

**Product name: NZY Total RNA isolation kit****Catalogue reference(s):** MB13402, 50 columns

Components	MB13402	Safety Information	Unique Formula Identifier (UFI)
Buffer NWR2 (concentrate)	1 x 12.5 mL	Not Hazardous *	3X20-J088-K00Q-AR4X
DNase I (lyophilized)	1 vial	See specific SDS	
Collection tubes (2 mL)	100 units	Not Hazardous *	
Buffer NWR1	1 x 15 mL	See specific SDS	
RNase-free water	1 x 15 mL	Not Hazardous *	C330-J0N2-600Q-NEA2
Collection tubes (1.5 mL)	50 units	Not Hazardous *	
Buffer NI	1 x 25 mL	See specific SDS	
Digestion buffer	1 x 5 mL	Not Hazardous *	
NZYSpin Binding Columns	50 columns	Not Hazardous *	W130-10XN-W007-02R0
Buffer NR	1 x 25 mL	See specific SDS	
NZYSpin Homogenization Columns	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.

## MB134 - DNase I (lyophilized)

Date of compilation: 12/08/2020

Revised: 06/10/2023

Version: 2 (Replaced 1)

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

**1.1 Product identifier:** MB134 - DNase I (lyophilized)

Nuclease, deoxyribo-

CAS: 9003-98-9

EC: 232-667-0

Index: Non-applicable

REACH: 01-2120756696-38-XXXX

**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.

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

**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.

P284: Wear respiratory protection.

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.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:**

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

**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: 9003-98-9 EC: 232-667-0 Index: Non-applicable REACH: 01-2120756696-38-XXXX	<b>Nuclease, deoxyribo-</b>	Self-classified	100 %
	Regulation 1272/2008	Resp. Sens. 1: H334 - Danger 	

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

**3.2 Mixture:**

Non-applicable

### 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:**

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of changes to the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety Data Sheet

**By eye contact:**

This product does not contain substances classified as hazardous for eye contact. Rinse eyes thoroughly for at least 15 minutes with lukewarm water, ensuring that the person affected does not rub or close their eyes.

**By ingestion/aspiration:**

In case of consumption, seek immediate medical assistance showing the SDS for the product.

**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.

**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:**

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-flammable 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.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **8.1 Control parameters:**

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

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:**



Identification				
Nuclease, deoxyribo- CAS: 9003-98-9 EC: 232-667-0	STP	65 mg/L	Fresh water	0,00089 mg/L
	Soil	0,00012 mg/kg	Marine water	0,000089 mg/L
	Intermittent	0,0089 mg/L	Sediment (Fresh water)	Non-applicable
	Oral	Non-applicable	Sediment (Marine water)	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		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			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.		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.
	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

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

#### 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:	Solid
Appearance:	Not available
Colour:	White
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:	1370 kg/m <sup>3</sup>
Relative density at 20 °C:	1,37
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 *

\*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)

**Flammability:**

Flash Point:	Non-applicable
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

**Explosive (Solid):**

Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *

**Particle characteristics:**

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

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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: 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.

##### 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: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for skin contact. For more information see section 3.
- Contact with the eyes: 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.

##### 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
Nuclease, deoxyribo- CAS: 9003-98-9 EC: 232-667-0	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	Non-applicable	

#### **11.2 Information on other hazards:**

##### **Endocrine disrupting properties**

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### SECTION 11: TOXICOLOGICAL INFORMATION (continued)

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

#### Other information

Non-applicable

### 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:

##### Substance-specific information:

Identification	Degradability		Biodegradability	
Nuclease, deoxyribo- CAS: 9003-98-9 EC: 232-667-0	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	95 %

#### 12.3 Bioaccumulative potential:

##### Substance-specific information:

Identification	Bioaccumulation potential	
Nuclease, deoxyribo- CAS: 9003-98-9 EC: 232-667-0	BCF	
	Pow Log	250
	Potential	

#### 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

##### 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

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### SECTION 14: TRANSPORT INFORMATION

#### Transport of dangerous goods by land:

With regard to ADR 2023 and RID 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>                             |                |
| 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

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### SECTION 15: REGULATORY INFORMATION (continued)

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 ....):**

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

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

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

**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:**

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

**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

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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 -**

## MB134 - Buffer NWR1

Date of compilation: 12/08/2020



Revised: 06/10/2023

Version: 3 (Replaced 2)

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

- 1.1 Product identifier:** MB134 - Buffer NWR1
- 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:** 3X20-J088-K00Q-AR4X
- 2.3 Other hazards:**  
Product does not meet PBT/vPvB criteria  
Endocrine-disrupting properties: The product does not meet the criteria.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**  
Non-applicable
- 3.2 Mixture:**  
**Chemical description:** Mixture of substances  
**Components:**  
In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

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

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	<b>24 - &lt;36 %</b>
	Regulation 1272/2008	Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315 - Warning 	
CAS: 64-17-5 EC: 200-578-6 Index: 603-002-00-5 REACH: 01-2119457610-43-XXXX	<b>ethanol<sup>(2)</sup></b>	ATP CLP00	<b>20 - &lt;35 %</b>
	Regulation 1272/2008	Flam. Liq. 2: H225 - Danger 	

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

<sup>(2)</sup> Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No. 2020/878

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

### 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:

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### SECTION 5: FIREFIGHTING MEASURES (continued)

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. 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

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

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.

### 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
ethanol CAS: 64-17-5 EC: 200-578-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	343 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	950 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
ethanol CAS: 64-17-5 EC: 200-578-6	Oral	Non-applicable	Non-applicable	87 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	206 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	114 mg/m <sup>3</sup>	Non-applicable

##### PNEC:

Identification				
ethanol CAS: 64-17-5 EC: 200-578-6	STP	580 mg/L	Fresh water	0,96 mg/L
	Soil	0,63 mg/kg	Marine water	0,79 mg/L
	Intermittent	2,75 mg/L	Sediment (Fresh water)	3,6 mg/kg
	Oral	0,38 g/kg	Sediment (Marine water)	2,9 mg/kg

#### 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

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





Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Linear low-density polyethylene (LLDPE), Breakthrough time: > 480 min, Thickness: 0.062 mm)		EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

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
 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):	34 % weight
V.O.C. density at 20 °C:	343,76 kg/m <sup>3</sup> (343,76 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

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

\*\* Changes with regards to the previous version

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

Colour:	Colourless
Odour:	Alcohol
Odour threshold:	Non-applicable *
<b>Volatility:</b>	
Boiling point at atmospheric pressure:	87 °C
Vapour pressure at 20 °C:	3623 Pa
Vapour pressure at 50 °C:	17931,77 Pa (17,93 kPa)
Evaporation rate at 20 °C:	Non-applicable *
<b>Product description:</b>	
Density at 20 °C:	1030 kg/m <sup>3</sup>
Relative density at 20 °C:	1,011
Dynamic viscosity at 20 °C:	1,99 cP
Kinematic viscosity at 20 °C:	1,97 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	6,5 - 7,5
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 *
<b>Flammability:</b>	
Flash Point:	28 °C
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	423 °C
Lower flammability limit:	Not available
Upper flammability limit:	Not available
<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.

\*\* Changes with regards to the previous version

### SECTION 10: STABILITY AND REACTIVITY

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

#### 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:

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.

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### SECTION 11: TOXICOLOGICAL INFORMATION (continued)

#### 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
guanidinium chloride CAS: 50-01-1 EC: 200-002-3	LD50 oral	907 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	>5 mg/L	
ethanol CAS: 64-17-5 EC: 200-578-6	LD50 oral	6200 mg/kg	Rat
	LD50 dermal	20000 mg/kg	Rabbit
	LC50 inhalation	124,7 mg/L (4 h)	Rat

#### 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

### 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:

##### Acute toxicity:

Identification	Concentration		Species	Genus
ethanol CAS: 64-17-5 EC: 200-578-6	LC50	11000 mg/L (96 h)	Alburnus alburnus	Fish
	EC50	9268 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	1450 mg/L (192 h)	Microcystis aeruginosa	Algae

##### Chronic toxicity:

Identification	Concentration		Species	Genus
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
ethanol CAS: 64-17-5 EC: 200-578-6	NOEC	250 mg/L	Danio rerio	Fish
	NOEC	2 mg/L	Ceriodaphnia dubia	Crustacean

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### SECTION 12: ECOLOGICAL INFORMATION (continued)

#### 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 %
ethanol CAS: 64-17-5 EC: 200-578-6	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	89 %

#### 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
ethanol CAS: 64-17-5 EC: 200-578-6	BCF	3
	Pow Log	-0.31
	Potential	Low

#### 12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
ethanol CAS: 64-17-5 EC: 200-578-6	Koc	1	Henry	4,61E-1 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2,339E-2 N/m (25 °C)	Moist soil	Yes

#### 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)
	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

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### SECTION 14: TRANSPORT INFORMATION (continued)

#### Transport of dangerous goods by land:

With regard to ADR 2023 and RID 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>                             |                                    |
| Special regulations:   | 274, 601                           |
| Tunnel restriction code:   | D/E                                |
| Physico-Chemical properties:   | see section 9                      |
| Limited quantities:  | 5 L                                |
| <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>                                  | 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 Marine pollutant:</b>  | No                                 |
| <b>14.6 Special precautions for user</b>                             |                                    |
| 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                     |
| <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>                                  | 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                     |

### 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

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### SECTION 15: REGULATORY INFORMATION (continued)

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

Article 95, REGULATION (EU) No 528/2012: ethanol (Product-type 1, 2, 4)

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.:

Information on basic physical and chemical properties (SECTION 9):

- Flash Point

#### 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.

Flam. Liq. 2: H225 - Highly flammable liquid and vapour.

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:

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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

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 -**

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

**1.1 Product identifier:** MB134 - Buffer NI

**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 Dam. 1: Serious eye damage, Category 1, H318

Flam. Liq. 3: Flammable liquids, Category 3, H226

Skin Corr. 1C: Skin corrosion, Category 1C, H314

**2.2 Label elements:**

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

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

**Danger**



**Hazard statements:**

Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.

**Precautionary statements:**

P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Supplementary information:**

EUH032: Contact with acids liberates very toxic gas.

EUH071: Corrosive to the respiratory tract.

**Substances that contribute to the classification**

Guanidinium thiocyanate

**UFI:** C330-J0N2-600Q-NEA2

**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

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

#### 3.1 Substance:


Non-applicable

#### 3.2 Mixture:

**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: 593-84-0 EC: 209-812-1 Index: Non-applicable REACH: 01-2120735072-65-XXXX	<b>Guanidinium thiocyanate<sup>(1)</sup></b> Self-classified		<b>2,5 - &lt;10 %</b>
	Regulation 1272/2008	Acute Tox. 4: H302+H312+H332; Aquatic Chronic 3: H412; Eye Dam. 1: H318; Skin Corr. 1C: H314; EUH071 - Danger 	

<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.

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

Identification	Acute toxicity		Genus
Guanidinium thiocyanate	LD50 oral	Non-applicable	
CAS: 593-84-0	LD50 dermal	1100 mg/kg (ATEi)	
EC: 209-812-1	LC50 inhalation	11 mg/L (ATEi)	

\*\* Changes with regards to the previous version

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

Request medical assistance immediately, 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:

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and also risk damage to the respiratory system through inhalation. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. 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

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### SECTION 5: FIREFIGHTING MEASURES (continued)

#### 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.

##### 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:

It is recommended to avoid environmental spillage of both the product and its container.

#### 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

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

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

#### 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 thiocyanate CAS: 593-84-0 EC: 209-812-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,31 mg/kg	Non-applicable
	Inhalation	3,28 mg/m <sup>3</sup>	Non-applicable	1,092 mg/m <sup>3</sup>	Non-applicable

##### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Guanidinium thiocyanate CAS: 593-84-0 EC: 209-812-1	Oral	Non-applicable	Non-applicable	0,155 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,155 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0,27 mg/m <sup>3</sup>	Non-applicable

##### PNEC:

Identification					
Guanidinium thiocyanate CAS: 593-84-0 EC: 209-812-1	STP	20 mg/L	Fresh water	0,0424 mg/L	
	Soil	0,00803 mg/kg	Marine water	0,00424 mg/L	
	Intermittent	0,424 mg/L	Sediment (Fresh water)	0,165 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	0,0165 mg/kg	

#### 8.2 Exposure controls:

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

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

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	Chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.11 mm)	 CAT III	EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

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	Face shield	 CAT II	EN 166:2002 EN 167:2002 EN 168:2002 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
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	 CAT III	EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2013 EN ISO 6530:2005 EN ISO 13688:2013 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	 CAT III	EN ISO 13287:2020 EN ISO 20345:2011 EN 13832-1:2019	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): 19 % weight

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

V.O.C. density at 20 °C:	186,42 kg/m <sup>3</sup> (186,42 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:	95 °C
Vapour pressure at 20 °C:	2747 Pa
Vapour pressure at 50 °C:	14110,3 Pa (14,11 kPa)
Evaporation rate at 20 °C:	Non-applicable *

##### Product description:

Density at 20 °C:	1010 kg/m <sup>3</sup>
Relative density at 20 °C:	0,981
Dynamic viscosity at 20 °C:	1,27 cP
Kinematic viscosity at 20 °C:	1,29 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	6,8 - 7,2
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:	55 °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
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#### 9.2 Other information:

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

Explosive properties:	Non-applicable *
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\*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)

Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *
Aerosols-total percentage (by mass) of flammable components:	Non-applicable *
<b>Other safety characteristics:</b>	
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
Produces very toxic gases	Not applicable	Avoid direct impact	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:

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: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

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

- Acute toxicity : Can be fatal after prolonged periods of exposure, as it releases toxic gases when it comes into contact with acids
- Corrosivity/Irritability: Corrosive to the respiratory tract

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

\*\* Changes with regards to the previous version

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

- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.
- Contact with the eyes: Produces serious 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:

Identification	Acute toxicity		Genus
Guanidinium thiocyanate	LD50 oral	593 mg/kg	Rat
CAS: 593-84-0	LD50 dermal	1100 mg/kg (ATEi)	
EC: 209-812-1	LC50 inhalation	11 mg/L (ATEi)	

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

ATE mix		Ingredient(s) of unknown toxicity
Oral	6588,89 mg/kg (Calculation method)	0 %
Dermal	12222,22 mg/kg (Calculation method)	0 %
Inhalation	122,22 mg/L (4 h) (Calculation method)	0 %

### 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

\*\* Changes with regards to the previous version

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### SECTION 12: ECOLOGICAL INFORMATION \*\* (continued)

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

#### 12.1 Toxicity:

##### Acute toxicity:

Identification	Concentration	Species	Genus
Guanidinium thiocyanate	LC50 89,1 mg/L (96 h)	Poecilia reticulata	Fish
CAS: 593-84-0	EC50 42,4 mg/L (48 h)	Daphnia magna	Crustacean
EC: 209-812-1	EC50 130 mg/L (72 h)	Desmodesmus subspicatus	Algae

#### 12.2 Persistence and degradability:

##### Substance-specific information:

Identification	Degradability	Biodegradability
Guanidinium thiocyanate	BOD5 Non-applicable	Concentration 343 mg/L
CAS: 593-84-0	COD Non-applicable	Period 28 days
EC: 209-812-1	BOD5/COD Non-applicable	% Biodegradable 32 %

#### 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

\*\* 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

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

HP3 Flammable, HP12 Release of an acute toxic gas, HP8 Corrosive

##### 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:

\*\* Changes with regards to the previous version

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



- 14.1 UN number or ID number:** UN2924
- 14.2 UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol)
- 14.3 Transport hazard class(es):** 3  
Labels: 3, 8
- 14.4 Packing group:** III
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**  
Special regulations: 274  
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:** UN2924
- 14.2 UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol)
- 14.3 Transport hazard class(es):** 3  
Labels: 3, 8
- 14.4 Packing group:** III
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**  
Special regulations: 274, 223  
EmS Codes: F-E, S-C  
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:**

With regard to IATA/ICAO 2023:



- 14.1 UN number or ID number:** UN2924
- 14.2 UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol)
- 14.3 Transport hazard class(es):** 3  
Labels: 3, 8
- 14.4 Packing group:** III
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**  
Physico-Chemical properties: see section 9
- 14.7 Maritime transport in bulk according to IMO instruments:** 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

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### SECTION 15: REGULATORY INFORMATION (continued)

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.:

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

- New declared substances  
Guanidinium thiocyanate (593-84-0)
- Removed substances  
Dangerous substance 105

Substances that contribute to the classification (SECTION 2):

- New declared substances  
Guanidinium thiocyanate (593-84-0)
- Removed substances  
Dangerous substance 105

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

- Hazard statements
- Supplementary information

TRANSPORT INFORMATION (SECTION 14):

- UN number
- Packing group

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

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H226: Flammable liquid and vapour.

#### 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:

\*\* Changes with regards to the previous version

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

Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.

Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.

Eye Dam. 1: H318 - Causes serious eye damage.

Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.

**Classification procedure:**

Skin Corr. 1C: Calculation method

Eye Dam. 1: Calculation method

Flam. Liq. 3: Calculation method (2.6.4.3)

**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 -

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Date of compilation: 12/08/2020

Revised: 12/01/2024

Version: 4 (Replaced 3)

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

**1.1 Product identifier:** MB134 - Buffer NR

**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, Category 4, H302+H312+H332

Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard, Category 3, H412

Eye Dam. 1: Serious eye damage, Category 1, H318

Skin Corr. 1C: Skin corrosion, Category 1C, H314

**2.2 Label elements:**

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

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

**Danger**



**Hazard statements:**

Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.

Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.

**Precautionary statements:**

P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a poison center/doctor.

**Supplementary information:**

EUH032: Contact with acids liberates very toxic gas.

EUH071: Corrosive to the respiratory tract.

**Substances that contribute to the classification**

Guanidinium thiocyanate

**UFI:** W130-10XN-W007-02R0

**2.3 Other hazards:**

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

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### SECTION 2: HAZARDS IDENTIFICATION \*\* (continued)

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:

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

Identification	Chemical name/Classification		Concentration
CAS: 593-84-0 EC: 209-812-1 Index: Non-applicable REACH: 01-2120735072-65-XXXX	<b>Guanidinium thiocyanate<sup>(1)</sup></b>	Self-classified	<b>50 - &lt;75 %</b>
	Regulation 1272/2008	Acute Tox. 4: H302+H312+H332; Aquatic Chronic 3: H412; Eye Dam. 1: H318; Skin Corr. 1C: H314; EUH071 - Danger 	

<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.

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

Identification	Acute toxicity		Genus
Guanidinium thiocyanate	LD50 oral	Non-applicable	
CAS: 593-84-0	LD50 dermal	1100 mg/kg (ATEi)	
EC: 209-812-1	LC50 inhalation	11 mg/L (ATEi)	

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

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

Request medical assistance immediately, 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:

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and also risk damage to the respiratory system through inhalation. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Keep the person affected at rest.

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

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### SECTION 4: FIRST AID MEASURES (continued)

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.

#### 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:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

#### 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).

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

#### 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

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

### 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.

### 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 thiocyanate CAS: 593-84-0 EC: 209-812-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,31 mg/kg	Non-applicable
	Inhalation	3,28 mg/m <sup>3</sup>	Non-applicable	1,092 mg/m <sup>3</sup>	Non-applicable

#### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Guanidinium thiocyanate CAS: 593-84-0 EC: 209-812-1	Oral	Non-applicable	Non-applicable	0,155 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,155 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0,27 mg/m <sup>3</sup>	Non-applicable

#### PNEC:

Identification					
Guanidinium thiocyanate CAS: 593-84-0 EC: 209-812-1	STP	20 mg/L	Fresh water	0,0424 mg/L	
	Soil	0,00803 mg/kg	Marine water	0,00424 mg/L	
	Intermittent	0,424 mg/L	Sediment (Fresh water)	0,165 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	0,0165 mg/kg	

#### 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

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



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	 <b>CAT III</b>	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	Chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.11 mm)	 <b>CAT III</b>	EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

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	Face shield	 <b>CAT II</b>	EN 166:2002 EN 167:2002 EN 168:2002 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
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	 <b>CAT III</b>	EN 13034:2005+A1:2009 EN 168:2002 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2013 EN ISO 6530:2005 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	 <b>CAT III</b>	EN ISO 20345:2011 EN 13832-1:2019	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):	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

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### 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:	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:	1130 kg/m <sup>3</sup>
Relative density at 20 °C:	1,073
Dynamic viscosity at 20 °C:	2,54 cP
Kinematic viscosity at 20 °C:	2,37 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	6,5 - 7,5
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:	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
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#### 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:

\*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)

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
Produces very toxic gases	Not applicable	Precaution	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:

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: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

B- Inhalation (acute effect):

- Acute toxicity : Can be fatal after prolonged periods of exposure, as it releases toxic gases when it comes into contact with acids
- Corrosivity/Irritability: Corrosive to the respiratory tract

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

- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.
- Contact with the eyes: Produces serious eye damage after contact.

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

\*\* Changes with regards to the previous version

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

- 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
Guanidinium thiocyanate	LD50 oral	593 mg/kg	Rat
CAS: 593-84-0	LD50 dermal	1100 mg/kg (ATEi)	
EC: 209-812-1	LC50 inhalation	11 mg/L (ATEi)	

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

ATE mix		Ingredient(s) of unknown toxicity
Oral	1005,08 mg/kg (Calculation method)	0 %
Dermal	1864,41 mg/kg (Calculation method)	0 %
Inhalation	18,64 mg/L (4 h) (Calculation method)	0 %

### 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

Harmful to aquatic life with long lasting effects.

#### 12.1 Toxicity:

##### Acute toxicity:

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

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### SECTION 12: ECOLOGICAL INFORMATION \*\* (continued)

Identification	Concentration		Species	Genus
Guanidinium thiocyanate	LC50	89,1 mg/L (96 h)	Poecilia reticulata	Fish
CAS: 593-84-0	EC50	42,4 mg/L (48 h)	Daphnia magna	Crustacean
EC: 209-812-1	EC50	130 mg/L (72 h)	Desmodesmus subspicatus	Algae

#### 12.2 Persistence and degradability:

##### Substance-specific information:

Identification	Degradability		Biodegradability	
Guanidinium thiocyanate	BOD5	Non-applicable	Concentration	343 mg/L
CAS: 593-84-0	COD	Non-applicable	Period	28 days
EC: 209-812-1	BOD5/COD	Non-applicable	% Biodegradable	32 %

#### 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

**\*\* 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

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

HP14 Ecotoxic, HP12 Release of an acute toxic gas, HP6 Acute Toxicity, HP8 Corrosive

##### 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>                                  | UN1760   |
| <b>14.2 UN proper shipping name:</b>                                 | CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate) |
| <b>14.3 Transport hazard class(es):</b>                              | 8  |
| Labels:  | 8  |
| <b>14.4 Packing group:</b>   | III  |
| <b>14.5 Environmental hazards:</b>                                   | No   |
| <b>14.6 Special precautions for user</b>                             |  |
| Special regulations:   | 274  |
| Tunnel restriction code:   | E  |
| Physico-Chemical properties:   | see section 9                                      |
| Limited quantities:  | 5 L  |
| <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>                                  | UN1760   |
| <b>14.2 UN proper shipping name:</b>                                 | CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate) |
| <b>14.3 Transport hazard class(es):</b>                              | 8  |
| Labels:  | 8  |
| <b>14.4 Packing group:</b>   | III  |
| <b>14.5 Marine pollutant:</b>  | No   |
| <b>14.6 Special precautions for user</b>                             |  |
| Special regulations:   | 274, 223   |
| EmS Codes:   | F-A, S-B   |
| Physico-Chemical properties:   | see section 9                                      |
| Limited quantities:  | 5 L  |
| 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>                                  | UN1760   |
| <b>14.2 UN proper shipping name:</b>                                 | CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate) |
| <b>14.3 Transport hazard class(es):</b>                              | 8  |
| Labels:  | 8  |
| <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

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### SECTION 15: REGULATORY INFORMATION (continued)

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.:**

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

- New declared substances  
Guanidinium thiocyanate (593-84-0)
- Removed substances  
Dangerous substance 105

Substances that contribute to the classification (SECTION 2):

- New declared substances  
Guanidinium thiocyanate (593-84-0)
- Removed substances  
Dangerous substance 105

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

- Hazard statements
- Supplementary information

TRANSPORT INFORMATION (SECTION 14):

- Packing group

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

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H412: Harmful to aquatic life with long lasting effects.

H302+H312+H332: Harmful if swallowed, in contact with skin or if inhaled.

**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+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.

Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.

Eye Dam. 1: H318 - Causes serious eye damage.

Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.

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

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

Skin Corr. 1C: Calculation method  
Eye Dam. 1: Calculation method  
Aquatic Chronic 3: Calculation method  
Acute Tox. 4: 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 -