

## Ludwik - 5 function dishwasher powder

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

**1.1 Product identifier:** Ludwik - 5 function dishwasher powder

**Other means of identification:**

Non-applicable

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

Relevant uses: Dishwashing detergent

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:**

GRUPA INCO S.A.  
ul. Wspólna 25  
00-519 Warszawa - Mazowieckie - Polska  
Phone: +48 22 71 15 900  
info.produkty@inco.pl  
www.inco.pl

**1.4 Emergency telephone number:** +48 22 7115900 (7.30-15.30)

### 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

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

**2.2 Label elements:**

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

**Warning**



**Hazard statements:**

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

Skin Irrit. 2: H315 - Causes skin irritation.

**Precautionary statements:**

P101: If medical advice is needed, have product container or label at hand.

P102: Keep out of reach of children.

P264: Wash hands thoroughly after handling

P302+P352: IF ON SKIN: Wash with plenty of water.

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

P332+P313: If skin irritation occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.

**2.3 Other hazards:**

Product fails to meet PBT/vPvB criteria

Endocrine-disrupting properties: The product fails to meet the criteria.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:**

Non-applicable

**3.2 Mixture:**

**Chemical description:** Mixture composed of chemical products

**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: 497-19-8<br>EC: 207-838-8<br>Index: 011-005-00-2<br>REACH: 01-2119485498-19-XXXX     | <b>sodium carbonate<sup>(1)</sup></b><br>Regulation 1272/2008 Eye Irrit. 2: H319 - Warning   | ATP CLP00<br><b>20 - &lt;25 %</b>       |
| CAS: 15630-89-4<br>EC: 239-707-6<br>Index: Non-applicable<br>REACH: 01-2119457268-30-XXXX | <b>Disodium carbonate, compound with hydrogen peroxide (2:3)<sup>(1)</sup></b><br>Regulation 1272/2008 Acute Tox. 4: H302; Eye Dam. 1: H318; Ox. Sol. 2: H272 - Danger   | Self-classified<br><b>10 - &lt;20 %</b> |
| CAS: 1344-09-8<br>EC: 215-687-4<br>Index: Non-applicable<br>REACH: 01-2119448725-31-XXXX  | <b>Silicic acid, sodium salt (2.6 &lt; MR &lt;=3.2)<sup>(1)</sup></b><br>Regulation 1272/2008 Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning   | Self-classified<br><b>1 - &lt;3 %</b>   |
| CAS: 10213-79-3<br>EC: 600-279-4<br>Index: 014-010-00-8<br>REACH: 01-2119449811-37-XXXX   | <b>Disodium metasilicate · 5 H<sub>2</sub>O<sup>(1)</sup></b><br>Regulation 1272/2008 Met. Corr. 1: H290; Skin Corr. 1B: H314; STOT SE 3: H335 - Danger  | Self-classified<br><b>1 - &lt;3 %</b>   |
| CAS: 5970-45-6<br>EC: 209-170-2<br>Index: Non-applicable<br>REACH: 01-2120119383-62-XXXX  | <b>Zinc di(acetate) · 2H<sub>2</sub>O<sup>(1)</sup></b><br>Regulation 1272/2008 Acute Tox. 4: H302+H312+H332; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning | Self-classified<br><b>&lt;0,151 %</b>   |

<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.

**Other information:**

| Identification  | Specific concentration limit  |
|---|---|
| Disodium carbonate, compound with hydrogen peroxide (2:3)<br>CAS: 15630-89-4<br>EC: 239-707-6 | % (w/w) >=25: Eye Dam. 1 - H318<br>7,5<= % (w/w) <25: Eye Irrit. 2 - H319 |

**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 is not classified as hazardous through inhalation. However, in case of intoxication symptoms it is recommended to remove the person affected from the area of exposure, provide clean air and keep at rest. Request medical attention if symptoms 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

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### SECTION 5: FIREFIGHTING MEASURES

#### 5.1 Extinguishing media:

##### Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. Use preferably water.

##### 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:

Sweep up and shovel product or collect by other means and place in container for reuse (preferred) or disposal

##### For emergency responders:

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

#### 6.2 Environmental precautions:

Avoid spillage into the aquatic environment as it contains substances potentially dangerous for this. Contain the product absorbed in hermetically sealed containers. In the case of serious spillage into the aquatic environment notify the relevant authority.

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

It is recommended:

Sweep up and shovel product or collect by other means and place in container for reuse (preferred) or disposal

#### 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 destroy using safe methods (section 6).

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

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

##### C.- Technical recommendations on general occupational hygiene

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

##### D.- Technical recommendations to prevent environmental risks

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

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

##### A.- Technical measures for storage

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

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):

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

**DNEL (Workers):**

| Identification  |            | Short exposure |                | Long exposure          |                      |
|---|------------|----------------|----------------|------------------------|----------------------|
|   |            | Systemic       | Local          | Systemic               | Local                |
| sodium carbonate<br>CAS: 497-19-8<br>EC: 207-838-8  | Oral       | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Dermal     | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Inhalation | Non-applicable | Non-applicable | Non-applicable         | 10 mg/m <sup>3</sup> |
| Disodium carbonate, compound with hydrogen peroxide (2:3)<br>CAS: 15630-89-4<br>EC: 239-707-6 | Oral       | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Dermal     | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Inhalation | Non-applicable | Non-applicable | Non-applicable         | 5 mg/m <sup>3</sup>  |
| Silicic acid, sodium salt (2.6 < MR <=3.2)<br>CAS: 1344-09-8<br>EC: 215-687-4                 | Oral       | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Dermal     | Non-applicable | Non-applicable | 1,59 mg/kg             | Non-applicable       |
|   | Inhalation | Non-applicable | Non-applicable | 5,61 mg/m <sup>3</sup> | Non-applicable       |
| Disodium metasilicate· 5 H <sub>2</sub> O<br>CAS: 10213-79-3<br>EC: 600-279-4                 | Oral       | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Dermal     | Non-applicable | Non-applicable | 1,49 mg/kg             | Non-applicable       |
|   | Inhalation | Non-applicable | Non-applicable | 6,22 mg/m <sup>3</sup> | Non-applicable       |
| Zinc di(acetate) · 2H <sub>2</sub> O<br>CAS: 5970-45-6<br>EC: 209-170-2                       | Oral       | Non-applicable | Non-applicable | Non-applicable         | Non-applicable       |
|   | Dermal     | Non-applicable | Non-applicable | 1,338 mg/kg            | Non-applicable       |
|   | Inhalation | Non-applicable | Non-applicable | 4,71 mg/m <sup>3</sup> | Non-applicable       |

**DNEL (General population):**

| Identification  |            | Short exposure |                      | Long exposure          |                |
|---|------------|----------------|----------------------|------------------------|----------------|
|   |            | Systemic       | Local                | Systemic               | Local          |
| sodium carbonate<br>CAS: 497-19-8<br>EC: 207-838-8                            | Oral       | Non-applicable | Non-applicable       | Non-applicable         | Non-applicable |
|   | Dermal     | Non-applicable | Non-applicable       | Non-applicable         | Non-applicable |
|   | Inhalation | Non-applicable | 10 mg/m <sup>3</sup> | Non-applicable         | Non-applicable |
| Silicic acid, sodium salt (2.6 < MR <=3.2)<br>CAS: 1344-09-8<br>EC: 215-687-4 | Oral       | Non-applicable | Non-applicable       | 0,8 mg/kg              | Non-applicable |
|   | Dermal     | Non-applicable | Non-applicable       | 0,8 mg/kg              | Non-applicable |
|   | Inhalation | Non-applicable | Non-applicable       | 1,38 mg/m <sup>3</sup> | Non-applicable |
| Disodium metasilicate· 5 H <sub>2</sub> O<br>CAS: 10213-79-3<br>EC: 600-279-4 | Oral       | Non-applicable | Non-applicable       | 0,74 mg/kg             | Non-applicable |
|   | Dermal     | Non-applicable | Non-applicable       | 0,74 mg/kg             | Non-applicable |
|   | Inhalation | Non-applicable | Non-applicable       | 1,55 mg/m <sup>3</sup> | Non-applicable |
| Zinc di(acetate) · 2H <sub>2</sub> O<br>CAS: 5970-45-6<br>EC: 209-170-2       | Oral       | Non-applicable | Non-applicable       | 0,669 mg/kg            | Non-applicable |
|   | Dermal     | Non-applicable | Non-applicable       | 0,669 mg/kg            | Non-applicable |
|   | Inhalation | Non-applicable | Non-applicable       | 1,16 mg/m <sup>3</sup> | Non-applicable |

**PNEC:**

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

| Identification  |              |                |                         |                |
|---|--------------|----------------|-------------------------|----------------|
| Disodium carbonate, compound with hydrogen peroxide (2:3)<br>CAS: 15630-89-4<br>EC: 239-707-6 | STP          | 16,24 mg/L     | Fresh water             | 0,035 mg/L     |
|   | Soil         | Non-applicable | Marine water            | 0,035 mg/L     |
|   | Intermittent | 0,035 mg/L     | Sediment (Fresh water)  | Non-applicable |
|   | Oral         | Non-applicable | Sediment (Marine water) | Non-applicable |
| Silicic acid, sodium salt (2.6 < MR <=3.2)<br>CAS: 1344-09-8<br>EC: 215-687-4                 | STP          | 348 mg/L       | Fresh water             | 7,5 mg/L       |
|   | Soil         | Non-applicable | Marine water            | 1 mg/L         |
|   | Intermittent | 7,5 mg/L       | Sediment (Fresh water)  | Non-applicable |
|   | Oral         | Non-applicable | Sediment (Marine water) | Non-applicable |
| Disodium metasilicate· 5 H2O<br>CAS: 10213-79-3<br>EC: 600-279-4                              | STP          | 1000 mg/L      | Fresh water             | 7,5 mg/L       |
|   | Soil         | Non-applicable | Marine water            | 1 mg/L         |
|   | Intermittent | 7,5 mg/L       | Sediment (Fresh water)  | Non-applicable |
|   | Oral         | Non-applicable | Sediment (Marine water) | Non-applicable |
| Zinc di(acetate) · 2H2O<br>CAS: 5970-45-6<br>EC: 209-170-2                                    | STP          | 0,009 mg/L     | Fresh water             | 0,002 mg/L     |
|   | Soil         | 0 mg/kg        | Marine water            | 0 mg/L         |
|   | Intermittent | 0,021 mg/L     | Sediment (Fresh water)  | 0,008 mg/kg    |
|   | Oral         | Non-applicable | Sediment (Marine water) | 0,001 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

| Pictogram  | PPE  | Labelling   | CEN Standard      | Remarks  |
|--|--|---|-------------------|--|
| <br>Mandatory hand protection | Chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.11 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   |
|--|---|---|---------------------------------|---|
| <br>Mandatory face protection | Panoramic glasses against splash/projections. |  | EN 166:2002<br>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                                 |

F.- Additional emergency measures

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

| Emergency measure   | Standards                                       | Emergency measure  | Standards                                      |
|---|---|--|--|
| <br>Emergency shower | ANSI Z358-1<br>ISO 3864-1:2011, ISO 3864-4:2011 | <br>Eyewash stations | DIN 12 899<br>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):          | 0,04 % weight  |
| V.O.C. density at 20 °C:  | Non-applicable |
| Average carbon number:    | 10             |
| Average molecular weight: | 136,24 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: | Solid                         |
| Appearance:              | Powdery                       |
| Colour:                  | White with coloured particles |
| Odour:                   | Citric                        |
| 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:                            | Non-applicable * |
| Relative density at 20 °C:                   | Non-applicable * |
| 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:  | 10 - 11,4        |
| 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:                       | Water-soluble    |
| Decomposition temperature:                   | Non-applicable * |
| Melting point/freezing point:                | Non-applicable * |

**Flammability:**

|              |                |
|--------------|----------------|
| Flash 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 (solid, gas): Non-applicable \*  
 Autoignition temperature: 237 °C  
 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 \*

**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.

**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 | Precaution          | Precaution            | 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:**

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

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. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: 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.

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: Talc (3); d-limonene (3)
- 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. However, it contains substances classified as hazardous for inhalation. 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 |
|---|-----------------|----------------|-------|
| Disodium carbonate, compound with hydrogen peroxide (2:3)<br>CAS: 15630-89-4<br>EC: 239-707-6 | LD50 oral       | 1034 mg/kg     | Rat   |
|   | LD50 dermal     | Non-applicable |       |
|   | LC50 inhalation | Non-applicable |       |
| sodium carbonate<br>CAS: 497-19-8<br>EC: 207-838-8  | LD50 oral       | 2800 mg/kg     | Rat   |
|   | LD50 dermal     | Non-applicable |       |
|   | LC50 inhalation | Non-applicable |       |
| Zinc di(acetate) · 2H2O<br>CAS: 5970-45-6<br>EC: 209-170-2                                    | LD50 oral       | 794 mg/kg      | Rat   |
|   | LD50 dermal     | Non-applicable |       |
|   | LC50 inhalation | Non-applicable |       |

**11.2 Information on other hazards:**

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

**Endocrine disrupting properties**

Endocrine-disrupting properties: The product fails to 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

**12.1 Toxicity:**

**Acute toxicity:**

| Identification          |      | Concentration        | Species          | Genus      |
|-------------------------|------|----------------------|------------------|------------|
| sodium carbonate        | LC50 | 740 mg/L (96 h)      | Gambusia affinis | Fish       |
| CAS: 497-19-8           | EC50 | 265 mg/L (48 h)      | Daphnia magna    | Crustacean |
| EC: 207-838-8           | EC50 | Non-applicable       |                  |            |
| Zinc di(acetate) · 2H2O | LC50 | >0.1 - 1 mg/L (96 h) |                  | Fish       |
| CAS: 5970-45-6          | EC50 | >0.1 - 1 mg/L (48 h) |                  | Crustacean |
| EC: 209-170-2           | EC50 | >0.1 - 1 mg/L (72 h) |                  | Algae      |

**12.2 Persistence and degradability:**

Not available

**12.3 Bioaccumulative potential:**

Not available

**12.4 Mobility in soil:**

Not available

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

Product fails to meet PBT/vPvB criteria

**12.6 Endocrine disrupting properties:**

Endocrine-disrupting properties: The product fails to 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) |
|-----------|--|--|
| 20 01 29* | detergents containing hazardous substances | Dangerous                                  |

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

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

**Ludwik - 5 function dishwasher powder**

**SECTION 14: TRANSPORT INFORMATION**

**Transport of dangerous goods by land:**

With regard to ADR 2021 and RID 2021:

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

**Transport of dangerous goods by sea:**

With regard to IMDG 40-20:

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

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2022:

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

**SECTION 15: REGULATORY INFORMATION**

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

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable  
 Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable  
 Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

- CONTINUED ON NEXT PAGE -

**Ludwik - 5 function dishwasher powder****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

**Regulation (EC) No 648/2004 on detergents:**

In accordance with this regulation the product complies with the following:

The tensoactives contained in this mixture comply with the biodegradability criteria stipulated in Regulation (EC) n°648/2004 on detergents. The information to prove this is available to the relevant authorities of the Member States and will be shown to them by direct request or the request of a detergent manufacturer.

**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

- Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products
- Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents
- Commission Regulation (EC) No 907/2006 of 20 June 2006 amending Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents, in order to adapt Annexes III and VII
- Commission Regulation (EC) No 551/2009 of 25 June 2009 amending Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents, in order to adapt Annexes V and VI thereto (surfactant derogation)

**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:**

H315: Causes skin irritation.

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:**

**Ludwik - 5 function dishwasher powder****SECTION 16: OTHER INFORMATION (continued)**

Acute Tox. 4: H302 - Harmful if swallowed.  
Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.  
Aquatic Acute 1: H400 - Very toxic to aquatic life.  
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.  
Eye Dam. 1: H318 - Causes serious eye damage.  
Eye Irrit. 2: H319 - Causes serious eye irritation.  
Met. Corr. 1: H290 - May be corrosive to metals.  
Ox. Sol. 2: H272 - May intensify fire, oxidiser.  
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.  
Skin Irrit. 2: H315 - Causes skin irritation.  
STOT SE 3: H335 - May cause respiratory irritation.

**Advice related to training:**

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

**Principal bibliographical sources:**

<http://echa.europa.eu>  
<http://eur-lex.europa.eu>

**Abbreviations and acronyms:**

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

**Other information:**

Classification method:  
Eye Irrit 2 - calculation method  
Skin Irrit 2 - calculation method  
Ox. Sol. 2 – tests