




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

- 1.1 Product identifier:** Defensivo
- Other means of identification:**
- UFI:** UGA0-N0GA-K00X-HGKS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
- Relevant uses (Professional users): Fertilizer
Relevant uses (Industrial user): Fertilizer
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:**
- ASFERTGLOBAL, LDA
Rua Nova da CEE- Perofinho, Várzea
2005-008 Santarém - Santarém - Portugal
Phone: 351 243 779 431 - Fax: 351 243 779 421
info@asfertglobal.com
www.asfertglobal.com
- 1.4 Emergency telephone number:**

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
- CLP Regulation (EC) No 1272/2008:**
- Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
- Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard, Category 3, H412
Eye Dam. 1: Serious eye damage, Category 1, H318
Skin Corr. 1: Skin corrosion, Category 1, H314
- 2.2 Label elements:**
- CLP Regulation (EC) No 1272/2008:**
- Danger**
- 
- Hazard statements:**
- Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Skin Corr. 1: H314 - Causes severe skin burns and eye damage.
- Precautionary statements:**
- P264: Wash thoroughly after handling.
P280: Wear protective gloves/face protection/protective clothing/protective footwear.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a poison center/doctor.
P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively.
- Substances that contribute to the classification**
- Citric Acid; Diiron tris(sulphate)
- Authorized substances:**
- Citric Acid (01-2119457026-42-XXXX)
- Acute Toxicity Estimate (ATE mix):**
- 6,7 % (oral) of the mixture consists of ingredient(s) of unknown toxicity
- UFI:** UGA0-N0GA-K00X-HGKS
- 2.3 Other hazards:**

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Defensivo
SECTION 2: HAZARDS IDENTIFICATION (continued)

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: Solution

Components:

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

Identification	Chemical name/Classification	Concentration
CAS: 77-92-9 EC: 201-069-1 Index: 607-750-00-3 REACH: 01-2119457026-42-XXXX	Citric Acid⁽¹⁾ Regulation 1272/2008 Eye Irrit. 2: H319; STOT SE 3: H335 - Warning	ATP ATP17 10 - <25%
CAS: 10028-22-5 EC: 233-072-9 Index: Not relevant REACH: 01-2119513202-59-XXXX	Diiron tris(sulphate)⁽¹⁾ Regulation 1272/2008 Acute Tox. 4: H302; Eye Dam. 1: H318; Met. Corr. 1: H290; Skin Irrit. 2: H315 - Danger	Self-classified 1 - <5%
CAS: 1314-13-2 EC: 215-222-5 Index: 030-013-00-7 REACH: 01-2119463881-32-XXXX	zinc oxide⁽¹⁾ Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410 - Warning	ATP CLP00 1 - <5%

⁽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.

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
Diiron tris(sulphate) CAS: 10028-22-5 EC: 233-072-9	LD50 oral 500 mg/kg LD50 dermal Not relevant LC50 inhalation vapour Not relevant	Rat

SECTION 4: FIRST AID MEASURES
4.1 Description of first aid measures:

Request medical assistance immediately, 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:

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**Defensivo****SECTION 4: FIRST AID MEASURES (continued)**

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

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/EEC.

Additional provisions:

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

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

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

For emergency responders:

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

6.2 Environmental precautions:

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

6.3 Methods and material for containment and cleaning up:

It is recommended:

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Defensivo
SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

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

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

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

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

D.- Technical recommendations to prevent environmental risks

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

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 2 °C

Maximum Temp.: 30 °C

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 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
Diiron tris(sulphate)	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 10028-22-5	Dermal	Not relevant	Not relevant	2,8 mg/kg	Not relevant
EC: 233-072-9	Inhalation	Not relevant	Not relevant	Not relevant	Not relevant

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Defensivo

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
zinc oxide	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 1314-13-2	Dermal	Not relevant	Not relevant	83 mg/kg	Not relevant
EC: 215-222-5	Inhalation	Not relevant	Not relevant	5 mg/m ³	0,5 mg/m ³

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Diiron tris(sulphate)	Oral	20 mg/kg	Not relevant	0,28 mg/kg	Not relevant
CAS: 10028-22-5	Dermal	Not relevant	Not relevant	1,4 mg/kg	Not relevant
EC: 233-072-9	Inhalation	Not relevant	Not relevant	Not relevant	Not relevant
zinc oxide	Oral	Not relevant	Not relevant	0,83 mg/kg	Not relevant
CAS: 1314-13-2	Dermal	Not relevant	Not relevant	83 mg/kg	Not relevant
EC: 215-222-5	Inhalation	Not relevant	Not relevant	2,5 mg/m ³	Not relevant

PNEC:

Identification					
Citric Acid CAS: 77-92-9 EC: 201-069-1	STP	1000 mg/L	Fresh water	0,44 mg/L	
	Soil	33,1 mg/kg	Marine water	0,044 mg/L	
	Intermittent	Not relevant	Sediment (Fresh water)	34,6 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	3,46 mg/kg	
zinc oxide CAS: 1314-13-2 EC: 215-222-5	STP	0,1 mg/L	Fresh water	0,0206 mg/L	
	Soil	35,6 mg/kg	Marine water	0,0061 mg/L	
	Intermittent	Not relevant	Sediment (Fresh water)	117,8 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	56,5 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: 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
 Mandatory face protection	Face shield		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

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks		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		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):	0 % weight
V.O.C. density at 20 °C:	0 kg/m ³ (0 g/L)
Average carbon number:	Not relevant
Average molecular weight:	Not relevant

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:	 Orange
Odour:	Not relevant *
Odour threshold:	Not relevant *

Volatility:

Boiling point at atmospheric pressure:	100 °C
Vapour pressure at 20 °C:	2350 Pa
Vapour pressure at 50 °C:	12381,01 Pa (12,38 kPa)
Evaporation rate at 20 °C:	Not relevant *

Product description:

Density at 20 °C:	1106 kg/m ³
Relative density at 20 °C:	1,12
Dynamic viscosity at 20 °C:	1,6 mPa·s
Kinematic viscosity at 20 °C:	1,44 mm ² /s

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

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Defensivo
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Kinematic viscosity at 40 °C:	Not relevant *
Concentration:	Not relevant *
pH:	0,7 (UNE-EN 1262:2004)
Relative 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:	1010 °C
Lower flammability limit:	Not relevant *
Upper flammability limit:	Not relevant *

Particle characteristics:

Median equivalent diameter:	Not relevant *
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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	Not applicable	Not applicable	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Not applicable	Not applicable	Precaution	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

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

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 (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**

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

Dangerous health implications:

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

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: 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: 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.

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:

Not relevant

Specific toxicology information on the substances:

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Defensivo
SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
Citric Acid CAS: 77-92-9 EC: 201-069-1	LD50 oral	5400 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation dust		
zinc oxide CAS: 1314-13-2 EC: 215-222-5	LD50 oral	7950 mg/kg	Mouse
	LD50 dermal		
	LC50 inhalation dust		
Diiron tris(sulphate) CAS: 10028-22-5 EC: 233-072-9	LD50 oral	500 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation dust		

Acute Toxicity Estimate (ATE mix):

	ATE mix	Ingredient(s) of unknown toxicity
Oral	11764,71 mg/kg (Calculation method)	6,7 %
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

Harmful to aquatic life with long lasting effects.

12.1 Toxicity:
Acute toxicity:

Identification	Concentration	Species	Genus
Citric Acid CAS: 77-92-9 EC: 201-069-1	LC50 1516 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50 160 mg/L (48 h)	N/A	Crustacean
	EC50 Not relevant		
zinc oxide CAS: 1314-13-2 EC: 215-222-5	LC50 0,82 mg/L (96 h)	Oncorhynchus kisutch	Fish
	EC50 3,4 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Not relevant		

Chronic toxicity:

Identification	Concentration	Species	Genus
zinc oxide CAS: 1314-13-2 EC: 215-222-5	NOEC 0,44 mg/L	Oncorhynchus mykiss	Fish
	NOEC 0,031 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:
Substance-specific information:

Identification	Degradability	Biodegradability	
		Concentration	10 mg/L
Citric Acid CAS: 77-92-9 EC: 201-069-1	BOD5	Not relevant	Period
	COD	Not relevant	28 days
	BOD5/COD	Not relevant	% Biodegradable

12.3 Bioaccumulative potential:
Substance-specific information:

Identification	Bioaccumulation potential	
Citric Acid CAS: 77-92-9 EC: 201-069-1	BCF	3
	Pow Log	-1.55
	Potential	Low

12.4 Mobility in soil:

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Defensivo
SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
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 °C)	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)
06 10 02*	wastes containing hazardous substances	Hazardous

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

HP14 Ecotoxic, HP8 Corrosive

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-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:



- 14.1 UN number or ID number:** UN3265
- 14.2 UN proper shipping name:** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diiron tris(sulphate))
- 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:

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Defensivo
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. (Diiron tris(sulphate))
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. (Diiron tris(sulphate))
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:

- Article 95, REGULATION (EU) No 528/2012: *Citric Acid (77-92-9) - PT: (2, NA)*
- 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) 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

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 (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making

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**SECTION 15: REGULATORY INFORMATION (continued)**

available on the market of EU fertilising products.

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.:

Not relevant

Texts of the legislative phrases mentioned in section 2:

H318: Causes serious eye damage.

H412: Harmful to aquatic life with long lasting effects.

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:

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.

Met. Corr. 1: H290 - May be corrosive to metals.

Skin Irrit. 2: H315 - Causes skin irritation.

STOT SE 3: H335 - May cause respiratory irritation.

Classification procedure:

Eye Dam. 1: Calculation method

Aquatic Chronic 3: Calculation method

Skin Corr. 1: On basis of test data

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