable
	Inhalation	10,5 mg/m <sup>3</sup>	Non-applicable	3,5 mg/m <sup>3</sup>	Non-applicable

#### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	Oral	Non-applicable	Non-applicable	0,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0,87 mg/m <sup>3</sup>	Non-applicable

#### PNEC:

Non-applicable

#### 8.2 Exposure controls:



A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks			Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN ISO 21420:2020 and EN ISO 374-1:2016+A1:2018

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.		EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

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#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Antistatic and fireproof protective clothing		EN 1149-1:2006 EN 1149-2:1997 EN 1149-3:2004 EN 168:2002 EN ISO 14116:2015 EN 1149-5:2018	Limited protection against flames.
 Mandatory foot protection	Safety footwear with antistatic and heat resistant properties		EN ISO 13287:2020 EN ISO 20345:2011	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**Volatile organic compounds:**

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	54 % weight
V.O.C. density at 20 °C:	515,34 kg/m <sup>3</sup> (515,34 g/L)
Average carbon number:	2
Average molecular weight:	46,1 g/mol

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C:	Liquid
Appearance:	Not available
Colour:	Colourless
Odour:	Alcohol
Odour threshold:	Non-applicable *

**Volatility:**

Boiling point at atmospheric pressure:	81 °C
Vapour pressure at 20 °C:	5140 Pa
Vapour pressure at 50 °C:	24546,63 Pa (24,55 kPa)
Evaporation rate at 20 °C:	Non-applicable *

**Product description:**

Density at 20 °C:	1000 kg/m <sup>3</sup>
Relative density at 20 °C:	0,954
Dynamic viscosity at 20 °C:	2,07 cP
Kinematic viscosity at 20 °C:	2,17 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Concentration:	Non-applicable *
pH:	5 - 7
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

**Flammability:**

Flash Point:	26 °C
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	423 °C
Lower flammability limit:	Not available
Upper flammability limit:	Not available

**Particle characteristics:**

Median equivalent diameter:	Non-applicable
-----------------------------	----------------

**9.2 Other information:**

**Information with regard to physical hazard classes:**

Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *
Aerosols-total percentage (by mass) of flammable components:	Non-applicable *

**Other safety characteristics:**

Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

**10.2 Chemical stability:**

Chemically stable under the indicated conditions of storage, handling and use.

**10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

**10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

**10.5 Incompatible materials:**

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

**10.6 Hazardous decomposition products:**

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**SECTION 10: STABILITY AND REACTIVITY (continued)**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

**SECTION 11: TOXICOLOGICAL INFORMATION \*\*****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**

The experimental information related to the toxicological properties of the product itself is not available

**Dangerous health implications:**

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

## A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

## B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

## C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

## D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: ethanol (1)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

## E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

## F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

## G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

## H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**Other information:**

Non-applicable

**Specific toxicology information on the substances:**

\*\* Changes with regards to the previous version

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#### SECTION 11: TOXICOLOGICAL INFORMATION \*\* (continued)

Identification	Acute toxicity		Genus
	LD50 oral	907 mg/kg	
guanidinium chloride	LD50 dermal	>2000 mg/kg	Rat
CAS: 50-01-1	LC50 inhalation	>5 mg/L	
EC: 200-002-3			

#### Acute Toxicity Estimate (ATE mix):

ATE mix		Ingredient(s) of unknown toxicity
Oral	2591,43 mg/kg (Calculation method)	0 %
Dermal	>2000 mg/kg (Calculation method)	Non-applicable
Inhalation	>20 mg/L (4 h) (Calculation method)	Non-applicable

#### 11.2 Information on other hazards:

##### Endocrine disrupting properties

Endocrine-disrupting properties: The product does not meet the criteria.

##### Other information

Non-applicable

\*\* Changes with regards to the previous version

#### SECTION 12: ECOLOGICAL INFORMATION \*\*

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

#### 12.1 Toxicity:

##### Chronic toxicity:

Identification	Concentration		Species	Genus
	NOEC	181 mg/L		
guanidinium chloride	NOEC	2,9 mg/L	Pimephales promelas	Fish
CAS: 50-01-1 EC: 200-002-3			Daphnia magna	Crustacean

#### 12.2 Persistence and degradability:

##### Substance-specific information:

Identification	Degradability		Biodegradability	
	BOD5	Non-applicable	Concentration	20 mg/L
guanidinium chloride	COD	Non-applicable	Period	22 days
CAS: 50-01-1	BOD5/COD	Non-applicable	% Biodegradable	100 %
EC: 200-002-3				

#### 12.3 Bioaccumulative potential:

##### Substance-specific information:

Identification	Bioaccumulation potential	
	BCF	1
guanidinium chloride	Pow Log	-1.63
CAS: 50-01-1	Potential	Low
EC: 200-002-3		

#### 12.4 Mobility in soil:

Not available

#### 12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

#### 12.6 Endocrine disrupting properties:

Endocrine-disrupting properties: The product does not meet the criteria.

#### 12.7 Other adverse effects:

Not described

\*\* Changes with regards to the previous version

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Dangerous

#### Type of waste (Regulation (EU) No 1357/2014):

HP3 Flammable, HP6 Acute Toxicity, HP4 Irritant — skin irritation and eye damage

#### Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See paragraph 6.2.

#### Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

### SECTION 14: TRANSPORT INFORMATION \*\*

#### Transport of dangerous goods by land:

With regard to ADR 2023 and RID 2023:



- 14.1 UN number or ID number:** UN1993
- 14.2 UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ethanol)
- 14.3 Transport hazard class(es):** 3
- Labels: 3
- 14.4 Packing group:** III
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
- Special regulations: 274, 601
- Tunnel restriction code: D/E
- Physico-Chemical properties: see section 9
- Limited quantities: 5 L
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

#### Transport of dangerous goods by sea:

With regard to IMDG 40-20:



- 14.1 UN number or ID number:** UN1993
- 14.2 UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ethanol)
- 14.3 Transport hazard class(es):** 3
- Labels: 3
- 14.4 Packing group:** III
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**
- Special regulations: 274, 223, 955
- EmS Codes: F-E, S-E
- Physico-Chemical properties: see section 9
- Limited quantities: 5 L
- Segregation group: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

#### Transport of dangerous goods by air:

\*\* Changes with regards to the previous version

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### SECTION 14: TRANSPORT INFORMATION \*\* (continued)

With regard to IATA/ICAO 2023:



- |  |                                    |
|--|------------------------------------|
| <b>14.1 UN number or ID number:</b>                                  | UN1993                             |
| <b>14.2 UN proper shipping name:</b>                                 | FLAMMABLE LIQUID, N.O.S. (ethanol) |
| <b>14.3 Transport hazard class(es):</b>                              | 3                                  |
| Labels:  | 3                                  |
| <b>14.4 Packing group:</b>   | III                                |
| <b>14.5 Environmental hazards:</b>                                   | No                                 |
| <b>14.6 Special precautions for user</b>                             |                                    |
| Physico-Chemical properties:   | see section 9                      |
| <b>14.7 Maritime transport in bulk according to IMO instruments:</b> | Non-applicable                     |

\*\* Changes with regards to the previous version

### SECTION 15: REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

#### Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c	FLAMMABLE LIQUIDS	5000	50000

#### Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ...):

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

#### Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

#### Other legislation:

The product could be affected by sectorial legislation

#### 15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

### SECTION 16: OTHER INFORMATION \*\*

#### Legislation related to safety data sheets:

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

#### Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

\*\* Changes with regards to the previous version

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**MB21602 - Buffer NFW1**

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**SECTION 16: OTHER INFORMATION \*\* (continued)**

COMMISSION REGULATION (EU) 2020/878

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3, SECTION 11, SECTION 12):

- New declared substances  
guanidinium chloride (50-01-1)
- Removed substances  
ethanol (64-17-5)  
Dangerous substance 102

Substances that contribute to the classification (SECTION 2):

- Removed substances  
ethanol (64-17-5)  
Dangerous substance 102

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

- Pictograms
- Hazard statements
- Precautionary statements

TRANSPORT INFORMATION (SECTION 14):

- UN number
- Packing group

**Texts of the legislative phrases mentioned in section 2:**

H315: Causes skin irritation.

H226: Flammable liquid and vapour.

H319: Causes serious eye irritation.

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**CLP Regulation (EC) No 1272/2008:**

Acute Tox. 4: H302 - Harmful if swallowed.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Skin Irrit. 2: H315 - Causes skin irritation.

**Classification procedure:**

Skin Irrit. 2: Calculation method

Flam. Liq. 3: Calculation method (2.6.4.3)

Eye Irrit. 2: Calculation method

**Advice related to training:**

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**<http://echa.europa.eu><http://eur-lex.europa.eu>**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

**\*\* Changes with regards to the previous version**

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

## MB21602 - Proteinase K

Date of compilation: 13/08/2020

Revised: 26/10/2023

Version: 2 (Replaced 1)

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**1.1 Product identifier:** MB21602 - Proteinase K

proteinase k

CAS: 39450-01-6

EC: 254-457-8

Index: Non-applicable

REACH: Non-applicable

**Other means of identification:**

Non-applicable

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Relevant uses: Laboratory. For professional users only.

Uses advised against: All uses not specified in this section or in section 7.3

**1.3 Details of the supplier of the safety data sheet:**

NZYtech, Lda

Estrada do Paco do Lumiar Campus do Lumiar - Edif. E, r/c

1649-038 Lisboa - Lisboa - Portugal

Phone: +351 213643514

info@nzytech.com

www.nzytech.com

**1.4 Emergency telephone number:** National Poison Center (Portugal) CIAV: +351 800 250 250; Outside Portugal: Call your regional Poisons Information Service or call local Life Saving Service.

### SECTION 2: HAZARDS IDENTIFICATION \*\*

**2.1 Classification of the substance or mixture:**

**CLP Regulation (EC) No 1272/2008:**

Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.

Eye Irrit. 2: Eye irritation, Category 2, H319

Resp. Sens. 1: Sensitisation, respiratory, Category 1, H334

Skin Irrit. 2: Skin irritation, Category 2, H315

**2.2 Label elements:**

**CLP Regulation (EC) No 1272/2008:**

Labelling of packages where the contents do not exceed 125 ml:

**Danger**



**Hazard statements:**

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Precautionary statements:**

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

**2.3 Other hazards:**

Product does not meet PBT/vPvB criteria

Endocrine-disrupting properties: The product does not meet the criteria.

\*\* Changes with regards to the previous version

\*\* Changes with regards to the previous version

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS \*\*

#### 3.1 Substance:

**Chemical description:** Organic substance

#### Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 39450-01-6 EC: 254-457-8 Index: Non-applicable REACH: Non-applicable	<b>proteinase k</b> Regulation 1272/2008 Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315 - Danger	Self-classified  <b>100 %</b>

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

#### 3.2 Mixture:

Non-applicable

*\*\* Changes with regards to the previous version*

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

##### By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

##### By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

##### By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

##### By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

#### 4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed:

Non-applicable

### SECTION 5: FIREFIGHTING MEASURES

#### 5.1 Extinguishing media:

##### Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

##### Unsuitable extinguishing media:

Non-applicable

#### 5.2 Special hazards arising from the substance or mixture:

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**SECTION 5: FIREFIGHTING MEASURES (continued)**

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

**5.3 Advice for firefighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

**Additional provisions:**

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Preferably use aspiration for cleaning. Given the danger of the product by inhalation, any cleaning method that involves exposure to the product in this way (sweeping, etc.) is not recommended

**For emergency responders:**

Wear protective equipment. Keep unprotected persons away. See section 8.

**6.2 Environmental precautions:**

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

**6.3 Methods and material for containment and cleaning up:**

It is recommended:

Preferably use aspiration for cleaning. Given the danger of the product by inhalation, any cleaning method that involves exposure to the product in this way (sweeping, etc.) is not recommended

**6.4 Reference to other sections:**

See sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling:**

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

Due to its non-inflammable nature, the product does not present a fire risk under normal conditions of storage, handling and use.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

**7.2 Conditions for safe storage, including any incompatibilities:**

A.- Technical measures for storage

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

Nuisance dust: Inhalable dust 10 mg/m<sup>3</sup> // Respirable dust 4 mg/m<sup>3</sup>

#### DNEL (Workers):

Non-applicable

#### DNEL (General population):

Non-applicable

#### PNEC:

Non-applicable

#### 8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	 CAT III	EN 405:2002+A1:2010	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks	 CAT I		Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN ISO 21420:2020 and EN ISO 374-1:2016+A1:2018

D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	 CAT II	EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing	 CAT I		Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994.
	Anti-slip work shoes	 CAT II	EN ISO 20347:2012	Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 20345:2012 y EN 13832-1:2007

F.- Additional emergency measures

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**Volatile organic compounds:**

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	0 % weight
V.O.C. density at 20 °C:	0 kg/m <sup>3</sup> (0 g/L)
Average carbon number:	Non-applicable
Average molecular weight:	Non-applicable

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C:	Solid
Appearance:	Not available
Colour:	Grey
Odour:	Odourless
Odour threshold:	Non-applicable *

**Volatility:**

Boiling point at atmospheric pressure:	Non-applicable *
Vapour pressure at 20 °C:	Non-applicable *
Vapour pressure at 50 °C:	Non-applicable *
Evaporation rate at 20 °C:	Non-applicable *

**Product description:**

Density at 20 °C:	1000 kg/m <sup>3</sup>
Relative density at 20 °C:	1
Dynamic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

**Flammability:**

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Flash Point:	Non-applicable
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
<b>Explosive (Solid):</b>	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *
<b>Particle characteristics:</b>	
Median equivalent diameter:	Non-applicable *

#### 9.2 Other information:

##### Information with regard to physical hazard classes:

Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *
Aerosols-total percentage (by mass) of flammable components:	Non-applicable *

##### Other safety characteristics:

Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

#### 10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

#### 10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

#### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

#### 10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

#### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

### SECTION 11: TOXICOLOGICAL INFORMATION \*\*

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

\*\* Changes with regards to the previous version

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### SECTION 11: TOXICOLOGICAL INFORMATION \*\* (continued)

The experimental information related to the toxicological properties of the product itself is not available

#### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

##### A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

##### B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

##### D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: Non-applicable
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### E- Sensitizing effects:

- Respiratory: Prolonged exposure can result in specific respiratory hypersensitivity.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

##### H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

#### Other information:

Non-applicable

#### Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
proteinase k	>2000 mg/kg	>2000 mg/kg	
CAS: 39450-01-6			
EC: 254-457-8	LC50 inhalation	Non-applicable	

#### 11.2 Information on other hazards:

##### Endocrine disrupting properties

Endocrine-disrupting properties: The product does not meet the criteria.

\*\* Changes with regards to the previous version

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### SECTION 11: TOXICOLOGICAL INFORMATION \*\* (continued)

**Other information**

Non-applicable

\*\* Changes with regards to the previous version

### SECTION 12: ECOLOGICAL INFORMATION

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**12.1 Toxicity:**

Not available

**12.2 Persistence and degradability:**

Not available

**12.3 Bioaccumulative potential:**

Not available

**12.4 Mobility in soil:**

Not available

**12.5 Results of PBT and vPvB assessment:**

Product does not meet PBT/vPvB criteria

**12.6 Endocrine disrupting properties:**

Endocrine-disrupting properties: The product does not meet the criteria.

**12.7 Other adverse effects:**

Not described

### SECTION 13: DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods:**

Code	Description	Waste class (Regulation (EU) No 1357/2014)
16 03 05*	organic wastes containing hazardous substances	Dangerous

**Type of waste (Regulation (EU) No 1357/2014):**

HP13 Sensitising, HP4 Irritant — skin irritation and eye damage

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

### SECTION 14: TRANSPORT INFORMATION

**Transport of dangerous goods by land:**

With regard to ADR 2023 and RID 2023:

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### SECTION 14: TRANSPORT INFORMATION (continued)

- |  |                |
|--|----------------|
| <b>14.1 UN number or ID number:</b>                                  | Non-applicable |
| <b>14.2 UN proper shipping name:</b>                                 | Non-applicable |
| <b>14.3 Transport hazard class(es):</b>                              | Non-applicable |
| Labels:  | Non-applicable |
| <b>14.4 Packing group:</b>   | Non-applicable |
| <b>14.5 Environmental hazards:</b>                                   | No             |
| <b>14.6 Special precautions for user</b>                             |                |
| Special regulations:   | Non-applicable |
| Tunnel restriction code:   | Non-applicable |
| Physico-Chemical properties:   | see section 9  |
| Limited quantities:  | Non-applicable |
| <b>14.7 Maritime transport in bulk according to IMO instruments:</b> | Non-applicable |

#### Transport of dangerous goods by sea:

With regard to IMDG 40-20:

- |  |                |
|--|----------------|
| <b>14.1 UN number or ID number:</b>                                  | Non-applicable |
| <b>14.2 UN proper shipping name:</b>                                 | Non-applicable |
| <b>14.3 Transport hazard class(es):</b>                              | Non-applicable |
| Labels:  | Non-applicable |
| <b>14.4 Packing group:</b>   | Non-applicable |
| <b>14.5 Marine pollutant:</b>  | No             |
| <b>14.6 Special precautions for user</b>                             |                |
| Special regulations:   | Non-applicable |
| EmS Codes:   |                |
| Physico-Chemical properties:   | see section 9  |
| Limited quantities:  | Non-applicable |
| Segregation group:   | Non-applicable |
| <b>14.7 Maritime transport in bulk according to IMO instruments:</b> | Non-applicable |

#### Transport of dangerous goods by air:

With regard to IATA/ICAO 2023:

- |  |                |
|--|----------------|
| <b>14.1 UN number or ID number:</b>                                  | Non-applicable |
| <b>14.2 UN proper shipping name:</b>                                 | Non-applicable |
| <b>14.3 Transport hazard class(es):</b>                              | Non-applicable |
| Labels:  | Non-applicable |
| <b>14.4 Packing group:</b>   | Non-applicable |
| <b>14.5 Environmental hazards:</b>                                   | No             |
| <b>14.6 Special precautions for user</b>                             |                |
| Physico-Chemical properties:   | see section 9  |
| <b>14.7 Maritime transport in bulk according to IMO instruments:</b> | Non-applicable |

### SECTION 15: REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

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**SECTION 15: REGULATORY INFORMATION (continued)**

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

**Seveso III:**

Non-applicable

**Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):**

Non-applicable

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

**Other legislation:**

The product could be affected by sectorial legislation

**15.2 Chemical safety assessment:**

The supplier has not carried out evaluation of chemical safety.

**SECTION 16: OTHER INFORMATION \*\*****Legislation related to safety data sheets:**

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

**Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:**

COMMISSION REGULATION (EU) 2020/878

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3, SECTION 11):

- New declared substances  
proteinase k (39450-01-6)
- Removed substances  
Proteases with the exception of those specified elsewhere in this Annex (39450-01-6)

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

- Pictograms
- Hazard statements
- Precautionary statements

**Texts of the legislative phrases mentioned in section 2:**

H315: Causes skin irritation.

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

H319: Causes serious eye irritation.

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**CLP Regulation (EC) No 1272/2008:**

Eye Irrit. 2: H319 - Causes serious eye irritation.

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Irrit. 2: H315 - Causes skin irritation.

**Advice related to training:**

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**<http://echa.europa.eu><http://eur-lex.europa.eu>**Abbreviations and acronyms:***\*\* Changes with regards to the previous version*

- CONTINUED ON NEXT PAGE -

## MB21602 - Proteinase K

Date of compilation: 13/08/2020

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### SECTION 16: OTHER INFORMATION \*\* (continued)

ADR: European agreement concerning the international carriage of dangerous goods by road  
IMDG: International maritime dangerous goods code  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
COD: Chemical Oxygen Demand  
BOD5: 5day biochemical oxygen demand  
BCF: Bioconcentration factor  
LD50: Lethal Dose 50  
LC50: Lethal Concentration 50  
EC50: Effective concentration 50  
LogPOW: Octanolwater partition coefficient  
Koc: Partition coefficient of organic carbon  
UFI: unique formula identifier  
IARC: International Agency for Research on Cancer

*\*\* Changes with regards to the previous version*

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -