

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Date of revision: 16. 11. 2021

Version: 4.0

Replaced version from: 02. 11. 2015

Date of issue: 26. 11. 2012

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

#### 1.1. Product identifier

**Product Name**

**KRYSTAL Mechanical dish washing**

**UFI code**

UFI: N5E0-8044-400W-18AC

**Product code**

Not given.

**Mixture description**

Aqueous solution.

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses**

Liquid detergent to be used in all types of dish washers.  
For consumer use.

**Uses advised against**

Not recommended for use on surfaces made of aluminum or aluminum alloys.  
It is recommended to use it only for the intended use. Other uses may expose users to unpredictable risks.

#### 1.3. Details of the supplier of the safety data sheet

**CORMEN s.r.o.**

Věchnov 73

593 01

Czech Republic

Tel.: +420 566 550 961

Fax: +420 566 551 822

e-mail address for a competent person responsible for the SDS: [info@cormen.cz](mailto:info@cormen.cz)

#### 1.4. Emergency telephone number

112 (General emergency phone).

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

The mixture is classified as **hazardous** according to regulation 1272/2008/EC.

**Classification according to 1272/2008/EC**

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Met. Corr. 1; H290  
Skin Corr. 1A; H314  
Eye Dam. 1; H318

Full text of classifications and H-phrases: see section 16.

### **The most important adverse physical, human health and environmental effects**

May be corrosive to metals. Causes severe skin burns and eye damage.

## 2.2. Label elements

### **Hazard pictograms**



### **Signal word**

Danger.

### **Substances of the mixture to be placed on the label**

Contains Sodium hydroxide, Etidronic acid, Disodium metasilicate pentahydrate.

### **Hazard statements**

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

### **Precautionary statements**

P102 Keep out of reach of children.  
P234 Keep only in original packaging.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P310 Immediately call a POISON CENTER/doctor.  
P501 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### **Supplemental hazard information**

Mandatory additional information is not required according to CLP regulation.  
Composition according to regulation 648/2004/EC on detergents: < 5% phosphonates.

## 2.3. Other hazards

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Mixture does not contain substance(s) meeting the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with Annex XIII of REACH regulation. The mixture and its substances are not mentioned on the Candidate list for possible inclusion in Annex XIV of REACH at the date of the revision of the safety data sheet (established in accordance with Article 59(1) of REACH regulation., Mixture does not contain the substance(s) identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### 3.2.1. Substances of a mixture classified as hazardous

Identification of substance	Content wt. %	Classification according to 1272/2008/EC
<b>Sodium hydroxide; Caustic soda</b>		
CAS Number 1310-73-2		
EC Number 215-185-5		Met. Corr. 1; H290
Index Number 011-002-00-6	< 11.0	Skin Corr. 1A; H314
Registration Number 01-2119457892-27-XXXX		Eye Dam. 1; H318
The substance has specific concentration limits:		
Skin Corr. 1A; H314	$C \geq 5 \%$	
Skin Corr. 1B; H314	$2 \% \leq C < 5 \%$	
Skin Irrit. 2; H315	$0.5 \% \leq C < 2 \%$	
Eye Irrit. 2; H319	$0.5 \% \leq C < 2 \%$	
<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>		
CAS Number 51981-21-6		
EC Number 257-573-7		
Index Number not given	< 3.75	Met. Corr. 1; H290
Registration Number 01-2119493601-38-XXXX		
Met. Corr. 1; H290 only applies to aqueous solutions.		
<b>Etidronic acid</b>		
CAS Number 2809-21-4		
EC Number 220-552-8		Met. Corr. 1; H290
Index Number not given	< 3.5	Acute Tox. 4; H302
Registration Number 01-2119510391-53-XXXX		Eye Dam. 1; H318
<b>Disodium metasilicate pentahydrate</b>		
CAS Number 10213-79-3		
EC Number 229-912-9		Met. Corr. 1; H290
Index Number 014-010-00-8	$\leq 1.5$	Skin Corr. 1B; H314
Registration Number 01-2119449811-37-XXXX		Eye Dam. 1; H318
The classification is for anhydride.		
<b>Acetic acid</b>		

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

CAS Number	64-19-7		
EC Number	200-580-7		Flam. Liq. 3; H226
Index Number	607-002-00-6	≤ 0.05	Skin Corr. 1A; H314
Registration Number	not yet available		

The substance has specific concentration limits:

Skin Corr. 1A; H314	C ≥ 90 %
Skin Corr. 1B; H314	25 % ≤ C < 90 %
Skin Irrit. 2; H315	10 % ≤ C < 25 %
Eye Irrit. 2; H319	10 % ≤ C < 25 %

Full text of classifications and H-phrases: see section 16.

### SECTION 4: First aid measures

In all cases keep the victim at physical and mental rest and warm. In case of doubt or if symptoms persist, seek medical attention. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing. Protect yourself during rescue work.

#### 4.1. Description of first aid measures

##### **Inhalation**

Interrupt the exposure, move the person to the fresh air. In case of persistent nausea, seek medical advice.

##### **Skin contact**

Remove contaminated clothing, shoes, and wash thoroughly with water (preferably lukewarm) and soap. Do not use solvents or thinners. Seek medical advice.

##### **Eye contact**

Rinse with a gentle stream of water for at least 15 minutes. Keep your eyelids wide open with your thumb and forefinger. If the affected person is wearing contact lenses, remove them before rinsing eyes if it is easy. Seek medical advice.

##### **Ingestion**

Rinse your mouth and then drink plenty of water. Do not induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Seek medical advice.

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

Are not known.

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

Treat symptomatically and supportively.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### **Suitable extinguishing media**

The product is non-flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### **Unsuitable extinguishing media**

Solid streams of water may be ineffective.

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

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

In case of fire extinguishing prevent leakage of water and rest of product into drains. Collect them separately and dispose of safely in accordance with current legislation and applicable local regulations.

In case of fires, hazardous combustion gases are formed: carbon oxides, silicon oxides, phosphor oxides, phosphine and products of incomplete combustion.

### 5.3. Advice for firefighters

Stop further leakage of product if possible. Spilled product, which does not burn, cover with sand or foam. Move containers and barrels away from the fire to a safe place, if possible. Cool all affected containers down with flooding quantities of water. If the fire can't be extinguished - evacuate the premises.

In case of fire, wear suitable respiratory protective equipment and fire-fighting suit.

## SECTION 6: Accidental release measures

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

Avoid contact with skin and eyes, use suitable protective equipment and clothing, see Section 8. Ensure adequate ventilation. Avoid formation of vapour and aerosol. At the point of leakage, prevent the movement of unauthorized persons.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. If this cannot be avoided, inform the competent authorities (police and firefighters) immediately.

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

According to the amount of spilled liquid, drain away the substance (large spillage) or in case of small spillage, absorb it with suitable absorbent (vermiculite, dry sand), put into labelled closed containers and dispose of them accordingly to Section 13. Flush residues with water and collect it for waste disposal. Do not use solvents or dispersants unless instructed by an expert or government authority.

If container is damaged, remove the content to the new undamaged container and label it properly again.

### 6.4. Reference to other sections

Refer also to the provisions of sections 7, 8 and 13 of this safety data sheet.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Personal protection see. Section 8. Ensure good ventilation to prevent formation of vapor and aerosol.

Smoking, eating and drinking should be prohibited at the place of use. Keep safety regulations for handling chemicals. Take off contaminated clothing and protective equipment before entering the dining area. Do not use dirty clothing. After work wash yourself carefully with warm water and soap, take a shower. Use protective cream.

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

Store in original, tightly closed containers, in a dry, cool and well-ventilated place at room temperature. Protect from frost.

Do not store together with incompatible materials (see subsection 10.5), food, drink and feed.

### 7.3. Specific end use(s)

It is designed for all types of dishwashers. We recommend using the product in combination with "Krystal machine rinse".

Apply 2-3 ml per 1 liter of water.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### SECTION 8: Exposure controls/personal protectio

#### 8.1. Control parameters

##### 8.1.1. Exposure limit value

**Acetic acid** CAS: 64-19-7

Limit values - Eight hours		Limit values - Short-term		Note
25 mg/m <sup>3</sup>	10 ppm	50 mg/m <sup>3</sup>	20 ppm	none

##### 8.1.2. Biological limit values

Not determined in EU.

##### 8.1.3. DNEL and PNEC values

**Sodium hydroxide** CAS: 1310-73-2

#### DNEL

Area of use	Route of exposure	Effect	Exposure time	Value
Workers	Inhalation	Local effect	Long term	1 mg/m <sup>3</sup>
General population	Inhalation	Local effect	Long term	1 mg/m <sup>3</sup>

**PNEC** - not yet available

**Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate** CAS: 51981-21-6

#### DNEL

Area of use	Route of exposure	Effect	Exposure time	Value
Workers	Inhalation	Systemic effect	Long term	7.3 mg/m <sup>3</sup>
Workers	Dermal	Systemic effect	Long term	15 000 mg/kg/day
General population	Inhalation	Systemic effect	Long term	1.8 mg/m <sup>3</sup>
General population	Dermal	Systemic effect	Long term	7 500 mg/kg/day
General population	Oral	Systemic effect	Long term	1.5 mg/kg/day

#### PNEC

Fresh water	Marine water	Intermittent releases		Sewage Treatment Plant (STP)
		Fresh water	Marine water	
9.45 mg/l	0.945 mg/l	0.953 mg/l	0.095 mg/l	41.2 mg/l

#### PNEC

Sediment (freshwater)	Sediment (marine water)	Air	Soil	Hazard for predators
not given	not given	no effect	0.5 mg/kg	67 mg/kg food

**Etidronic acid** CAS: 2809-21-4

#### DNEL

Area of use	Route of exposure	Effect	Exposure time	Value
Workers	Inhalation	Systemic effect	Long term	12 mg/m <sup>3</sup>
Workers	Dermal	Systemic effect	Long term	34 mg/kg/day
General population	Inhalation	Systemic effect	Long term	2.95 mg/m <sup>3</sup>

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

General population	Dermal	Systemic effect	Long term	17 mg/kg/day
General population	Oral	Systemic effect	Long term	1.7 mg/kg/day
General population	Oral	Systemic effect	Short term	1.7 mg/kg/day
<b>PNEC</b>				
Fresh water	Marine water	Intermittent releases		Sewage Treatment Plant (STP)
		Fresh water	Marine water	
0.068 mg/l	0.007 mg/l	not given	not given	40 mg/l
<b>PNEC</b>				
Sediment (freshwater)	Sediment (marine water)	Air	Soil	Hazard for predators
136 mg/kg	13.6 mg/kg	no effect	10 mg/kg	3.7 mg/kg food
<b>Disodium metasilicate</b>				ES: 229-912-9
<b>DNEL</b>				
Area of use	Route of exposure	Effect	Exposure time	Value
Workers	Inhalation	Systemic effect	Long term	6.22 mg/m <sup>3</sup>
Workers	Dermal	Systemic effect	Long term	1.49 mg/kg/day
General population	Inhalation	Systemic effect	Long term	1.55 mg/m <sup>3</sup>
General population	Dermal	Systemic effect	Long term	0.74 mg/kg/day
General population	Oral	Systemic effect	Long term	0.74 mg/kg/day
<b>PNEC</b>				
Fresh water	Marine water	Intermittent releases		Sewage Treatment Plant (STP)
		Fresh water	Marine water	
7.5 mg/l	1 mg/l	7.5 mg/l	not given	1 000 mg/l
<b>PNEC</b>				
Sediment (freshwater)	Sediment (marine water)	Air	Soil	Hazard for predators
no effect	no effect	no effect	no effect	no effect
<b>8.2. Exposure controls</b>				
<b>8.2.1. Appropriate engineering controls</b>				
Use only in well-ventilated areas.				
Observe usual safety precautions for working with chemicals. The degree of effectiveness of personal protective equipment depends on temperature and ventilation levels.				
<b>8.2.2. Individual protection measures, such as personal protective equipment</b>				
Do not eat, drink or smoke. After work, wash thoroughly with warm water and soap and take a shower. Use protective cream. Do not soiled protective equipment to wash, do not use solvents.				
<b>Eye/face protection</b>				
Wear safety glasses or face shield.				
<b>Skin protection - hand protection</b>				

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Wear protective gloves.

Suitable gloves material: polyvinylchloride, neoprene, nature rubber, butyl-rubber, breakthrough time: 480 min.

Unsuitable gloves material: leather

The selection of the glove material on consideration of the breakthrough time, permeability, degradation and next relevant factors; other chemicals that may come into contact, physical requirements (cut and puncture protection, dexterity, thermal protection), possible body reactions to the glove material and the glove supplier's instructions and specifications. In case of repeated use of gloves, clean and keep them in a well-ventilated place before taking off.

### **Skin protection - other**

Suitable protective working clothing and footwear.

### **Respiratory protection**

Not necessary in case of compliance concentration limits (if they were exceeded, use a respirator against vapour). In the event of an accident or a fire use self-contained breathing apparatus.

### **Thermal hazards**

In normal use is not necessary protective equipment to be worn for materials that represent a thermal hazard.

### **8.2.3. Environmental exposure controls**

Uncontrolled release of the mixture into environment is to be avoided. Keep the emission limits according to national legislation.

## SECTION 9: Physical and chemical properties

### **9.1. Information on basic physical and chemical properties**

#### **Mixture**

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Characteristic.
<b>Melting point/freezing point</b>	Not determined.
<b>Boiling point or initial boiling point and boiling range</b>	100 °C.
<b>Flammability</b>	Not determined.
<b>Lower explosion limit</b>	Not determined.
<b>Upper explosion limit</b>	Not determined.
<b>Flash point</b>	Not determined.
<b>Auto-ignition temperature</b>	Not determined.
<b>Decomposition temperature</b>	Not determined, the mixture does not contain self-reactive substances or organic peroxides.
<b>pH</b>	13.5 (20 °C).
<b>Kinematic viscosity</b>	Not determined, the mixture does not contain a substance classified as aspiration toxic, or the sum of the concentrations of substances classified as aspiration toxic is less than 10 wt. %.
<b>Solubility</b>	Miscible.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Partition coefficient n-octanol/water (log value)</b>	Does not apply to mixture.
<b>Vapour pressure</b>	23 hPa.
<b>Density and/or relative density</b>	$D_4^{20} = 1.1$ .
<b>Relative vapour density</b>	Not determined.
<b>Particle characteristics</b>	Does not apply to liquid.
<b>Sodium hydroxide</b>	CAS: 1310-73-2
<b>Physical state</b>	Solid.
<b>Colour</b>	White.
<b>Odour</b>	Odourless.
<b>Melting point/freezing point</b>	323 °C (literature).
<b>Boiling point or initial boiling point and boiling range</b>	1 388 °C (literature).
<b>Flammability</b>	The substance is not classified as flammable, pyrophoric or emit flammable gases under standard conditions.
<b>Lower explosion limit</b>	Does not apply to solid.
<b>Upper explosion limit</b>	Does not apply to solid.
<b>Flash point</b>	Does not apply to solid.
<b>Auto-ignition temperature</b>	Does not apply to solid.
<b>Decomposition temperature</b>	Not determined, it is not a self-reactive substance or an organic peroxide or a substance that may decompose.
<b>pH</b>	Not determined, strong alkaline substance.
<b>Kinematic viscosity</b>	Does not apply to solid.
<b>Solubility</b>	100 g/100 g H <sub>2</sub> O (25 °C, literature).
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined, it is an inorganic substance.
<b>Vapour pressure</b>	Not determined, the substance has melting point higher than 300 °C.
<b>Density and/or relative density</b>	2.13 g/cm <sup>3</sup> (20 °C, literature).
<b>Relative vapour density</b>	Does not apply to solid.
<b>Particle characteristics</b>	Not determined, solid NaOH is in the form of large particles (flakes).
<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>	CAS: 51981-21-6
<b>Physical state</b>	Solid.
<b>Colour</b>	White to off-white.
<b>Odour</b>	Odourless.
<b>Melting point/freezing point</b>	> 280 °C (decomposition, OECD 102).
<b>Boiling point or initial boiling point and boiling range</b>	Not determined, substance decomposes.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Flammability</b>	Non-flammable solid. The substance is not classified as flammable (UN-N1 test), pyrophoric (UN-N2 and N4 test) or emit flammable gases under standard conditions (UN-N5 test).
<b>Lower explosion limit</b>	Does not apply to solid.
<b>Upper explosion limit</b>	Does not apply to solid.
<b>Flash point</b>	Does not apply to solid.
<b>Auto-ignition temperature</b>	460 °C (IEC 1241-2-1).
<b>Decomposition temperature</b>	280 °C (OECD 102).
<b>pH</b>	Not determined.
<b>Kinematic viscosity</b>	Does not apply to solid.
<b>Solubility</b>	65 wt. % (21 °C, pH = 7, OECD 105).
<b>Partition coefficient n-octanol/water (log value)</b>	log Pow < 0 (27 °C, pH = 7, OECD 117).
<b>Vapour pressure</b>	0.8 mbar (20 °C)
<b>Density and/or relative density</b>	$D_4^{20} = 1.466$ (OECD 109).
<b>Relative vapour density</b>	Does not apply to solid.
<b>Particle characteristics</b>	D10 = 6.9 µm (NEN-ISO 13320). D50 = 51.5 µm (NEN-ISO 13320). D90 = 164 µm (NEN-ISO 13320). Size < 100 µm, distribution 70.4 % (NEN-ISO 13320).
<b>Etidronic acid</b>	CAS: 2809-21-4
<b>Physical state</b>	Solid.
<b>Colour</b>	Not determined.
<b>Odour</b>	Not determined.
<b>Melting point/freezing point</b>	≥ 450 °C (EU method A.1).
<b>Boiling point or initial boiling point and boiling range</b>	Not determined.
<b>Flammability</b>	The substance is not classified as flammable (EU method A.10).
<b>Lower explosion limit</b>	Does not apply to solid.
<b>Upper explosion limit</b>	Does not apply to solid.
<b>Flash point</b>	Does not apply to solid.
<b>Auto-ignition temperature</b>	Does not apply to solid.
<b>Decomposition temperature</b>	Not determined, it is not a self-reactive substance or an organic peroxide or a substance that may decompose.
<b>pH</b>	Not determined.
<b>Kinematic viscosity</b>	Does not apply to solid.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Solubility</b>	690 g/l (20 °C, literature).
<b>Partition coefficient n-octanol/water (log value)</b>	log Pow = -3.5 (literature).
<b>Vapour pressure</b>	Not determined, the substance has melting point higher than 300 °C.
<b>Density and/or relative density</b>	1 450 - 1 490 kg/m <sup>3</sup> (literature).
<b>Relative vapour density</b>	Does not apply to solid.
<b>Particle characteristics</b>	Not determined.
<b>Disodium metasilicate</b>	ES: 229-912-9
<b>Physical state</b>	Solid.
<b>Colour</b>	Colourless to white.
<b>Odour</b>	Not determined.
<b>Melting point/freezing point</b>	1 089 °C (literature).
<b>Boiling point or initial boiling point and boiling range</b>	Not determined.
<b>Flammability</b>	The substance is not classified as flammable, pyrophoric or emit flammable gases under standard conditions.
<b>Lower explosion limit</b>	Does not apply to solid.
<b>Upper explosion limit</b>	Does not apply to solid.
<b>Flash point</b>	Does not apply to solid.
<b>Auto-ignition temperature</b>	Does not apply to solid.
<b>Decomposition temperature</b>	Not determined, it is not a self-reactive substance or an organic peroxide or a substance that may decompose.
<b>pH</b>	Not determined.
<b>Kinematic viscosity</b>	Does not apply to solid.
<b>Solubility</b>	210 g/l (20 °C, pH = 12.7).
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined, it is an inorganic substance.
<b>Vapour pressure</b>	Not determined, the substance has melting point higher than 300 °C.
<b>Density and/or relative density</b>	2.61 g/cm <sup>3</sup> (literature).
<b>Relative vapour density</b>	Does not apply to solid.
<b>Particle characteristics</b>	D10 = 397 µm (ISO 13320-1). D50 = 695 µm (ISO 13320-1). D90 = 1 150 µm (ISO 13320-1).
<b>9.2. Other information</b>	
<b>9.2.1. Information with regard to physical hazard classes</b>	
<b>Mixture</b>	
<b>Explosives</b>	

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Data for the mixture are not available.

The mixture does not contain substances classified as explosives or oxidising, or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Flammable gases**

It is not gas.

### **Aerosols**

It is not aerosol.

### **Oxidising gases**

It is not gas.

### **Gases under pressure**

It is not gas.

### **Flammable liquids**

The mixture is not classified as flammable liquid according to the low concentration of acetic acid.

### **Flammable solids**

It is not solid.

### **Self-reactive substances and mixtures**

Data for the mixture are not available.

The mixture does not contain substances classified as self-reactive substances or explosives or organic peroxides or oxidising, or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Pyrophoric liquids**

Data for the mixture are not available.

The mixture does not contain substances classified as pyrophoric liquids or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Pyrophoric solids**

It is not solid.

### **Self-heating substances and mixtures**

Data for the mixture are not available.

The mixture does not contain substances classified as self-heating or pyrophoric substances or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Substances and mixtures, which emit flammable gases in contact with water**

Data for the mixture are not available.

The mixture does not contain substances classified as substances, which emit flammable gases in contact with water or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Oxidising liquids**

Data for the mixture are not available.

The mixture does not contain substances classified as oxidising liquids or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Oxidising solids**

It is not solid.

### **Organic peroxides**

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Data for the mixture are not available.

The mixture does not contain substances classified as organic peroxides or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Corrosive to metals**

Data for the mixture are not available.

The mixture is classified as corrosive to metal category 1, due to the high content of such classified substances.

### **Desensitised explosives**

Data for the mixture are not available.

The mixture does not contain substances classified as explosives or desensitised explosives, or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

**Sodium hydroxide**

CAS: 1310-73-2

### **Explosives**

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive properties.

### **Flammable gases**

It is not gas.

### **Aerosols**

It is not aerosol.

### **Oxidising gases**

It is not gas.

### **Gases under pressure**

It is not gas.

### **Flammable liquids**

It is not liquid.

### **Flammable solids**

Data for the substance are not available.

The substance is not classified as flammable solid.

### **Self-reactive substances and mixtures**

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive or self-reactive properties.

### **Pyrophoric liquids**

It is not liquid.

### **Pyrophoric solids**

Data for the substance are not available.

The substance is stable in air, there is no spontaneous ignition.

### **Self-heating substances and mixtures**

Data for the substance are not available.

The substance is not classified as self-heating.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### **Substances and mixtures, which emit flammable gases in contact with water**

Data for the substance are not available.  
The substance is soluble in water and forms a stable mixture with it.

### **Oxidising liquids**

It is not liquid.

### **Oxidising solids**

Data for the substance are not available.  
The substance does not contain chemical groups associated with oxidising properties.

### **Organic peroxides**

Data for the substance are not available.  
The substance does not contain a bivalent group -O-O- with at least one organic radical.

### **Corrosive to metals**

Data for the substance are not available.  
The substance is classified as corrosive to metal category 1.

### **Desensitised explosives**

Data for the substance are not available.  
The substance does not contain chemical groups associated with explosive properties.

**Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate**

CAS: 51981-21-6

### **Explosives**

Data for the substance are not available.  
The substance does not contain chemical groups associated with explosive properties.

### **Flammable gases**

It is not gas.

### **Aerosols**

It is not aerosol.

### **Oxidising gases**

It is not gas.

### **Gases under pressure**

It is not gas.

### **Flammable liquids**

It is not liquid.

### **Flammable solids**

The substance is not classified as flammable solid (UN-N1 test).

### **Self-reactive substances and mixtures**

Data for the substance are not available.  
The substance does not contain chemical groups associated with explosive or self-reactive properties.

### **Pyrophoric liquids**

It is not liquid.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### **Pyrophoric solids**

The substance is not classified as pyrophoric solid (UN-N2 and N4 test).

### **Self-heating substances and mixtures**

Data for the substance are not available.

The substance is not classified as self-heating.

### **Substances and mixtures, which emit flammable gases in contact with water**

The substance is not classified as substances, which emit flammable gases in contact with water (UN-N5 test).

The substance is soluble in water and forms a stable mixture with it.

### **Oxidising liquids**

It is not liquid.

### **Oxidizing solids**

Data for the substance are not available.

It is an organic substance that does not contain oxygen, fluorine or chlorine, or these elements are chemically bounded only to carbon or hydrogen.

### **Organic peroxides**

Data for the substance are not available.

The substance does not contain a bivalent group -O-O- with at least one organic radical.

### **Corrosive to metals**

Data for the substance are not available.

Aqueous solutions are classified as corrosive to metal category 1.

### **Desensitised explosives**

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive properties.

**Etidronic acid**

CAS: 2809-21-4

### **Explosives**

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive properties.

### **Flammable gases**

It is not gas.

### **Aerosols**

It is not aerosol.

### **Oxidising gases**

It is not gas.

### **Gases under pressure**

It is not gas.

### **Flammable liquids**

It is not liquid.

### **Flammable solids**

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

The substance is not classified as flammable, burning time = 2 minutes (EU method A.10).

### **Self-reactive substances and mixtures**

Data for the substance are not available.  
The substance is not classified as self-reactive substances.

### **Pyrophoric liquids**

It is not liquid.

### **Pyrophoric solids**

Data for the substance are not available.  
The substance is stable in air, there is no spontaneous ignition.

### **Self-heating substances and mixtures**

Data for the substance are not available.  
The substance is not classified as self-heating.

### **Substances and mixtures, which emit flammable gases in contact with water**

Data for the substance are not available.  
The chemical structure of the substance does not contain metals or metalloids.  
The substance is soluble in water and forms a stable mixture with it.

### **Oxidising liquids**

It is not liquid.

### **Oxidizing solids**

Data for the substance are not available.  
It is an organic substance that does not contain oxygen, fluorine or chlorine, or these elements are chemically bounded only to carbon or hydrogen.

### **Organic peroxides**

Data for the substance are not available.  
The substance does not contain a bivalent group -O-O- with at least one organic radical.

### **Corrosive to metals**

Data for the substance are not available.  
The substance is classified as corrosive to metal.

### **Desensitised explosives**

Data for the substance are not available.  
The substance does not contain chemical groups associated with explosive properties.

**Disodium metasilicate**

ES: 229-912-9

### **Explosives**

Data for the substance are not available.  
The substance does not contain chemical groups associated with explosive properties.

### **Flammable gases**

It is not gas.

### **Aerosols**

It is not aerosol.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### ***Oxidising gases***

It is not gas.

### ***Gases under pressure***

It is not gas.

### ***Flammable liquids***

It is not liquid.

### ***Flammable solids***

Data for the substance are not available.

The substance is not classified as flammable solid.

### ***Self-reactive substances and mixtures***

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive or self-reactive properties.

### ***Pyrophoric liquids***

It is not liquid.

### ***Pyrophoric solids***

Data for the substance are not available.

The substance is stable in air, there is no spontaneous ignition.

### ***Self-heating substances and mixtures***

Data for the substance are not available.

The substance is not classified as self-heating.

### ***Substances and mixtures, which emit flammable gases in contact with water***

Data for the substance are not available.

The substance is soluble in water and forms a stable mixture with it.

### ***Oxidising liquids***

It is not liquid.

### ***Oxidizing solids***

Data for the substance are not available.

It is an inorganic substance does not contain chemical groups associated with oxidising properties.

### ***Organic peroxides***

Data for the substance are not available.

The substance does not contain a bivalent group -O-O- with at least one organic radical.

### ***Corrosive to metals***

Data for the substance are not available.

The substance is classified as corrosive to metal category 1.

### ***Desensitised explosives***

Data for the substance are not available.

The substance does not contain chemical groups associated with explosive properties.

### **9.2.2. Other safety characteristics**

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Mechanical sensitivity</b>	Not determined, it is not an explosive substance.
<b>Self-accelerating polymerisation temperature</b>	Not determined, it is not a polymerising substance.
<b>Formation of explosible dust/air mixtures</b>	Not determined, it is not a dust.
<b>Acid/alkaline reserve</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Miscibility</b>	Not determined.
<b>Conductivity</b>	Not determined.
<b>Corrosiveness</b>	Not determined.
<b>Gas group</b>	Not determined, it is not gas.
<b>Redox potential</b>	Not determined.
<b>Radical formation potential</b>	Not determined.
<b>Photocatalytic properties</b>	Not determined.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The mixture is stable under normal conditions of use. There aren't any hazardous reaction.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous reactions aren't known under normal conditions of use.

### 10.4. Conditions to avoid

Protect from frost.

### 10.5. Incompatible materials

Strong oxidising agents, acids. Mixture is corrosive to metals.

### 10.6. Hazardous decomposition products

Burning releases carbon oxides, silicon oxides, phosphor oxides, phosphine and products of incomplete combustion.

## SECTION 11: Toxicological information

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

#### Mixture

#### Acute toxicity

The mixture is not classified as toxic for all routes of exposure.

#### Oral

Data for the mixture are not available.

ATE<sub>mixture</sub> > 2 000 mg/kg (estimate, low concentration of substance classified as toxic oral route of exposure).

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Dermal</b>	Data for the mixture are not available. The mixture does not contain substances classified as an acute toxicity by dermal route of exposure or the concentration of substance(s) is lower than the limit for inclusion in Section 3.
<b>Inhalation</b>	Data for the mixture are not available. The mixture does not contain substances classified as an acute toxicity by inhalation route of exposure or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Skin corrosion/irritation**

Data for the mixture are not available.  
The mixture is classified as corrosive for skin in category 1A based on the general/specific concentration limits of substance(s).

### **Serious eye damage/irritation**

Data for the mixture are not available.  
The mixture is classified as causes serious eye damage based on the general/specific concentration limits of substance(s).

### **Respiratory or skin sensitisation**

Data for the mixture are not available.  
The mixture does not contain substances classified as sensitizing or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Germ cell mutagenicity**

Data for the mixture are not available.  
The mixture does not contain substances classified as mutagenicity or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Carcinogenicity**

Data for the mixture are not available.  
The mixture does not contain substances classified as carcinogenicity or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Reproductive toxicity**

Data for the mixture are not available.  
The mixture does not contain substances classified as toxic for reproduction or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **STOT – single exposure**

Data for the mixture are not available.  
The mixture is not classified as toxic for specific target organs in a single exposure in category 3 according to the recommended concentration limits of substance(s).

### **STOT – repeated exposure**

Data for the mixture are not available.  
The mixture does not contain substances classified as toxic for specific target organs in a repeated exposure or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Aspiration hazard**

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Data for the mixture are not available.

The mixture does not contain substances classified as aspiration hazard or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

### **Other information**

See section 2 and 4.

### **Sodium hydroxide**

CAS: 1310-73-2

### **Acute toxicity**

**Oral** Data for the substance are not available.

**Dermal** Data for the substance are not available.

**Inhalation** Data for the substance are not available.

### **Skin corrosion/irritation**

Substance is classified as skin corrosive category 1A.

Irritating to the skin at a concentration of 0.95 % by weight - intact skin - mean erythema score = 2 after 24 hours, 1.7 after 72 hours, 0.7 after 8 days (irreversible for 1/6 animals, scale on the skin) and edema = 0.3 after 24 h, 0 after 72 h, 0 after 8 d (fully reversible in 72 h), broken skin - mean erythema score = 2.3 after 24 h, 2 after 72 h, 2.7 after 8 d (irreversible for 1/6 animals, skin necrosis) and edema = 2 after 24 h, 0.3 after 72 h, 0 after 8 d (fully reversible in 8 days), primary dermal irritation index PDII = 2.7 (rabbit, Draize test).

Corrosive skin at a concentration of 4.98% by weight - intact skin - mean erythema score = 4 after 24 h, 4 after 72 h, 4 after 8 d (irreversible, skin necrosis) and edema = 2 after 24 h, 1 after 72 h, 1 after 8 days (irreversible for 8 days), broken skin - mean erythema score = 4 after 24 h, 4 after 72 h, 4 after 8 d (irreversible, skin necrosis) and edema = 2 after 24 h, after 72 hours, 1 after 8 days (irreversible for 8 days), primary dermal irritation index PDII = 5.6 (rabbit, Draize test).

### **Serious eye damage/irritation**

Substance is classified as serious eye damage.

Mean corneal opacity > 2, conjunctival redness > 2.5 (2 wt.%, rabbit, 72 h, OECD 405).

### **Respiratory or skin sensitization**

Based on available data, the classification criteria are not met.

Not skin sensitising (human).

### **Germ cell mutagenicity**

Data for the substance are not available.

### **Carcinogenicity**

Data for the substance are not available.

### **Reproductive toxicity**

Data for the substance are not available.

### **STOT – single exposure**

Data for the substance are not available.

### **STOT – repeated exposure**

Data for the substance are not available.

### **Aspiration hazard**

The substance is not a hydrocarbon or a chlorinated hydrocarbon with a kinematic viscosity of 20.5 mm<sup>2</sup>/s or less at 40 °C.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>	CAS: 51981-21-6
<b>Acute toxicity</b>	
<b>Oral</b>	Based on available data, the classification criteria are not met. LD <sub>50</sub> > 2 000 mg/kg (rat, EU method B.1).
<b>Dermal</b>	Based on available data, the classification criteria are not met. LD <sub>50</sub> > 2 000 mg/kg (rabbit, OECD 402).
<b>Inhalation</b>	Based on available data, the classification criteria are not met. LC <sub>50</sub> > 4.2 mg/l (aerosol, rat, 4 hrs, no death is observed).
<b>Skin corrosion/irritation</b>	
Based on available data, the classification criteria are not met. Overall irritation score = 0 (rabbit, 72 hrs., OECD 404).	
<b>Serious eye damage/irritation</b>	
Based on available data, the classification criteria are not met. Mean score of corneal opacity = 0, iritis = 0, conjunctival redness = 0.11 (fully reversible after 2 days), conjunctival oedema = 0 (rabbit, 72 hrs., OECD 405).	
<b>Respiratory or skin sensitisation</b>	
Based on available data, the classification criteria are not met. Not skin sensitising (guinea pig, OECD 406).	
<b>Germ cell mutagenicity</b>	
Based on available data, the classification criteria are not met. Negative (OECD 471, OECD 473, OECD 476).	
<b>Carcinogenicity</b>	
Data for the substance are not available.	
<b>Reproductive toxicity</b>	
Based on available data, the classification criteria are not met. NOAEL = 5 000 ppm (increased kidney weight and minimal to slight histopathological renal changes, rat, oral, generation P0, OECD 416). NOAEL ≥ 15 000 ppm (rat, oral, generation F1, OECD 416).	
<b>STOT – single exposure</b>	
Data for the substance are not available.	
<b>STOT – repeated exposure</b>	
Based on available data, the classification criteria are not met. NOAEL = 300 mg/kg/day (haematology; clinical chemistry; urinalysis; organ weights, rat, oral, 90 d., OECD 408).	
<b>Aspiration hazard</b>	
The substance is not a hydrocarbon or a chlorinated hydrocarbon with a kinematic viscosity of 20.5 mm <sup>2</sup> /s or less at 40 °C.	
<b>Etidronic acid</b>	CAS: 2809-21-4
<b>Acute toxicity</b>	

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

**Oral** The substance is classified in category 4.  
LD<sub>50</sub> = 1 878 mg/kg (rat, OECD 401).

**Dermal** Based on available data, the classification criteria are not met.  
LD<sub>50</sub> > 3 505 mg/kg (rabbit, OECD 402).

**Inhalation** Data for the substance are not available.

### **Skin corrosion/irritation**

Based on available data, the classification criteria are not met.  
Mean erythema score = 0 and oedema = 0 (rabbit, 72 hrs., OECD 404).

### **Serious eye damage/irritation**

The substance is classified as seriously damaging to the eyes.  
Maximum irritation score = ca. 90 of 110 (irreversible, rabbit, 72 hours, OECD 405).

### **Respiratory or skin sensitisation**

Based on available data, the classification criteria are not met.  
Not skin sensitising (guinea pig, maximization test).

### **Germ cell mutagenicity**

Based on available data, the classification criteria are not met.  
Negative (OECD 471, OECD 476, OECD 487).

### **Carcinogenicity**

Based on available data, the classification criteria are not met.  
NOAEL ≥ 493 mg/kg/day (rat, female, oral, OECD 453).  
NOAEL ≥ 384 mg/kg/day (rat, female, oral, OECD 453).

### **Reproductive toxicity**

Based on available data, the classification criteria are not met.  
NOAEL = 92 mg/kg/day (rat, female, oral, generation P0, OECD 416).  
NOAEL = 92 mg/kg/day (rat, female, oral, generation F1, OECD 416).

### **STOT – single exposure**

Data for the substance are not available.

### **STOT – repeated exposure**

Based on available data, the classification criteria are not met.  
NOAEL = 34 mg/kg/day (juvenile rats, rat, male, oral, 90 d., OECD 408).  
LOAEL = 139 mg/kg/day (anemia, rat, male, oral, 90 d., OECD 408).

### **Aspiration hazard**

The substance is not a hydrocarbon or a chlorinated hydrocarbon with a kinematic viscosity of 20.5 mm<sup>2</sup>/s or less at 40 °C.

**Disodium metasilicate**

ES: 229-912-9

### **Acute toxicity**

**Oral** Based on available data, the classification criteria are not met.  
LD<sub>50</sub> = 1 152 - 1 349 mg/kg (rat, female, toxicity based on corrosive effect, literature).

**Dermal** Based on available data, the classification criteria are not met.  
LD<sub>50</sub> > 5 000 mg/kg (rat, EPA OPPTS 870.1200).

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

**Inhalation** Based on available data, the classification criteria are not met.  
LC<sub>50</sub> > 2.06 mg/l (vapour, rat, 4 hrs, toxicity based on corrosive effect, EPA OPPTS 870.1300).

### **Skin corrosion/irritation**

The substance is classified as skin corrosion in category 1B.

Corrosive - primary dermal irritation index (PDII) = 8 (not reversible), mean erythema score = 4 (not reversible) and edema = 4 (not reversible) (humidified, rabbit, OECD 404).

Irritant - primary dermal irritation index (PDII) = 3.67, mean erythema score = 2.33 and edema = 1.33 (50% aqueous solution, rabbit, OECD 404).

Slightly irritant - primary dermal irritation index (PDII) = 1.22, mean erythema score = 1.11 and edema = 0.11 (10% aqueous solution, rabbit, OECD 404).

### **Serious eye damage/irritation**

The substance is classified as seriously damaging to the eyes.

### **Respiratory or skin sensitisation**

Based on available data, the classification criteria are not met.

Not skin sensitising (mouse, OECD 429).

### **Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

Negative (OECD 471, OECD 473, OECD 476).

### **Carcinogenicity**

Data for the substance are not available.

### **Reproductive toxicity**

Based on available data, the classification criteria are not met.

NOAEL > 159 mg/kg/day (mortality, rat, female, oral, generation P0).

### **STOT – single exposure**

The substance may cause respiratory irritation.

### **STOT – repeated exposure**

Based on available data, the classification criteria are not met.

NOAEL > 227 - 237 mg/kg/day (rat, oral, 90 days, OECD 408).

### **Aspiration hazard**

The substance is not a hydrocarbon or a chlorinated hydrocarbon with a kinematic viscosity of 20.5 mm<sup>2</sup>/s or less at 40 °C.

## **11.2. Information on other hazards**

Mixture does not contain substance(s) meeting the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with Annex XIII of REACH regulation. The mixture and its substances are not mentioned on the Candidate list for possible inclusion in Annex XIV of REACH at the date of the revision of the safety data sheet and given in the list (established in accordance with Article 59(1) for having endocrine disrupting properties of REACH regulation. Mixture does not contain the substance(s) identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. There is no other relevant information on adverse health effects that is not required according to the classification criteria set out in CLP Regulation. .

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Mixture

Data for the mixture are not available.

##### **Acute aquatic toxicity**

The mixture does not contain substances classified as acute aquatic toxicity or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

##### **Chronic aquatic toxicity**

The mixture does not contain substances classified as a chronic aquatic toxicity or the concentration of substance(s) is lower than the limit for inclusion in Section 3.

##### Sodium hydroxide

CAS: 1310-73-2

The substance is not classified as dangerous for the aquatic environment.

##### **Fish**

LC<sub>50</sub>, 48 hrs, Leuciscus idus: 189 mg/l (mortality).

##### **Crustaceans**

EC<sub>50</sub>, 48 hrs, Ceriodaphnia sp.: 40.4 mg/l (immobility).

##### **Algae**

Data for the substance are not available.

##### Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

CAS: 51981-21-6

The substance is not classified as hazardous for the aquatic environment.

##### **Fish**

LC<sub>50</sub>, 96 hrs., Oncorhynchus mykiss: > 95.26 mg/l (mortality, OECD 203).

NOEC, 9 d., Brachydanio rerio: 94.55 mg/l (number hatched, OECD 212).

##### **Crustaceans**

EC<sub>50</sub>, 48 hrs., Daphnia Magna: > 95.26 mg/l (mobility, OECD 202).

NOEC, 21 d., Daphnia Magna: ≥ 248.4 mg/l (reproduction, OECD 211).

##### **Algae**

EC<sub>50</sub>, 72 hrs., Desmodesmus subspicatus: ≥ 94.99 mg/l (OECD 201).

##### Etidronic acid

CAS: 2809-21-4

The substance is not classified as hazardous for the aquatic environment.

##### **Fish**

LC<sub>50</sub>, 96 hrs., Oncorhynchus mykiss: 195 mg/l (mobility, OECD 204).

NOEC, 14 d., Oncorhynchus mykiss: 60 mg/l (behaviour, loss of equilibrium, OECD 204).

##### **Crustaceans**

EC<sub>50</sub>, 48 hrs., Daphnia Magna: 527 mg/l (mobility, OECD 202).

NOEC, 28 d., Daphnia Magna: 60 mg/l (adult survival and number of pups, EPA 66013-75-009).

##### **Algae**

Data for the substance are not available.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

<b>Disodium metasilicate</b>	ES: 229-912-9
The substance is not classified as hazardous for the aquatic environment.	
<b>Fish</b>	
LC <sub>50</sub> , 96 hrs., Danio rerio: 210 mg/l (OECD 203).	
<b>Crustaceans</b>	
EC <sub>50</sub> , 48 hod., Daphnia Magna: 1 700 mg/l (OECD 202).	
<b>Algae</b>	
EC <sub>50</sub> , 72 hrs., Desmodesmus subspicatus: 207 mg/l (biomass, DIN 38412). EC <sub>0</sub> , 72 hrs., Desmodesmus subspicatus: > 345.4 mg/l (growth rate, DIN 38412).	
<b>12.2. Persistence and degradability</b>	
<b>Mixture</b>	
Data for the mixture are not available.	
<b>Sodium hydroxide</b>	CAS: 1310-73-2
Not determined, it is an inorganic substance.	
<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>	CAS: 51981-21-6
Readily biodegradable: 76 % after 28 days (O <sub>2</sub> consumption, OECD 301 D).	
<b>Etidronic acid</b>	CAS: 2809-21-4
Not readily biodegradable: BOD <sub>5</sub> /COD = 23 % (OECD 301 D). BOD - Biological Oxygen Demand. COD - Chemical Oxygen Demand.	
<b>Disodium metasilicate</b>	ES: 229-912-9
Not determined, it is an inorganic substance.	
<b>12.3. Bioaccumulative potential</b>	
<b>Mixture</b>	
Data for the mixture are not available.	
<b>Sodium hydroxide</b>	CAS: 1310-73-2
Not determined, it is an inorganic substance.	
<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>	CAS: 51981-21-6
log Pow < 0 (27 °C, pH = 7, OECD 117).	
<b>Etidronic acid</b>	CAS: 2809-21-4
BCF < 7 (Cyprinus carpio, dose 0.06 mg/l). BCF < 2 (Cyprinus carpio, dose 0.6 mg/l). log Pow = -3.5 (literature).	
<b>Disodium metasilicate</b>	ES: 229-912-9
Not determined, it is an inorganic substance.	
<b>12.4. Mobility in soil</b>	
<b>Mixture</b>	

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Data for the mixture are not available.

<b>Sodium hydroxide</b>	CAS: 1310-73-2
-------------------------	----------------

Not determined, it is an inorganic substance.

<b>Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate</b>	CAS: 51981-21-6
---	-----------------

log K<sub>oc</sub> < 1.45 (OECD 121).

<b>Etidronic acid</b>	CAS: 2809-21-4
-----------------------	----------------

log K<sub>oc</sub> = 4.22.

<b>Disodium metasilicate</b>	ES: 229-912-9
------------------------------	---------------

Not determined, it is an inorganic substance.

### 12.5. Results of PBT and vPvB assessment

Mixture does not contain substance(s) meeting the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with Annex XIII of REACH Regulation. The mixture and its substances are not mentioned on the Candidate list for possible inclusion in Annex XIV of REACH at the date of the revision of the safety data sheet (established in accordance with Article 59(1) of REACH Regulation.

### 12.6. Endocrine disrupting properties

The mixture and its substances are not mentioned on the Candidate list for possible inclusion in Annex XIV of REACH at the date of the revision of the safety data sheet (established in accordance with Article 59(1) of REACH Regulation. Mixture does not contain the substance(s) identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

### 12.7. Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### **Disposal methods of the substance or mixture and the contaminated packaging**

Dispose according to the applicable European and local regulations (eg. in a hazardous waste incinerator). **Do not empty unused product into drainage systems.** Do not contaminate ponds or ditches with the product or used container. Hand over the residual amounts and solutions to a licensed disposal company. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### **Possible waste code**

07 06 01\* - aqueous washing liquids and mother liquors (mixture), 15 01 10\* - packaging containing residues of or contaminated by hazardous substances (contaminated packaging), 15 01 02 - plastic packaging (clear packaging)

#### **Physical/chemical properties that may affect waste treatment options**

Corrosivity to metals.

#### **Special precautions recommended for waste management**

Not known.

#### **Waste legislation**

Directive 2008/98/EC on waste and repealing certain Directives, as amended.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 3266

#### 14.2. UN proper shipping name

CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide).

#### 14.3. Transport hazard class(es)

8

#### 14.4. Packing group

I

#### 14.5. Environmental hazards

It is not dangerous for the environment during transport.

#### 14.6. Special precautions for user

Not given.

#### 14.7. Maritime transport in bulk according to IMO instruments

Not available.

#### 14.8. Other information

##### Labeling according to ADR



##### Additional data for ADR/RID

Classification code	C5
Labels	8
Hazard identification code	88
Tunnel restriction code	E (ADR), - (RID)
Limited quantities	0
Excepted quantities	Not permitted as excepted quantity.
Transport category	1

##### Additional data for IMDG

Emergency Schedules (EmS)	F-A, S-B
---------------------------	----------

### SECTION 15: Regulatory information

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

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

Regulation No. 1907/2006/EC, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, as amended (REACH)

Regulation No. 1272/2008/EC, on Classification, Labelling and Packaging of substances and mixtures, as amended (CLP)

Regulation No. 648/2004/EC on detergents, as amended

### 15.2. Chemical safety assessment

It was not done for the mixture.

## SECTION 16: Other information

### Reason for the revision of the safety data sheet

Revision of all sections according to Commission Regulation (EU) 2020/878/EC.

### Key or legend to abbreviations and acronyms

Acute Tox. 4	Acute toxicity, cat. 4
Eye Dam. 1	Serious eye damage, cat. 1
Eye Irrit. 2	Eye irritation, cat. 2
Flam. Liq. 3	Flammable liquid, cat. 3
Met. Corr. 1	Substance or mixture corrosive to metals, cat. 1
Skin Corr. 1A	Skin corrosion, cat. 1A
Skin Corr. 1B	Skin corrosion, cat. 1B
Skin Irrit. 2	Skin irritation, cat. 2
STOT SE 3	Specific target organ toxicity - single exposure, cat. 3
ADR	Accord Dangereuses Route
CLP	Regulation No. 1272/2008/EC, on Classification, Labelling and Packaging of substances and mixtures
DNEL	Derived No Effect Level
ICAO/IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
PBT	Persistent, bioaccumulative, toxic substance
PNEC	Predicted No Effect Concentration
REACH	Regulation No. 1907/2006/EC, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail
STOT	Specific target organ toxicity
vPvB	Very persistent and very bioaccumulative substance

### Sources of key data used to compile the Safety Data Sheet

European legislation, manufacturer's safety data sheet, registration dossier of substances.

### List of H- and P- phrases

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.

# SAFETY DATA SHEET

according to Regulation No. 1907/2006 of the European Parliament and of the Council, as subsequently amended

## KRYSTAL Mechanical dish washing

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
P102	Keep out of reach of children.
P234	Keep only in original packaging.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P310	Immediately call a POISON CENTER/doctor.
P501	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### **Training advice**

According to SDS.

### **Other information**

Classification according to data from the manufacturer. The mixture is classified using calculation methods according to Regulation CLP and tests. Use only for the purposes designated by the manufacturer, will prevent health and environmental risks.

The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

The safety data sheet is created in accordance with Regulation No. 2020/878/EC. There is no additional information in accordance with the local and national legislation of the Member State in the European Union, in the safety data sheet.

The safety data sheet was created by company LACHEPRA s.r.o.