



ENDURECEDOR ALIPOX
Code : 0181



Version: 5

Revision: 09/12/2022

Previous revision: 28/12/2021

Date of printing: 09/12/2022

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

- 1.1 **PRODUCT IDENTIFIER:**
ENDURECEDOR ALIPOX
Code: 0181 (CAS: 107-15-3 EC: 203-468-6) UFI: SFG0-00J7-Q00Q-WGE1
REACH REGISTER:
Register name:
Ethylenediamine
Register number:
01-2119480383-37
- 1.2 **RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:**
Intended uses (main technical functions): ☐ Industrial ☒ Professional ☐ Consumers
Hardener.
Sectors of use (use as such or as an ingredient in mixtures):
Professional uses (SU22),
Use in manufacture, formulation or application processes (relevant uses):
Use in coatings as hardener, Professional, Consumers.
Use in products (relevant product categories):
Not applicable. Coatings and paints, thinners, paint removers (PC9a).
Types of PCN use:
Chemical products: uncategorised.
Uses advised against:
This product is not recommended for any use or sector of use (industrial, professional or consumer) other than those previously listed as "Intended or identified uses".
Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006:
Not restricted.
- 1.3 **DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:**
PINTURAS ISAVAL, S.L.
c/Velluters, Parcela 2-14- P.I. Casanova - 46394 Ribarroja del Turia (Valencia) ESPAÑA
Phone number: +34 96 1640001 - Fax: +34 96 1640002 - www.isaval.es
- E-mail address of the person responsible for the Safety Data Sheet:
atencionalcliente@isaval.es
- 1.4 **EMERGENCY TELEPHONE NUMBER:**
+34 96 1640001 8:00-18:00 h.

SECTION 2 : HAZARDS IDENTIFICATION

- 2.1 **CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:**
Classification in accordance with Regulation (EU) No. 1272/2008~2021/849 (CLP):
DANGER: Skin Irrit. 2:H315|Eye Irrit. 2:H319|Resp. Sens. 1:H334|Skin Sens. 1:H317
- | Danger class | Classification of the substance | Cat. | Routes of exposure | Target organs | Effects |
|------------------------------------|--|----------------------------------|------------------------------------|---|--|
| Physicochemical:
Not classified | | | | | |
| Human health: | Skin Irrit. 2:H315
Eye Irrit. 2:H319
Resp. Sens. 1:H334
Skin Sens. 1:H317 | Cat.2
Cat.2
Cat.1
Cat.1 | Skin
Eyes
Inhalation
Skin | Skin
Eyes
Respiratory tract
Skin | Irritation
Irritation
Allergy, Asthma
Allergy |
| Environment:
Not classified | | | | | |

Full text of hazard statements mentioned is indicated in section 16.

- 2.2 **LABEL ELEMENTS:**
- This product is labelled with the signal word DANGER in accordance with Regulation (EU) No. 1272/2008~2021/849 (CLP)
- Hazard statements:**
- H319 Causes serious eye irritation.
H315 Causes skin irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
- Precautionary statements:**
- P362+P364 Take off contaminated clothing and wash it before reuse.
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P337+P313 If eye irritation persists: Get medical advice/attention.
P280 Wear protective gloves, clothing and eye protection. In case of inadequate ventilation wear respiratory protection.
P303+P361+P353- P352-P312 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash with plenty of water and soap.. Call a POISON CENTER or doctor if you feel unwell.



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	P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P305+P351+P338- P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. P501 Dispose of contents/container to hazardous or special waste collection point. - Supplementary statements: - Substances that contribute to classification: Ethylenediamine EC No. 203-468-6
2.3	OTHER HAZARDS: Hazards which do not result in classification but which may contribute to the overall hazards of the substance: - Other physicochemical hazards: No other relevant adverse effects are known. - Other adverse human health effects: No other relevant adverse effects are known. - Other negative environmental effects: Do not fulfil the PBT/vPvB criteria. Endocrine disrupting properties: This product does not contain substances with endocrine disrupting properties identified or under evaluation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1	SUBSTANCES: This product is a substance in aqueous solution. Chemical description: Mixture of solvents. INGREDIENTS: <table><tr><td>1 < C < 2 %</td><td>Ethylenediamine</td><td>REACH</td><td>Skin Sens. 1B, H317: C ≥1 %</td></tr><tr><td></td><td>CAS: 107-15-3, EC: 203-468-6, REACH: 01-2119480383-37 CLP: Danger: Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 3:H311 Acute Tox. (oral) 4:H302 Skin Corr. 1B:H314 Aquatic Chronic 3:H412 Skin Sens. 1B:H317 Resp Sens. 1B:H334</td><td></td><td></td></tr></table> Impurities: Does not contain other components or impurities which will influence the classification of the product. Stabilizers: None. Reference to other sections: For more information on hazardous ingredients, see sections 8, 11, 12 and 16. SUBSTANCES OF VERY HIGH CONCERN (SVHC): List updated by ECHA on 10/06/2022. Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006: None. Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006: Ethylenediamine. Respiratory sensitising properties having probable serious effects to human health (Article 57f), Decision: ED/61/2018. Persistent, bioaccumulable and toxic PBT, or very persistent and very bioaccumulable vPvB substances: Do not fulfil the PBT/vPvB criteria.	1 < C < 2 %	Ethylenediamine	REACH	Skin Sens. 1B, H317: C ≥1 %	   	CAS: 107-15-3, EC: 203-468-6, REACH: 01-2119480383-37 CLP: Danger: Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 3:H311 Acute Tox. (oral) 4:H302 Skin Corr. 1B:H314 Aquatic Chronic 3:H412 Skin Sens. 1B:H317 Resp Sens. 1B:H334		
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3.2	MIXTURES: Not applicable (substance).								



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SECTION 4: FIRST AID MEASURES

4.1

DESCRIPTION OF FIRST AID MEASURES:

Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.

Route of exposure	Symptoms and effects, acute and delayed	Description of first-aid measures
Inhalation: 	Inhalation produces irritation to mucus, coughing and breathlessness.	Remove the patient out of the contaminated area into the fresh air. If breathing is irregular or stops, administer artificial respiration. If the person is unconscious, place in appropriate recovery position. Keep the patient warm and at rest until medical attention arrives.
Skin: 	Skin contact causes redness.	Remove immediately contaminated clothing. Wash thoroughly the affected area with plenty of cold or lukewarm water and neutral soap, or use a suitable skin cleanser.
Eyes: 	Contact with the eyes produces redness, pain, serious burns and loss of vision. Vapour may cause temporary disturbance to vision.	Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water for at least 15 minutes, holding the eyelids apart, until the irritation is reduced. Call a physician immediately.
Ingestion:	If swallowed, may cause irritation of the mouth, throat and oesophagus.	If swallowed, seek immediate medical attention. Wash out the mouth, then drink plenty of water. Do not induce vomiting, due to the risk of perforation. Should vomiting occur spontaneously, keep free respiratory tract. Keep the patient at rest.

4.2

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

The main symptoms and effects are indicated in sections 4.1 and 11.1

4.3

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:Notes to physician:

Specific treatment is necessary in case of exposition with this product: the appropriate means with instructions must be available. Exposure to the vapour may cause minor transient oedema of the corneal epithelium. This condition, referred to as 'glauropsia', 'blue haze' or 'blue-grey haze', produces a blurring of vision against a general bluish haze and the appearance of halos around bright objects. Although not detrimental to the eye per se, glauropsia predisposes an affected individual to physical accidents, and reduces the ability to undertake skilled tasks such as driving a motorized vehicle. The effect disappears spontaneously within a few hours after exposure and leaves no sequelae.

Antidotes and contraindications:

Not available.

SECTION 5: FIREFIGHTING MEASURES

5.1

EXTINGUISHING MEDIA:

Extinguishing powder or CO₂.

5.2

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, Carbon dioxide, nitrogen oxides. Exposure to combustion or decomposition products may be a hazard to health. Carbon monoxide is very toxic by inhalation. Carbon dioxide, in sufficient concentrations, may behave as a suffocating gas. Nitrogen oxides are toxic gases.

5.3

ADVICE FOR FIREFIGHTERS:Special protective equipment:

Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots. If the fire-proof protective equipment is not available or is not being used, combat fire from a sheltered position or from a safe distance. The standard EN469 provides a basic level of protection for chemical incidents.

Other recommendations:

Cool with water the tanks, cisterns or containers close to sources of heat or fire. Bear in mind the direction of the wind. Do not allow fire-fighting residue to enter drains, sewers or water courses.



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SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
Avoid direct contact with this product. Avoid breathing vapours. Keep people without protection in opposition to the wind direction.
- 6.2 ENVIRONMENTAL PRECAUTIONS:
Avoid contamination of drains, surface or subterranean water and soil. In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.
- 6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:
Contain and mop up spills with absorbent materials (sawdust, earth, sand, vermiculite, diatomaceous earth, etc.). Keep the remains in a closed container.
- 6.4 REFERENCE TO OTHER SECTIONS:
For contact information in case of emergency, see section 1.
For information on safe handling, see section 7.
For exposure controls and personal protection measures, see section 8.
For waste disposal, follow the recommendations in section 13.

SECTION 7: HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:
Comply with the existing legislation on health and safety at work.
- General recommendations:
Avoid any type of leakage or escape. Keep the container tightly closed.
- Recommendations for the prevention of fire and explosion risks:
Not applicable.
Ventilation requirement: 452 m3/l Air/Preparation
- Recommendations for the prevention of toxicological risks:
Anyone having had asthmatic symptoms, should never be exposed to this product. Do not eat, drink or smoke while handling. After handling, wash hands with soap and water.
- Recommendations for the prevention of environmental contamination:
It is not considered a danger to the environment. In the case of accidental spillage, follow the instructions indicated in section 6.
- 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
Forbid the entry to unauthorized persons. Keep out of reach of children. Keep away from sources of heat. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.
- Class of store:
According to current legislation.
- Maximum storage period:
12 Months
- Temperature interval:
min:5 °C, max:40 °C (recommended).
- Incompatible materials:
Keep away from oxidizing agents, halogenated compounds.
- Type of packaging:
According to current legislation.
- Limit quantity (Seveso III): Directive 2012/18/EU:
Not applicable (the classification criteria are not met).
- 7.3 SPECIFIC END USE(S):
For the use of this product particular recommendations apart from that already indicated are not available.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1

CONTROL PARAMETERS:

If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assessing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

- OCCUPATIONAL EXPOSURE LIMIT VALUES (WEL)

EH40/2005 WELs (United Kingdom) 2018	Year	WEL-TWA	WEL-STEL	Remarks
Ethylenediamine	1996	ppm 10 mg/m ³ 25	ppm - mg/m ³ -	Sk, A4

WEL - Workplace Exposure Limit, TWA - Time Weighted Average (8 hours), STEL - Short Term Exposure Limit (15 min).

Sk - Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

A4 - Non classified as carcinogenic in humans.

- Dermal (Sk):

Means that, in exposures to this substance, the contribution by the cutaneous route, including the mucous membranes and eyes, may result significant for the overall body content if no measures are taken to prevent absorption. There are some chemicals for which dermal absorption, both in liquid and vapour phases, can be very high, and this route of entry may be or equal or greater importance even that inhalation pathway. In these situations, the use of a biological control is essential in order to quantify the overall amount of contaminant absorbed.

- BIOLOGICAL LIMIT VALUES:

Not established

- DERIVED NO-EFFECT LEVEL (DNEL):

Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

- DERIVED NO-EFFECT LEVEL, WORKERS:-

Systemic effects, acute and chronic:

Ethylenediamine	DNEL Inhalation mg/m ³	DNEL Cutaneous mg/kg bw/d	DNEL Oral mg/kg bw/d
	m/r (a) 25 (c)	s/r (a) 3,6 (c)	- (a) - (c)

- DERIVED NO-EFFECT LEVEL, WORKERS:- Local effects, acute and chronic:

Ethylenediamine	DNEL Inhalation mg/m ³	DNEL Cutaneous mg/cm ²	DNEL Eyes mg/cm ²
	m/r (a) m/r (c)	m/r (a) m/r (c)	m/r (a) - (c)

- Derived no-effect level, general population:

Not applicable (product for professional or industrial use).

(a) - Acute, short-term exposure, (c) - Chronic, long-term or repeated exposure.

(-) - DNEL not available (without data of registration REACH).

s/r - DNEL not derived (not identified hazard).

m/r - DNEL not derived (medium hazard).

- PREDICTED NO-EFFECT CONCENTRATION (PNEC):- PREDICTED NO-EFFECT CONCENTRATION,

AQUATIC ORGANISMS:- Fresh water, marine water and intermittent release:

Ethylenediamine	PNEC Fresh water mg/l	PNEC Marine mg/l	PNEC Intermittent mg/l
	0.016	0.002	0.167

- WASTEWATER TREATMENT PLANTS (STP) AND SEDIMENTS IN FRESH- AND MARINE WATER:

Ethylenediamine	PNEC STP mg/l	PNEC Sediments mg/kg dw/d	PNEC Sediments mg/kg dw/d
	0.5	7.68	0.768

- PREDICTED NO-EFFECT CONCENTRATION,

TERRESTRIAL ORGANISMS:- Air, soil and effects for predators and humans:

Ethylenediamine	PNEC Air mg/m ³	PNEC Soil mg/kg dw/d	PNEC Oral mg/kg dw/d
	s/r	4.36	4.9

s/r - PNEC not derived (not identified hazard).

8.2

EXPOSURE CONTROLS:ENGINEERING MEASURES:

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these measures are not sufficient to maintain concentrations of vapours below the Occupational Exposure Limits, suitable respiratory protection must be worn.

- Protection of respiratory system:

Avoid the inhalation of solvents.

- Protection of eyes and face:

It is recommended to install water taps or sources with clean water close to the working area.



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- Protection of hands and skin:

It is recommended to install water taps or sources with clean water close to the working area. Barrier creams may help to protect the exposed areas of the skin. Barrier creams should not be applied once exposure has occurred.

OCCUPATIONAL EXPOSURE CONTROLS: REGULATION (EU) NO. 2016/425:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc.), you should consult the informative brochures provided by the manufacturers of PPE.

Mask: 	✓	A-type filter mask (brown) for gases and vapours of organic compounds with a boiling point higher than 65°C (EN14387). Class 1: low capacity up to 1000 ppm, Class 2: medium capacity up to 5000 ppm, Class 3: high capacity up to 10000 ppm. In order to obtain a suitable protection level, the filter class must be selected depending on the type and concentration of the contaminating agents present, in accordance with the specifications supplied by the filter producers. The respiratory equipment with filters does not work satisfactorily when the air contains high concentrations of vapour or oxygen content less than 18% in volume. In presence of high concentrations of vapour, use independent breathing apparatus.
Safety goggles: 	✓	Safety goggles designed to protect against liquid splashes, with suitable lateral protection (EN166). Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.
Face shield:		No.
Gloves: 	✓	Neoprene rubber gloves (EN374). Butyl rubber gloves, thick >0.3 mm (EN374). Recommended minimal level 6, breakthrough time >480 min (protection for permanent contact). When short contact with the product is expected, use gloves with a protection level 3 or higher should be used, with a breakthrough time >60 min. The breakthrough time of the selected glove material should be in accordance with the pretended period of use. There are several factors (for example, temperature), they do in practice the period of use of a protective gloves resistant against chemicals is clearly lower than the established standard EN374. Due to the wide variety of circumstances and possibilities, the instructions/specifications provided by the glove supplier should be taken into account. If used in solution or mixed with other substances, or under conditions different from the EN374, please contact the supplier of the approved gloves. Use the proper technique of removing gloves (without touching glove's outer surface) to avoid contact of the product with the skin. The gloves should be immediately replaced when any sign of degradation is noted.
Boots:		No.
Apron: 	✓	Water-proof apron.
Clothing: 	✓	Clothing resistant to corrosive products will have to be worn. Do not take contaminated clothing home.

- Thermal hazards:

Not applicable (the product is handled at room temperature).

ENVIRONMENTAL EXPOSURE CONTROLS:

Avoid any spillage in the environment. Avoid any release into the atmosphere.

- Spills on the soil:

Prevent contamination of soil.

- Spills in water:

Do not allow to escape into drains, sewers or water courses.

-Water Management Act:

This product does not contain any substance included in the list of priority substances in the field of water policy under Directive 2000/60/EC~2013/39/EU.

- Emissions to the atmosphere:

Because of volatility, emissions to the atmosphere while handling and use may result, in special when it is used as a solvent. Avoid any solvent release into the atmosphere.



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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance

Physical state: Liquid
Colour: Colourless
Odour: Characteristic
Odour threshold: 1,00 ppm

Change of state

Melting point: 8,50 °C
Initial boiling point: 117,2 °C at 760 mmHg

- Flammability:

Flash point: Not flammable
Lower/upper flammability or explosive limits: 2,69 - 16,70
Autoignition temperature: Not applicable.

Stability

Decomposition temperature: Not applicable (thermally stable).

pH-value

pH: -9999 at 20°C

- Viscosity:

Dynamic viscosity: 1,54 cps at 20°C
Dynamic viscosity: 40,00 Poise at 20°C

- Solubility(ies):

Solubility in water: Immiscible
Liposolubility: Not applicable (inorganic product).
Partition coefficient: n-octanol/water: -1,20 (as log Pow)

- Volatility:

Vapour pressure: 17,4955 mmHg at 20°C
Vapour pressure: 12,0845 kPa at 50°C
Evaporation rate: Not available (lack of data).

Density

Relative density: 0,990 at 20/4°C Relative water

Relative vapour density: < 1 (lighter than air).

Particle characteristics

Particle size: Not applicable.

- Explosive properties:

In the molecule there is no chemical groups associated with explosive properties.

- Oxidizing properties:

Not classified as oxidizing product.

9.2 OTHER INFORMATION:

Information regarding physical hazard classes

No additional information available.

Other security features:

Molecular weight (numeric): 60,10 g/mol
Surface tension: Not available.
Heat of combustion: 143 Kcal/kg
VOC (supply): 1,9 % Weight
VOC (supply): 18,8 g/l

The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the corresponding technical data sheet. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.



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SECTION 10: STABILITY AND REACTIVITY

10.1	REACTIVITY: - <u>Corrosivity to metals:</u> Not classified as a product corrosive to metals (based on available data, the classification criteria are not met). - <u>Pyrophorical properties:</u> It is not pyrophoric.
10.2	CHEMICAL STABILITY: Stable under recommended storage and handling conditions.
10.3	POSSIBILITY OF HAZARDOUS REACTIONS: Possible dangerous reaction with oxidizing agents, halogenated compounds.
10.4	CONDITIONS TO AVOID: - <u>Heat:</u> Keep away from sources of heat. - <u>Light:</u> Not applicable. - <u>Air:</u> The product is not affected by exposure to air, but should not be left the containers open. - <u>Pressure:</u> Not relevant. - <u>Shock:</u> The product is not sensitive to shocks, but as a recommendation of a general nature should be avoided bumps and rough handling to avoid dents and breakage of packaging, especially when the product is handled in large quantities, and during loading and download operations.
10.5	INCOMPATIBLE MATERIALS: Keep away from oxidizing agents, halogenated compounds.
10.6	HAZARDOUS DECOMPOSITION PRODUCTS: As consequence of thermal decomposition, hazardous products may be produced: ... [decomposition products to be specified by the manufacturer]. No product of decomposition is dangerous if stored and handled properly.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1

INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008 :

ACUTE TOXICITY:

Dose and lethal concentrations for individual ingredients:	DL50 (OECD401) mg/kg bw Oral	DL50 (OECD402) mg/kg bw Cutaneous	CL50 (OECD403) mg/m3·4h Inhalation
Ethylenediamine	76 Rat	730 Rabbit	> 14700 Rat
Estimates of acute toxicity (ATE) for individual ingredients:	ATE mg/kg bw Oral	ATE mg/kg bw Cutaneous	ATE mg/m3·4h Inhalation
Ethylenediamine	* > 500	* 730	14700 Vapours

(*) - Point estimates of acute toxicity corresponding to the classification category (see GHS/CLP Table 3.1.2). These values are designed to be used in the calculation of the ATE for classification of a mixture based on its components and do not represent test results.

(-) - The components that are assumed to have no acute toxicity at the upper threshold of category 4 for the corresponding exposure route are ignored.

- No observed adverse effect level

Not available

- Lowest observed adverse effect level

Not available

INFORMATION ON LIKELY ROUTES OF EXPOSURE: ACUTE TOXICITY:

Routes of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed	Criteria
Inhalation: Not classified	ATE > 20000 mg/m3	-	Not classified as a product with acute toxicity if inhaled (based on available data, the classification criteria are not met).	GHS/CLP 3.1.2. OECD 403
Skin: Not classified	ATE > 5000 mg/kg bw	-	Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).	GHS/CLP 3.1.2. OECD 402
Eyes: Not classified	Not available.	-	Not classified as a product with acute toxicity by eye contact (lack of data).	GHS/CLP 1.2.5.
Ingestion: Not classified	ATE > 5000 mg/kg bw	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).	GHS/CLP 3.1.2. OECD 401

GHS/CLP 3.1.3.6: Classification of mixtures based on ingredients of the mixture (additivity formula).



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CORROSION / IRRITATION / SENSITISATION :

Danger class	Target organs	Cat.	Main effects, acute and/or delayed	Criteria
- Respiratory corrosion/irritation: Not classified	-	-	Not classified as a product corrosive or irritant by inhalation (based on available data, the classification criteria are not met).	GHS/CLP 1.2.6. 3.8.2.2.1.
- Skin corrosion/irritation: 	Skin 	Cat.2	IRRITANT: Causes skin irritation.	GHS/CLP 3.2.2. OECD 404
- Serious eye damage/irritation: 	Eyes 	Cat.2	IRRITANT: Causes serious eye irritation.	GHS/CLP 3.3.2. OECD 405
- Respiratory sensitisation: 	Respiratory tract 	Cat.1	SENSITISING: May cause allergy or asthma symptoms or breathing difficulties if inhaled.	GHS/CLP 3.4.2.1.
- Skin sensitisation: 	Skin 	Cat.1	SENSITISING: May cause an allergic skin reaction.	GHS/CLP 3.4.2.2. OECD 406

GHS/CLP 3.2.3.3: Classification of the mixture when data are available for all components or only for some components.

GHS/CLP 3.3.3.3: Classification of the mixture when data are available for all components or only for some components.

GHS/CLP 3.4.3.3: Classification of the mixture when data are available for all components or only for some components.

GHS/CLP 3.8.3.4: Classification of the mixture when data are available for all components or only for some components.

- ASPIRATION HAZARD:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed	Criteria
- Aspiration hazard: Not classified	-	-	Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).	GHS/CLP 3.10.2.

GHS/CLP 3.10.3.3: Classification of the mixture when data are available for all components or only for some components.

SPECIFIC TARGET ORGANS TOXICITY (STOT): Single exposure (SE) and/or Repeated exposure (RE):

Not classified as a dangerous product for target organs (based on available data, the classification criteria are not met).

GHS/CLP 3.8.3.4: Classification of the mixture when data are available for all components or only for some components.

CMR EFFECTS:- Carcinogenic effects:

It is not considered as a carcinogenic product.

- Genotoxicity:

It is not considered as a mutagenic product.

- Toxicity for reproduction:

Does not harm fertility. Does not harm the unborn child.

- Effects via lactation:

Not classified as a hazardous product for children breast-fed.

DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:Routes of exposure

Not available.

- Short-term exposure:

Causes skin irritation. May cause respiratory irritation.

- Long-term or repeated exposure:

Not available.

INTERACTIVE EFFECTS:

Not available.

INFORMATION ABOUT TOXICOKINETICS, METABOLISM AND DISTRIBUTION:- Dermal absorption:

It can penetrate to deeper layers of the skin and corrosion continue until removed. The severity of injury depends on the concentration and duration of exposure.

- Basic toxicokinetics:

Not available.



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ADDITIONAL INFORMATION:

Not available.

11.2 INFORMATION ON OTHER HAZARDS:**Endocrine disrupting properties:**

This product does not contain substances with endocrine disrupting properties identified or under evaluation.

Other information:

No additional information available.

SECTION 12: ECOLOGICAL INFORMATION**12.1 TOXICITY:**

- Acute toxicity in aquatic environment for individual ingredients

CL50 (OECD 203)
mg/l·96hoursCE50 (OECD 202)
mg/l·48hoursCE50 (OECD 201)
mg/l·72hours

Ethylenediamine

210 - Fishes

27 - Daphniae

100 - Algae

- No observed effect concentration

Not available

- Lowest observed effect concentration

Not available

ASSESSMENT OF AQUATIC TOXICITY:

Aquatic toxicity	Cat.	Main hazards to the aquatic environment	Criteria
- Acute aquatic toxicity: Not classified	-	Not classified as a hazardous product with acute toxicity to aquatic life (based on available data, the classification criteria are not met).	GHS/CLP 4.1.2.
- Chronic aquatic toxicity:	-	Not classified as a dangerous product with chronic toxicity to aquatic life with long lasting effects (based on available data, the classification criteria are not met).	GHS/CLP 4.1.2.

CLP 4.1.3.5.5.3: Classification of a mixture for acute hazards, based on summation of classified components.

CLP 4.1.3.5.5.4: Classification of a mixture for chronic (long term) hazards, based on summation of classified components.

12.2 PERSISTENCE AND DEGRADABILITY:**- Biodegradability:**

Readily biodegradable.

Aerobic biodegradation for individual ingredients

COD
mgO₂/g%DBO/DQO
5 days 14 days 28 days

Biodegradabilidad

Ethylenediamine

10 88 95

Easy

Note: Biodegradability data correspond to an average of data from various bibliographic sources.

- Hydrolysis:

Not available.

- Photodegradability:

Not available.

12.3 BIOACCUMULATIVE POTENTIAL:

Not bioaccumulable.

Bioaccumulation for individual ingredients

logPow

BCF
L/kg

Potential

Ethylenediamine

-1.2

3.2 (calculated)

No bioaccumulable

12.4 MOBILITY IN SOIL:

Not available

Mobility for individual ingredients

log Pod

Constant of Henry
Pa·m³/mol 20°C

Potential

Ethylenediamine

-0,25

No bioaccumulable

12.5 RESULTS OF PBT AND VPVB ASSESMENT:(Annex XIII of Regulation (EC) no. 1907/2006:)

Do not fulfil the PBT/vPvB criteria : Half-life in the marine environment < 60 days, Half-life in fresh-water or estuarine < 40 days, Half-life in marine sediments < 180 days, Half-life in sediments of fresh-water or estuarine < 120 days, Half-life in the soil < 120 days, Bioconcentration factor BCF < 2000, Long term 'No observed effect concentration' for fresh-water or marine organisms NOEC > 0.01 mg/l, It is NOT classified as CMR, It has NO endocrine disrupting potential.

12.6 ENDOCRINE DISRUPTING PROPERTIES:

This product does not contain substances with endocrine disrupting properties identified or under evaluation.

12.7 OTHER ADVERSE EFFECTS:**- Ozone depletion potential:**

Not dangerous for the ozone layer.

- Photochemical ozone creation potential:

Not available.

- Earth global warming potential:In case of fire or incineration liberates CO₂.



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SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 WASTE TREATMENT METHODS: Directive 2008/98/EC~Regulation (EU) no. 1357/2014:
Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose at an authorised waste collection point. Waste should be handled and disposed in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8.
- Disposal of empty containers: Directive 94/62/EC~2015/720/EU, Decision 2000/532/EC~2014/955/EU:
Emptied containers and packaging should be disposed in accordance with currently local and national regulations. The classification of packaging as hazardous waste will depend on the degree of emptying of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination. With contaminated containers and packaging, adopt the same measures as for the product in itself.
- Procedures for neutralising or destroying the product:
Controlled incineration in special facilities for chemical waste, in accordance with local regulations.

SECTION 14: TRANSPORT INFORMATION

- 14.1 UN NUMBER OR ID NUMBER:
Not applicable
- 14.2 UN PROPER SHIPPING NAME:
Not applicable
- 14.3 TRANSPORT HAZARD CLASS(ES):
Transport by road (ADR 2021) and
Transport by rail (RID 2021):
No reglamented
Transport by sea (IMDG 39-18):
No reglamented
Transport by air (ICAO/IATA 2021):
No reglamented
Transport by inland waterways (ADN):
No reglamented
- 14.4 PACKING GROUP:
No reglamented
- 14.5 ENVIRONMENTAL HAZARDS:
Not applicable (not classified as hazardous for the environment).
- 14.6 SPECIAL PRECAUTIONS FOR USER:
Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers that are upright and secure.
- 14.7 MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS:
Not applicable.

SECTION 15: REGULATORY INFORMATION

- 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:
The regulations applicable to this product generally are listed throughout this Safety Data Sheet.
Restrictions on manufacture, placing on market and use:
See section 1.2
Tactile warning of danger:
Not applicable (product for professional or industrial use).
Child safety protection:
Not applicable (the classification criteria are not met).
OTHER REGULATIONS:
Control of the risks inherent in major accidents (Seveso III):
See section 7.2
Other local legislations:
The receiver should verify the possible existence of local regulations applicable to the chemical.
- 15.2 CHEMICAL SAFETY ASSESSMENT:
A chemical safety assessment has been carried out for this product.



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SECTION 16 : OTHER INFORMATION

16.1 TEXT OF THE PHRASES AND NOTES REFERENCED IN SECTIONS 2 AND/OR 3:

Hazard statements according the Regulation (EU) No. 1272/2008~2021/849 (CLP), Annex III:

H226 Flammable liquid and vapour. H302 Harmful if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H412 Harmful to aquatic life with long lasting effects.

ADVICES ON ANY TRAINING APPROPRIATE FOR WORKERS:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of Safety Data Sheets and labelling of products as well.

MAIN LITERATURE REFERENCES AND SOURCES FOR DATA:

- European Chemicals Agency: ECHA, <http://echa.europa.eu/>
- Access to European Union Law, <http://eur-lex.europa.eu/>
- Threshold Limit Values, (AGCIH, 2017).
- European agreement on the international carriage of dangerous goods by road, (ADR 2021).
- International Maritime Dangerous Goods Code IMDG including Amendment 39-18 (IMO, 2018).

ABBREVIATIONS AND ACRONYMS:

List of abbreviations and acronyms that can be used (but not necessarily used) in this Safety Data Sheet:

- REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.
- CLP: European regulation on Classification, Labelling and Packaging of substances and chemical mixtures.
- EINECS: European Inventory of Existing Commercial Chemical Substances.
- ELINCS: European List of Notified Chemical Substances.
- CAS: Chemical Abstracts Service (Division of the American Chemical Society).
- UVCB: Substances of Unknown or Variable composition, complex reaction products or biological materials.
- SVHC: Substances of Very High Concern.
- PBT: Persistent, bioaccumulable and toxic substances.
- vPvB: Very persistent and very bioaccumulable substances.
- VOC: Volatile Organic Compounds.
- DNEL: Derived No-Effect Level (REACH).
- PNEC: Predicted No-Effect Concentration (REACH).
- LC50: Lethal concentration, 50 percent.
- LD50: Lethal dose, 50 percent.
- UN: United Nations Organisation.
- ADR: European agreement concerning the international carriage of dangerous goods by road.
- RID: Regulations concerning the international transport of dangerous goods by rail.
- IMDG: International Maritime code for Dangerous Goods.
- IATA: International Air Transport Association.
- ICAO: International Civil Aviation Organization.

SAFETY DATA SHEET REGULATIONS:

Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex of Regulation (EU) No. 2020/878.

HISTORIC: REVISION:

Version: 4 28/12/2021

Version: 5 09/12/2022

Changes since previous Safety Data Sheet:

Changes that have been introduced with respect to the previous version due to the structural and content adaptation of the Safety Data Sheet to Regulation (EU) No. 2020/878: All sections.

The information of this Safety Data Sheet, is based on the present state of knowledge and on current UE and national laws, as the users' working conditions are beyond our knowledge and control. The product is not to be used for other purposes than those specified, without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation. The information in this Safety Data Sheet is meant as a description of the safety requirements of the product and it is not to be considered as a guarantee of the product's properties.