

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor****SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1 Product identifier:** Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor

**Other means of identification:**

Not relevant

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

Relevant uses (Consumer use): Cleaner

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:** 111

**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

**2.2 Label elements:**

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

**Warning**



**Hazard statements:**

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

**Precautionary statements:**

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

P102: Keep out of reach of children.

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

**Supplementary information:**

EUH208: Contains Dipentene, Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

**2.3 Other hazards:**

Product does not meet PBT/vPvB criteria

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

\*\* Changes with regards to the previous version

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

**3.1 Substance:**

Not relevant

**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:

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**
**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)**

Identification	Chemical name/Classification	Concentration
CAS: 68439-50-9 EC: 931-837-8 Index: Not relevant REACH: Not relevant	<b>Alcohols, C12-14, ethoxylated (7 EO)<sup>(1)</sup></b> Regulation 1272/2008 Acute Tox. 4: H302; Aquatic Chronic 3: H412; Eye Dam. 1: H318 - Danger	Self-classified  <b>1 - &lt;3%</b>
CAS: 67-63-0 EC: 200-661-7 Index: 603-117-00-0 REACH: 01-2119457558-25-XXXX	<b>propan-2-ol<sup>(1)</sup></b> Regulation 1272/2008 Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336 - Danger	ATP CLP00  <b>1 - &lt;3%</b>
CAS: 138-86-3 EC: 205-341-0 Index: 601-029-00-7 REACH: Not relevant	<b>Dipentene<sup>(1)</sup></b> Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning	ATP ATP17  <b>0.1 - &lt;0.15%</b>
CAS: 55965-84-9 EC: Not relevant Index: 613-167-00-5 REACH: Not relevant	<b>Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)<sup>(1)</sup></b> Regulation 1272/2008 Acute Tox. 2: H310+H330; Acute Tox. 3: H301; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Dam. 1: H318; Skin Corr. 1C: H314; Skin Sens. 1A: H317; EUH071 - Danger	ATP ATP13  <b>&lt;0.0015%</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	M-factor
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	Acute 100 Chronic 100

Identification	Specific concentration limit
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	% (w/w) >=0,6: Skin Corr. 1C - H314 0,06<= % (w/w) <0,6: Skin Irrit. 2 - H315 % (w/w) >=0,6: Eye Dam. 1 - H318 0,06<= % (w/w) <0,6: Eye Irrit. 2 - H319 % (w/w) >=0,0015: Skin Sens. 1A - H317

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

Identification	Acute toxicity	Genus
Alcohols, C12-14, ethoxylated (7 EO) CAS: 68439-50-9 EC: 931-837-8	LD50 oral 1200 mg/kg LD50 dermal Not relevant LC50 inhalation vapour Not relevant	Rat

**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:**

This product is not classified as hazardous when in contact with the skin. However, in case of skin contact it is recommended to remove contaminated clothes and shoes, rinse the skin or if necessary shower the affected person thoroughly with cold water and neutral soap. In case of serious reaction consult a doctor.

**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.

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor****SECTION 4: FIRST AID MEASURES (continued)****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:**

Not relevant

**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media:****Suitable extinguishing media:**

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

**Unsuitable extinguishing media:**

Non-applicable

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

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

**5.3 Advice for firefighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

**Additional provisions:**

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

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

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

**For emergency responders:**

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

**6.2 Environmental precautions:**

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

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

It is recommended:

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.

Spillages in water or sea:

Small spillages:

Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.

Large spillages:

If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

**6.4 Reference to other sections:**

See sections 8 and 13.

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

**SECTION 7: HANDLING AND STORAGE**

**7.1 Precautions for safe handling:**

A.- General precautions for safe use

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

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

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

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

D.- Technical recommendations to prevent environmental risks

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

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

A.- Specific storage requirements

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

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

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

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

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters:**

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

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

**DNEL (Workers):**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
propan-2-ol CAS: 67-63-0 EC: 200-661-7	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	888 mg/kg	Not relevant
	Inhalation	1000 mg/m <sup>3</sup>	Not relevant	500 mg/m <sup>3</sup>	Not relevant
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0,04 mg/m <sup>3</sup>	Not relevant	0,02 mg/m <sup>3</sup>

**DNEL (General population):**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
propan-2-ol CAS: 67-63-0 EC: 200-661-7	Oral	51 mg/kg	Not relevant	26 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	319 mg/kg	Not relevant
	Inhalation	178 mg/m <sup>3</sup>	Not relevant	114 mg/m <sup>3</sup>	Not relevant
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	Oral	0,11 mg/kg	Not relevant	0,09 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0,04 mg/m <sup>3</sup>	Not relevant	0,02 mg/m <sup>3</sup>

**PNEC:**

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

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

Identification				
propan-2-ol CAS: 67-63-0 EC: 200-661-7	STP	2251 mg/L	Fresh water	140,9 mg/L
	Soil	28 mg/kg	Marine water	140,9 mg/L
	Intermittent	140,9 mg/L	Sediment (Fresh water)	552 mg/kg
	Oral	0,16 g/kg	Sediment (Marine water)	552 mg/kg
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	STP	0,23 mg/L	Fresh water	0,00339 mg/L
	Soil	0,01 mg/kg	Marine water	0,00339 mg/L
	Intermittent	0,00339 mg/L	Sediment (Fresh water)	0,027 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,027 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**



If the working conditions and/or safety measures adopted do not allow keeping the airborne concentration of the product below the exposure limits (if any) or at acceptable levels (if no exposure limits exist), suitable respiratory protection equipment chosen by a qualified professional should be used.

**C.- Specific protection for the hands**


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

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

**D.- Eye and face protection**



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

**E.- Body protection**

Pictogram	PPE	Labelling	CEN Standard	Remarks
	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 20347:2022	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 20345:2022 y EN 13832-1:2019

**F.- Additional emergency measures**

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

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

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

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

**Environmental exposure controls:**

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

**Volatile organic compounds:**

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

V.O.C. (Supply):	2,14 % weight
V.O.C. density at 20 °C:	21,92 kg/m <sup>3</sup> (21,92 g/L)
Average carbon number:	3,47
Average molecular weight:	65,21 g/mol

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C:	Liquid
Appearance:	Not relevant *
Colour:	Not relevant *
Odour:	Not relevant *
Odour threshold:	Not relevant *

**Volatility:**

Boiling point at atmospheric pressure:	100 °C
Vapour pressure at 20 °C:	2367 Pa
Vapour pressure at 50 °C:	12462,74 Pa (12,46 kPa)
Evaporation rate at 20 °C:	Not relevant *

**Product description:**

Density at 20 °C:	1022,5 kg/m <sup>3</sup>
Relative density at 20 °C:	1,022
Dynamic viscosity at 20 °C:	Not relevant *
Kinematic viscosity at 20 °C:	Not relevant *
Kinematic viscosity at 40 °C:	Not relevant *
Concentration:	Not relevant *
pH:	7 - 9
Vapour density at 20 °C:	Not relevant *
Partition coefficient n-octanol/water 20 °C:	Not relevant *
Solubility in water at 20 °C:	Not relevant *
Solubility properties:	Not relevant *
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *

**Flammability:**

Flash Point:	Non Flammable (>60 °C)
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	255 °C
Lower flammability limit:	Not relevant *
Upper flammability limit:	Not relevant *

**Particle characteristics:**

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

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

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

Median equivalent diameter: Not relevant \*

**9.2 Other information:**

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

Explosive properties: Not relevant \*

Oxidising properties: Not relevant \*

Corrosive to metals: Not relevant \*

Heat of combustion: Not relevant \*

Aerosols-total percentage (by mass) of flammable components: Not relevant \*

**Other safety characteristics:**

Surface tension at 20 °C: Not relevant \*

Refraction index: Not relevant \*

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

**SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity:**

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

**10.2 Chemical stability:**

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

**10.3 Possibility of hazardous reactions:**

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

**10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

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

**10.5 Incompatible materials:**

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

**10.6 Hazardous decomposition products:**

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

**SECTION 11: TOXICOLOGICAL INFORMATION**

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

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

**Dangerous health implications:**

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

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: 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.

B- Inhalation (acute effect):

- CONTINUED ON NEXT PAGE -



**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

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

- 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: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract

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

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
- 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: propan-2-ol (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. However, it contains substances classified as dangerous with sensitising effects. 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:**

The skin and/or eye classification of this product was derived using bridging principles (such as dilution, interpolation within one hazard category or substantially similar mixtures; with or without expert judgement) following Article 9(3) and Article 9(4) of Regulation (EC) No 1272/2008.

DetNet logging number: 1253

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
propan-2-ol CAS: 67-63-0 EC: 200-661-7	LD50 oral	>5840 mg/kg	Rat
	LD50 dermal	>13900 mg/kg	Rabbit
	LC50 inhalation vapour	>25 mg/L (6 h)	Rat
Alcohols, C12-14, ethoxylated (7 EO) CAS: 68439-50-9 EC: 931-837-8	LD50 oral	1200 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	>20 mg/L	
Dipentene CAS: 138-86-3 EC: 205-341-0	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	>20 mg/L	
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	LD50 oral	64 mg/kg	Rat
	LD50 dermal	87,12 mg/kg	Rabbit
	LC50 inhalation mist	0,33 mg/L (4 h)	Rat

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

ATE mix	Ingredient(s) of unknown toxicity
---------	-----------------------------------

- CONTINUED ON NEXT PAGE -



**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**
**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

Oral	44444,44 mg/kg (Calculation method)	0 %
Dermal	>2000 mg/kg (Calculation method)	0 %
LC50 inhalation vapour	>20 mg/L (4 h) (Calculation method)	0 %

**11.2 Information on other hazards:**
**Endocrine disrupting properties**

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

**Other information**

Not relevant

**SECTION 12: ECOLOGICAL INFORMATION**

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

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

**12.1 Toxicity:**
**Acute toxicity:**

Identification	Concentration	Species	Genus
Alcohols, C12-14, ethoxylated (7 EO) CAS: 68439-50-9 EC: 931-837-8	LC50 >10 - 100 mg/L (96 h)		Fish
	EC50 >10 - 100 mg/L (48 h)		Crustacean
	EC50 >10 - 100 mg/L (72 h)		Algae
propan-2-ol CAS: 67-63-0 EC: 200-661-7	LC50 9640 mg/L (96 h)	Pimephales promelas	Fish
	EC50 10000 mg/L (24 h)	Daphnia magna	Crustacean
	EC50 Not relevant		
Dipentene CAS: 138-86-3 EC: 205-341-0	LC50 38,5 mg/L (96 h)	Pimephales promelas	Fish
	EC50 0,7 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 1,6 mg/L (48 h)	Selenastrum capricornutum	Algae
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	LC50 0,28 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50 0,007 mg/L (48 h)	Acartia tonsa	Crustacean
	EC50 0,0199 mg/L (72 h)	Skeletonema costatum	Algae

**Chronic toxicity:**

Identification	Concentration	Species	Genus
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	NOEC >0.001 - 0.01 mg/L		Fish
	NOEC >0.001 - 0.01 mg/L		Crustacean

**12.2 Persistence and degradability:**
**Substance-specific information:**

Identification	Degradability	Biodegradability	
		Concentration	100 mg/L
Alcohols, C12-14, ethoxylated (7 EO) CAS: 68439-50-9 EC: 931-837-8	BOD5	Not relevant	14 days
	COD	Not relevant	95 %
	BOD5/COD	Not relevant	% Biodegradable
propan-2-ol CAS: 67-63-0 EC: 200-661-7	BOD5	1,19 g O2/g	100 mg/L
	COD	2,23 g O2/g	14 days
	BOD5/COD	0,53	% Biodegradable
Dipentene CAS: 138-86-3 EC: 205-341-0	BOD5	Not relevant	100 mg/L
	COD	Not relevant	14 days
	BOD5/COD	Not relevant	% Biodegradable
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	BOD5	Not relevant	0.3 mg/L
	COD	Not relevant	29 days
	BOD5/COD	Not relevant	% Biodegradable

**12.3 Bioaccumulative potential:**
**Substance-specific information:**

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**
**SECTION 12: ECOLOGICAL INFORMATION (continued)**

Identification	Bioaccumulation potential	
propan-2-ol CAS: 67-63-0 EC: 200-661-7	BCF	3
	Pow Log	0.05
	Potential	Low
Dipentene CAS: 138-86-3 EC: 205-341-0	BCF	660
	Pow Log	4.57
	Potential	High
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	BCF	54
	Pow Log	0.75
	Potential	Moderate

**12.4 Mobility in soil:**

Identification	Absorption/desorption		Volatility	
propan-2-ol CAS: 67-63-0 EC: 200-661-7	Koc	1.5	Henry	8,207E-1 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2,24E-2 N/m (25 °C)	Moist soil	Yes
Dipentene CAS: 138-86-3 EC: 205-341-0	Koc	1300	Henry	3242,4 Pa·m <sup>3</sup> /mol
	Conclusion	Low	Dry soil	Yes
	Surface tension	Not relevant	Moist soil	Yes
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9 EC: Not relevant	Koc	7.7	Henry	5E-3 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	Not relevant
	Surface tension	Not relevant	Moist soil	Not relevant

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

Product does not meet PBT/vPvB criteria

**12.6 Endocrine disrupting properties:**

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

**12.7 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**
**13.1 Waste treatment methods:**
**Type of waste (Regulation (EU) No 1357/2014):**

Not relevant

**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-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

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

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

**SECTION 14: TRANSPORT INFORMATION**
**Transport of dangerous goods by land:**

With regard to ADR 2025 and RID 2025:

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor**

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

- 14.1 UN number or ID number:** Not relevant
- 14.2 UN proper shipping name:** Not relevant
- 14.3 Transport hazard class(es):** Not relevant
- Labels: Not relevant
- 14.4 Packing group:** Not relevant
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
- Special regulations: Not relevant
- Tunnel restriction code: Not relevant
- Physico-Chemical properties: see section 9
- Limited quantities: Not relevant
- 14.7 Maritime transport in bulk according to IMO instruments:** Not relevant

**Transport of dangerous goods by sea:**

With regard to IMDG 41-22:

- 14.1 UN number or ID number:** Not relevant
- 14.2 UN proper shipping name:** Not relevant
- 14.3 Transport hazard class(es):** Not relevant
- Labels: Not relevant
- 14.4 Packing group:** Not relevant
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**
- Special regulations: Not relevant
- EmS Codes:
- Physico-Chemical properties: see section 9
- Limited quantities: Not relevant
- Segregation group: Not relevant
- 14.7 Maritime transport in bulk according to IMO instruments:** Not relevant

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2025:

- 14.1 UN number or ID number:** Not relevant
- 14.2 UN proper shipping name:** Not relevant
- 14.3 Transport hazard class(es):** Not relevant
- Labels: Not relevant
- 14.4 Packing group:** Not relevant
- 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:** Not relevant

**SECTION 15: REGULATORY INFORMATION \*\***

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

- Regulation (EC) No 528/2012: contains a preservative to protect the initial properties of the treated article. Contains bronopol (INN), Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1).

\*\* Changes with regards to the previous version

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor****SECTION 15: REGULATORY INFORMATION \*\* (continued)**

- Article 95, REGULATION (EU) No 528/2012: *propan-2-ol (67-63-0) - PT: (1,2,4); Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9) - PT: (2,4,6,11,12,13); bronopol (INN) (52-51-7) - PT: (2,6,11,12,22)*
- Candidates substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Not relevant
- Regulation (EU) 2019/1021 on persistent organic pollutants: Not relevant
- Regulation (EU) No 2024/590, about substances that deplete the ozone layer: Not relevant
- REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Not relevant
- Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Not relevant

**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:**

Not relevant

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

Shall not be used in:

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

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

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

**Other legislation:**

The product could be affected by sectorial legislation

- 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.

\*\* Changes with regards to the previous version

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

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

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

\*\* Changes with regards to the previous version

- CONTINUED ON NEXT PAGE -

**Ludwik - liquid for cleaning ceramic and terracotta tiles and PCV floor****SECTION 16: OTHER INFORMATION \*\* (continued)**

SECTION 2, SECTION 15, SECTION 16

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

H319: Causes serious eye irritation.

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

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

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

Acute Tox. 2: H310+H330 - Fatal in contact with skin or if inhaled.

Acute Tox. 3: H301 - Toxic if swallowed.

Acute Tox. 4: H302 - Harmful if swallowed.

Aquatic Acute 1: H400 - Very toxic to aquatic life.

Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

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

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

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

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

Flam. Liq. 3: H226 - Flammable liquid and vapour.

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

Skin Irrit. 2: H315 - Causes skin irritation.

Skin Sens. 1: H317 - May cause an allergic skin reaction.

Skin Sens. 1A: H317 - May cause an allergic skin reaction.

STOT SE 3: H336 - May cause drowsiness or dizziness.

**Classification procedure:**

Eye Irrit. 2: Calculation method

**Advice related to training:**

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

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

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

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

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

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

- END OF SAFETY DATA SHEET -