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

1.1 Product identifier: A02994 Maxid Digest 25 KG – A02995 Maxid Digest 220 KG – A02996 Maxid Digest 1000 KG

Other means of identification:

UFI: 76X1-K0E4-P00E-DPGC

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

Relevant uses (Professional users): Additive for fodder (animal feed)
Relevant uses (Industrial user): Additive for fodder (animal feed)
For Professional users/Industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet:

Indufarm NV
Leon Bekaertstraat 5
8770 Ingelmunster - Belgium
Tel.: +32 (0)51 62 42 45
contact@indufarm.com
www.indufarm.com

1.4 Emergency telephone number: +32 (0)70 245 245, Mon-Sun 24h

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

CLP Regulation (EC) No 1272/2008:

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

Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard, Category 3, H412
Eye Dam. 1: Serious eye damage, Category 1, H318
Met. Corr. 1: Corrosive to metals, Category 1, H290
Skin Corr. 1B: Skin corrosion, Category 1B, H314
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335

2.2 Label elements:

CLP Regulation (EC) No 1272/2008:

Danger

Hazard statements:

Acute Tox. 4: H302 - Harmful if swallowed.
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Met. Corr. 1: H290 - May be corrosive to metals.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
STOT SE 3: H335 - May cause respiratory irritation.

Precautionary statements:

P234: Keep only in original packaging.
P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

Supplementary information:

EUH071: Corrosive to the respiratory tract.

UFI: 76X1-K0E4-P00E-DPGC

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SECTION 2: HAZARDS IDENTIFICATION (continued)

2.3 Other hazards:

Product does not meet PBT/vPvB criteria
Endocrine-disrupting properties: The product does not meet the criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS **

3.1 Substance:

Not relevant

3.2 Mixture:

Chemical description: EU-approved feed blend designed to enhance taste, texture, or preservation

Components:

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

Identification	Chemical name/Classification		Concentration
CAS: 64-18-6 EC: 200-579-1 Index: 607-001-00-0 REACH: 01-2119491174-37-XXXX	**Formic acid**(1)	ATP ATP22	**25 - <50%**
	Regulation 1272/2008	Acute Tox. 3: H331; Acute Tox. 4: H302; Eye Dam. 1: H318; Flam. Liq. 3: H226; Met. Corr. 1: H290; Skin Corr. 1A: H314; EUH071 - Danger	
CAS: 79-09-4 EC: 201-176-3 Index: 607-089-00-0 REACH: 01-2119486971-24-XXXX	**propionic acid**(1)	Self-classified	**10 - <25%**
	Regulation 1272/2008	Flam. Liq. 3: H226; Skin Corr. 1B: H314; STOT SE 3: H335 - Danger	
CAS: 79-33-4 EC: 201-196-2 Index: 607-743-00-5 REACH: 01-2119474164-39-XXXX	**L-(+)-lactic acid**(1)	ATP ATP15	**5 - <10%**
	Regulation 1272/2008	Eye Dam. 1: H318; Skin Corr. 1C: H314; EUH071 - Danger	
CAS: 64-19-7 EC: 200-580-7 Index: 607-002-00-6 REACH: 01-2119475328-30-XXXX	**Acetic acid**(1)	ATP CLP00	**5 - <10%**
	Regulation 1272/2008	Flam. Liq. 3: H226; Skin Corr. 1A: H314 - Danger	
CAS: 590-46-5 EC: 209-683-1 Index: Not relevant REACH: 01-2120772050-66-XXXX	**Betaine hydrochloride**(1)	Self-classified	**1 - <2.5%**
	Regulation 1272/2008	Eye Dam. 1: H318 - Danger	
CAS: 77-92-9 EC: 201-069-1 Index: 607-750-00-3 REACH: 01-2119457026-42-XXXX	**Citric Acid**(1)	ATP ATP17	**1 - <2.5%**
	Regulation 1272/2008	Eye Irrit. 2: H319; STOT SE 3: H335 - Warning	
CAS: 7758-99-8 EC: 231-847-6 Index: 029-023-00-4 REACH: 01-2119520566-40-XXXX	**Copper sulfate pentahydrate**(1)	ATP ATP17	**<1%**
	Regulation 1272/2008	Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Dam. 1: H318 - Danger	
CAS: 5970-45-6 EC: 209-170-2 Index: Not relevant REACH: 01-2120119383-62-XXXX	**Zinc di(acetate) · 2H2O**(1)	Self-classified	**<1%**
	Regulation 1272/2008	Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning	

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

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

Other information:

Identification	M-factor	
Copper sulfate pentahydrate	Acute	10
CAS: 7758-99-8 EC: 231-847-6	Chronic	1

*** Changes with regards to the previous version*

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

Identification	Specific concentration limit
Formic acid CAS: 64-18-6 EC: 200-579-1	% (w/w) >=85: Flam. Liq. 3 - H226 % (w/w) >=90: Skin Corr. 1A - H314 10<= % (w/w) <90: Skin Corr. 1B - H314 2<= % (w/w) <10: Skin Irrit. 2 - H315 % (w/w) >=10: Eye Dam. 1 - H318 2<= % (w/w) <10: Eye Irrit. 2 - H319
propionic acid CAS: 79-09-4 EC: 201-176-3	% (w/w) >=25: Skin Corr. 1B - H314 10<= % (w/w) <25: Skin Irrit. 2 - H315 % (w/w) >=25: Eye Dam. 1 - H318 10<= % (w/w) <25: Eye Irrit. 2 - H319 % (w/w) >=10: STOT SE 3 - H335
Acetic acid CAS: 64-19-7 EC: 200-580-7	% (w/w) >=90: Skin Corr. 1A - H314 25<= % (w/w) <90: Skin Corr. 1B - H314 10<= % (w/w) <25: Skin Irrit. 2 - H315 % (w/w) >=25: Eye Dam. 1 - H318 10<= % (w/w) <25: Eye Irrit. 2 - H319

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
Formic acid CAS: 64-18-6 EC: 200-579-1	LD50 oral	500 mg/kg	
	LD50 dermal	Not relevant	
	LC50 inhalation vapour	7.4 mg/L	
Copper sulfate pentahydrate CAS: 7758-99-8 EC: 231-847-6	LD50 oral	481 mg/kg	
	LD50 dermal	Not relevant	
	LC50 inhalation vapour	Not relevant	
Zinc di(acetate) · 2H2O CAS: 5970-45-6 EC: 209-170-2	LD50 oral	794 mg/kg	
	LD50 dermal	Not relevant	
	LC50 inhalation vapour	Not relevant	

*** Changes with regards to the previous version*

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

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

By skin contact:

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

By eye contact:

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

By ingestion/aspiration:

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

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

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

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

Not relevant

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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. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media:

Non-applicable

5.2 Special hazards arising from the substance or mixture:

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

5.3 Advice for firefighters:

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

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:

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

6.3 Methods and material for containment and cleaning up:

It is recommended:

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.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

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SECTION 7: HANDLING AND STORAGE (continued)

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

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

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

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

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 0 ºC

Maximum Temp.: 40 ºC

Maximum time: 24 Months

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 assessed in the workplace:

EH40/2005 Workplace exposure limits, fourth edition, published 2020:

Identification	Occupational exposure limits		
Formic acid CAS: 64-18-6 EC: 200-579-1	WEL (8h)	5 ppm	9.6 mg/m³
	WEL (15 min)		
propionic acid CAS: 79-09-4 EC: 201-176-3	WEL (8h)	10 ppm	31 mg/m³
	WEL (15 min)	15 ppm	46 mg/m³
Acetic acid CAS: 64-19-7 EC: 200-580-7	WEL (8h)	10 ppm	25 mg/m³
	WEL (15 min)	20 ppm	50 mg/m³
Copper sulfate pentahydrate CAS: 7758-99-8 EC: 231-847-6	WEL (8h)		1 mg/m³
	WEL (15 min)		2 mg/m³

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Formic acid	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 64-18-6	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 200-579-1	Inhalation	Not relevant	Not relevant	Not relevant	9.5 mg/m³
Acetic acid	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 64-19-7	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 200-580-7	Inhalation	Not relevant	25 mg/m³	Not relevant	25 mg/m³
Betaine hydrochloride	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 590-46-5	Dermal	Not relevant	Not relevant	252 mg/kg	Not relevant
EC: 209-683-1	Inhalation	Not relevant	Not relevant	177 mg/m³	Not relevant
Copper sulfate pentahydrate	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 7758-99-8	Dermal	Not relevant	Not relevant	137 mg/kg	Not relevant
EC: 231-847-6	Inhalation	Not relevant	Not relevant	1 mg/m³	1 mg/m³

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Zinc di(acetate) · 2H2O	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 5970-45-6	Dermal	Not relevant	Not relevant	1.338 mg/kg	Not relevant
EC: 209-170-2	Inhalation	Not relevant	Not relevant	4.71 mg/m³	Not relevant

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Formic acid	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 64-18-6	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 200-579-1	Inhalation	Not relevant	Not relevant	Not relevant	3 mg/m³
Acetic acid	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 64-19-7	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 200-580-7	Inhalation	Not relevant	25 mg/m³	Not relevant	25 mg/m³
Betaine hydrochloride	Oral	Not relevant	Not relevant	12.6 mg/kg	Not relevant
CAS: 590-46-5	Dermal	Not relevant	Not relevant	126 mg/kg	Not relevant
EC: 209-683-1	Inhalation	Not relevant	Not relevant	44 mg/m³	Not relevant
Copper sulfate pentahydrate	Oral	0.082 mg/kg	Not relevant	0.041 mg/kg	Not relevant
CAS: 7758-99-8	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 231-847-6	Inhalation	Not relevant	Not relevant	Not relevant	Not relevant
Zinc di(acetate) · 2H2O	Oral	Not relevant	Not relevant	0.669 mg/kg	Not relevant
CAS: 5970-45-6	Dermal	Not relevant	Not relevant	0.669 mg/kg	Not relevant
EC: 209-170-2	Inhalation	Not relevant	Not relevant	1.16 mg/m³	Not relevant

PNEC:

Identification				
Formic acid	STP	7.2 mg/L	Fresh water	2 mg/L
CAS: 64-18-6	Soil	1.5 mg/kg	Marine water	0.2 mg/L
EC: 200-579-1	Intermittent	1 mg/L	Sediment (Fresh water)	13.4 mg/kg
	Oral	Not relevant	Sediment (Marine water)	1.34 mg/kg
Acetic acid	STP	85 mg/L	Fresh water	3.058 mg/L
CAS: 64-19-7	Soil	0.47 mg/kg	Marine water	0.306 mg/L
EC: 200-580-7	Intermittent	30.58 mg/L	Sediment (Fresh water)	11.36 mg/kg
	Oral	Not relevant	Sediment (Marine water)	1.136 mg/kg
Citric Acid	STP	1000 mg/L	Fresh water	0.44 mg/L
CAS: 77-92-9	Soil	33.1 mg/kg	Marine water	0.044 mg/L
EC: 201-069-1	Intermittent	Not relevant	Sediment (Fresh water)	34.6 mg/kg
	Oral	Not relevant	Sediment (Marine water)	3.46 mg/kg
Copper sulfate pentahydrate	STP	0.23 mg/L	Fresh water	0.0078 mg/L
CAS: 7758-99-8	Soil	65 mg/kg	Marine water	0.0052 mg/L
EC: 231-847-6	Intermittent	Not relevant	Sediment (Fresh water)	87 mg/kg
	Oral	Not relevant	Sediment (Marine water)	676 mg/kg
Zinc di(acetate) · 2H2O	STP	0.009 mg/L	Fresh water	0.002 mg/L
CAS: 5970-45-6	Soil	0 mg/kg	Marine water	0 mg/L
EC: 209-170-2	Intermittent	0.021 mg/L	Sediment (Fresh water)	0.008 mg/kg
	Oral	Not relevant	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

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours (Filter type: A)	CE CAT III	EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands

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

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

D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield	CE CAT II	EN ISO 16321-1:2022 + EN ISO 16321-3:2022 EN ISO 18526-(1,2,3,4):2020 EN ISO 18526-(1,2,3,4):2020 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	CE CAT III	EN 13034:2005+A1:2009 EN ISO 18526-(1,2,3,4):2020 EN ISO 13982-1:2004/A1:2010 ISO 6529:2013 EN ISO 6530:2005 EN 464:1994	For professional use only. Clean periodically according to the manufacturer´s instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	CE CAT III	EN ISO 20345:2022 EN 13832-1:2018	Replace boots at any sign of deterioration.

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

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):	46.55 % weight
V.O.C. density at 20 ºC:	546.64 kg/m³ (546.64 g/L)
Average carbon number:	1.67
Average molecular weight:	55.37 g/mol

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 ºC:	Liquid
Appearance:	Not relevant *
Colour:	Blue
Odour:	Not relevant *
Odour threshold:	Not relevant *

Volatility:

Boiling point at atmospheric pressure:	107 ºC
Vapour pressure at 20 ºC:	2692 Pa
Vapour pressure at 50 ºC:	12549.51 Pa (12.55 kPa)
Evaporation rate at 20 ºC:	Not relevant *

Product description:

Density at 20 ºC:	1174.3 kg/m³
Relative density at 20 ºC:	1.174
Dynamic viscosity at 20 ºC:	2.06 mPa·s
Kinematic viscosity at 20 ºC:	1.76 mm²/s
Kinematic viscosity at 40 ºC:	Not relevant *
Concentration:	Not relevant *
pH:	ca. 3 (at 10 %)
Relative vapour density at 20 ºC:	Not relevant *
Partition coefficient n-octanol/water 20 ºC:	Not relevant *
Solubility in water at 20 ºC:	Not relevant *
Solubility properties:	Not relevant *
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *

Flammability:

Flash Point:	>61 ºC
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	463 ºC
Lower flammability limit:	Not relevant *
Upper flammability limit:	Not relevant *

Particle characteristics:

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:	H290: May be corrosive to metals.
Heat of combustion:	Not relevant *
Aerosols-total percentage (by mass) of flammable components:	Not relevant *

Other safety characteristics:

Surface tension at 20 ºC:	Not relevant *

*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)

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	Precaution	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO_2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

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

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

Dangerous health implications:

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

A- Ingestion (acute effect):

- Acute toxicity: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

B- Inhalation (acute effect):

- Acute toxicity : 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: Corrosive to the respiratory tract

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

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

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

- 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: Not relevant
- 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.

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

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:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

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:

Not relevant

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Formic acid CAS: 64-18-6 EC: 200-579-1	LD50 oral	500 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	7.4 mg/L	
Acetic acid CAS: 64-19-7 EC: 200-580-7	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	>20 mg/L	
propionic acid CAS: 79-09-4 EC: 201-176-3	LD50 oral	3455 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	>20 mg/L	
L-(+)-lactic acid CAS: 79-33-4 EC: 201-196-2	LD50 oral	3543 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation dust	>5 mg/L	
Citric Acid CAS: 77-92-9 EC: 201-069-1	LD50 oral	5400 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation dust	>5 mg/L	
Betaine hydrochloride CAS: 590-46-5 EC: 209-683-1	LD50 oral	11179 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation dust	>5 mg/L	
Copper sulfate pentahydrate CAS: 7758-99-8 EC: 231-847-6	LD50 oral	481 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation dust	>5 mg/L	
Zinc di(acetate) · 2H2O CAS: 5970-45-6 EC: 209-170-2	LD50 oral	794 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation dust	>5 mg/L	

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

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SECTION 12: ECOLOGICAL INFORMATION (continued)

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

Harmful to aquatic life with long lasting effects.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
Formic acid	LC50	175 mg/L (24 h)	Lepomis macrochirus	Fish
CAS: 64-18-6	EC50	120 mg/L (48 h)	Daphnia magna	Crustacean
EC: 200-579-1	EC50	26.9 mg/L (72 h)	Scenedesmus subspicatus	Algae
L-(+)-lactic acid	LC50	320 mg/L (96 h)	Brachydanio rerio	Fish
CAS: 79-33-4	EC50	240 mg/L (48 h)	Daphnia magna	Crustacean
EC: 201-196-2	EC50	3.5 mg/L (70 h)	Selenastrum capricornutum	Algae
Citric Acid	LC50	1516 mg/L (96 h)	Lepomis macrochirus	Fish
CAS: 77-92-9	EC50	160 mg/L (48 h)	N/A	Crustacean
EC: 201-069-1	EC50	Not relevant		
Copper sulfate pentahydrate	LC50	0.81 mg/L (96 h)	Cyprinus carpio	Fish
CAS: 7758-99-8	EC50	Not relevant		
EC: 231-847-6	EC50	Not relevant		
Zinc di(acetate) · 2H2O	LC50	0.55 mg/L (96 h)	Oncorhynchus mykiss	Fish
CAS: 5970-45-6	EC50	Not relevant		
EC: 209-170-2	EC50	Not relevant		

Chronic toxicity:

Identification	Concentration		Species	Genus
Formic acid	NOEC	Not relevant		
CAS: 64-18-6 EC: 200-579-1	NOEC	100 mg/L	Daphnia magna	Crustacean
Copper sulfate pentahydrate	NOEC	>0.1 - 1 mg/L		Fish
CAS: 7758-99-8 EC: 231-847-6	NOEC	>0.1 - 1 mg/L		Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Formic acid	BOD5	Not relevant	Concentration	100 mg/L
CAS: 64-18-6	COD	Not relevant	Period	14 days
EC: 200-579-1	BOD5/COD	Not relevant	% Biodegradable	110 %
Acetic acid	BOD5	Not relevant	Concentration	3 mg/L
CAS: 64-19-7	COD	Not relevant	Period	20 days
EC: 200-580-7	BOD5/COD	Not relevant	% Biodegradable	96 %
Citric Acid	BOD5	Not relevant	Concentration	10 mg/L
CAS: 77-92-9	COD	Not relevant	Period	28 days
EC: 201-069-1	BOD5/COD	Not relevant	% Biodegradable	97 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
Formic acid	BCF	3
CAS: 64-18-6	Pow Log	-0.54
EC: 200-579-1	Potential	Low
Acetic acid	BCF	3
CAS: 64-19-7	Pow Log	-0.17
EC: 200-580-7	Potential	Low
Citric Acid	BCF	3
CAS: 77-92-9	Pow Log	-1.55
EC: 201-069-1	Potential	Low

12.4 Mobility in soil:

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
Formic acid	Koc	Not relevant	Henry	Not relevant
CAS: 64-18-6	Conclusion	Not relevant	Dry soil	Not relevant
EC: 200-579-1	Surface tension	3.862E-2 N/m (25 ºC)	Moist soil	Not relevant
propionic acid	Koc	Not relevant	Henry	Not relevant
CAS: 79-09-4	Conclusion	Not relevant	Dry soil	Not relevant
EC: 201-176-3	Surface tension	2.62E-2 N/m (25 ºC)	Moist soil	Not relevant
Acetic acid	Koc	1.15	Henry	2.1E-1 Pa·m³/mol
CAS: 64-19-7	Conclusion	Very High	Dry soil	Yes
EC: 200-580-7	Surface tension	2.699E-2 N/m (25 ºC)	Moist soil	Yes
Citric Acid	Koc	Not relevant	Henry	Not relevant
CAS: 77-92-9	Conclusion	Not relevant	Dry soil	Not relevant
EC: 201-069-1	Surface tension	2.045E-2 N/m (350.93 ºC)	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:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
20 01 14*	Acids	Hazardous

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

HP14 Ecotoxic, HP6 Acute Toxicity, HP8 Corrosive

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC, The Waste Regulations 2011, 2011 No. 988). As under 15 01 (2014/955/EU) 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:

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SECTION 14: TRANSPORT INFORMATION (continued)

14.1	**UN number or ID number:**	UN3265
14.2	**UN proper shipping name:**	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Formic acid; propionic acid)
14.3	**Transport hazard class(es):**	8
	Labels:	8
14.4	**Packing group:**	II
14.5	**Environmental hazards:**	No
14.6	**Special precautions for user**	
	Special regulations:	274
	Tunnel restriction code:	E
	Physico-Chemical properties:	see section 9
	Limited quantities:	1 L
14.7	**Maritime transport in bulk according to IMO instruments:**	Not relevant

Transport of dangerous goods by sea:

With regard to IMDG 42-24:

14.1	**UN number or ID number:**	UN3265
14.2	**UN proper shipping name:**	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Formic acid; propionic acid)
14.3	**Transport hazard class(es):**	8
	Labels:	8
14.4	**Packing group:**	II
14.5	**Marine pollutant:**	No
14.6	**Special precautions for user**	
	Special regulations:	274
	EmS Codes:	F-A, S-B
	Physico-Chemical properties:	see section 9
	Limited quantities:	1 L
	Segregation group:	SGG1
14.7	**Maritime transport in bulk according to IMO instruments:**	Not relevant

Transport of dangerous goods by air:

With regard to IATA/ICAO 2026:

14.1	**UN number or ID number:**	UN3265
14.2	**UN proper shipping name:**	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Formic acid; propionic acid)
14.3	**Transport hazard class(es):**	8
	Labels:	8
14.4	**Packing group:**	II
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 benzoic acid, Hexa-2,4-dienoic acid.

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SECTION 15: REGULATORY INFORMATION (continued)

- Article 95, REGULATION (EU) No 528/2012: *Formic acid (64-18-6) - PT: (2, 3, 4, 5, 6)* ; *L-(+)-lactic acid (79-33-4) - PT: (1, 2, 3, 4, 6)* ; *Citric Acid (77-92-9) - PT: (2, NA)* ; *Copper sulfate pentahydrate (7758-99-8) - PT: (2)* ; *benzoic acid (65-85-0) - PT: (3, 4, 7, 9)* ; *Hexa-2,4-dienoic acid (110-44-1) - PT: (6)*
- Candidate 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) 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

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.
Occupational exposure to respirable crystalline silica must be controlled pursuant to Directive (EU) 2019/130.

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 Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG 2009), SI 2009 No 1348
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011, 2011 No. 1885
Control of Substances Hazardous to Health Regulations 2002 (as amended)
EH40/2005 Workplace exposure limits
The Waste Regulations 2011, 2011 No. 988

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:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878)

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

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3):
· Removed substances
Silicon dioxide (RCS < 1%) (7631-86-9)

Texts of the legislative phrases mentioned in section 2:

H290: May be corrosive to metals.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.

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:

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SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 3: H331 - Toxic if inhaled.
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.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Met. Corr. 1: H290 - May be corrosive to metals.
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Corr. 1C: H314 - Causes severe skin burns and eye damage.
Skin Irrit. 2: H315 - Causes skin irritation.
STOT SE 3: H335 - May cause respiratory irritation.

Classification procedure:

Eye Dam. 1: Calculation method
STOT SE 3: Calculation method
Aquatic Chronic 3: Calculation method
Acute Tox. 4: Calculation method
Skin Corr. 1B: 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

- END OF SAFETY DATA SHEET -