BlueStain®
REF: DIAG02-1L / DIAG02-5L

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

1.1 PRODUCT IDENTIFIER: BlueStain®
REF: DIAG02-1L / DIAG02-5L

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:
Intended uses (main technical features): [X] Industrial [X] Professional [_] Consumption
Dye.
Sectors of use:
Industrial use (SU3).
Professional use (SU22).
Uses advised against:
This product is not recommended for any industrial sector, professional, or consumer use other than those listed above as 'Intended or identified uses'.
Restrictions on manufacture, placing on the market and use, Annex XVII of Regulation (EC) no. 1907/2006:
Non-restricted.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

FÁBRICA DE TINTAS KAR, LDA.
Rua do Rio nº 270 - Nogueira - 4471-909 Maia
Phone number: 22 9603138 - Fax: 22 9602997
E-mail address of the person responsible for the safety data sheet: departamentotecnico@tintaskar.pt

1.4 EMERGENCY TELEPHONE NUMBER: 22 9603138 (8:30-18:00) (office hours)

CIAV Poison Information Centre (Portugal) - Emergency phone number in case of poisoning: (+351) 800 250 250 (24h/365d) - Alternatively, call 112 (European emergency number)

Toxicology centres PORTUGAL:
Poison Information Centre (CIAV) - National Institute of Medical Emergency (INEM) - Rua Almirante Barroso, 36 - 1000-013 Lisboa - Phone (Secretariat): +351 213 303 271 | Emergency phone: 800 250 250

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:
The classification of mixtures is done according to the following principles: a) where data (tests) are available for the classification of mixtures, it is generally done on the basis of such data, b) in the absence of data (tests) for mixtures, interpolation or extrapolation methods are generally used to assess the risk, using available classification data for similar mixtures, and c) in the absence of tests and information that allow for the application of interpolation or extrapolation techniques, methods are used to classify the risk assessment based on data for the individual components of the mixture.

Classification according to Regulation (EU) No 1272/2008~ 2020/1182 (CLP):
HAZARD: Flam. Liq. 2:H225 | Eye Irrit. 2:H319

Hazard class	Classification of mixture	Cat.	Exposure routes	Target organs	Effects
Physical and chemical:	Flam. Liq. 2:H225 c) Eye Irrit. 2:H319 c)	Cat. 2 Cat. 2	- Eyes:	- Eyes	- Irritation
Human health:					
Environment: Non-classified					

The complete text of the hazard warnings mentioned is given in section 16.

Note: When a range of percentages is used in section 3, the health and environmental hazards describe the effects of the highest concentration of each component, but below the maximum value indicated.

2.2 LABEL ELEMENTS:

The product is labelled with the signal word DANGER according to Regulation (EU) no. 1272/2008~2020/1182 (CLP)

Hazard warnings:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

Cautionary recommendations:

P102	Keep out of the reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking,
P280F	Wear protective gloves, protective clothing, and eye protection. In case of inadequate ventilation, wear respiratory protection.
P361	Immediately take off all contaminated clothing.
P305+P351+P338-P310	IF IT COMES INTO CONTACT WITH THE EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do Continue rinsing. Contact a POISON INFORMATION CENTRE or doctor immediately.
P353	Rinse skin with water or take a shower.
P501b	Dispose of contents/container in a hazardous or special waste collection point.

Further information:
None.

Substances contributing to the classification:
None at the same percentage or above the threshold for the name.

2.3 OTHER HAZARDS:
Hazards that do not impact the classification, but may contribute to the overall hazard of the mixture:
Other physical and chemical hazards: Vapours may form a potentially flammable or explosive mixture when mixed with air.
Other risks and adverse effects on human health: Prolonged exposure to vapours may produce momentary drowsiness. In case of prolonged exposure, the skin may become dry.
Other risks and adverse effects on the environment: Contains no substances meeting the PBT/vPvB criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCES:
Not applicable (mixture)

3.2 MIXTURES:
This product is a mixture.
Chemical description:
Coloured solution of ethyl alcohol.

DANGEROUS COMPONENTS:
Substances involved in a percentage above the exemption limit:

60 < 70 % 	Ethyl alcohol CAS: 64-17-5, EC: 200-578-6 CLP: Hazard: Flam. Liq. 2:H225	Index no. 603-002-00-5 < Self-classified

Impurities:
Contains no other components or impurities that may influence the classification of the product.

Stabilizers:
None

Reference to other sections:
For more information on hazardous components, see sections 8, 11, 12, and 16.

SUBSTANCES OF VERY HIGH CONCERN (SVHC):
List updated by ECHA on 08/07/2021.
SVHCs subject to authorisation included in Annex XIV of Regulation (EC) no. 1907/2006:
None
Candidate SVHCs for inclusion in Annex XIV of Regulation (EC) no. 1907/2006:
None

PERSISTENT, BIOACCUMULATIVE, TOXIC SUBSTANCES (PBT) OR VERY PERSISTENT AND VERY BIOACCUMULATIVE SUBSTANCES (vPvB):
Contains no substances meeting the PBT/vPvB criteria.

SECTION 4: FIRST AID MEASURES

4.1 1 DESCRIPTION OF FIRST AID MEASURES:

Symptoms may occur after exposure; so, in case of direct exposure to the product, in case of doubt, or when symptoms of discomfort persist, seek medical attention. Never administer anything orally to an unconscious person. First responders should pay attention to self-protection and wear recommended personal protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.

Routes of exposure	Symptoms and effects, both acute and delayed	Description of first aid measures
Inhalation:	Inhalation of solvent vapours can cause headache, dizziness, tiredness, muscle weakness, drowsiness, and in extreme cases, loss of consciousness.	Move the individual to fresh air outside the contaminated area. If breathing is irregular or stopped, induce artificial respiration. If the person is unconscious, put them in an appropriate safety position. Keep them covered with warm clothing while seeking medical attention.
Skin:	In case of prolonged contact, the skin may become dry.	Immediately remove contaminated clothing. Wash the affected areas thoroughly with plenty of cold or lukewarm water and neutral soap, or with another product suitable for cleaning the skin. Do not use any solvents.
Eyes:	Contact with the eyes causes redness and pain.	Remove your contact lenses. Flush eyes with plenty of clean, cool water for at least 15 minutes, keeping eyelids apart until irritation subsides. Immediately seek specialist medical attention.
Ingestion:	Ingestion may cause throat irritation, abdominal pain, drowsiness, nausea, vomiting, and diarrhoea.	If ingested, immediately consult a doctor and show the packaging or label. Do not induce vomiting because of the risk of aspirating the vomit. Keep the victim at rest.

4.2 2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:
The main symptoms and effects are shown in sections 4.1 and 11. 1

4.3 3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:
Information on the product composition has been sent to the Poison Information Centre (CIAV).
Information for the physician: The damage caused by detergents and surfactants on intestinal mucous membranes is irreversible. Do not induce vomiting. Perform a stomach wash after adding dimethicone (anti-foaming agent).
Antidotes and contraindications: No specific antidote is known.

SECTION 5: FIREFIGHTING MEASURES

5.1 1 EXTINGUISHING MEDIA:
Dry powder or CO2 fire extinguisher. In case of more serious fires, additionally use alcohol-resistant foam and water spray. Do not use a direct stream of water to extinguish. Water spray may not be effective in putting out the fire, as the fire may spread.

5.2 2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:
Hazardous products may be formed as a result of combustion and thermal decomposition: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products may be harmful to health.

5.3 3 ADVICE FOR FIREFIGHTERS:
Special protective equipment: Depending on the size of the fire, it may be necessary to wear heat protective clothing, self-contained breathing apparatus, gloves, safety glasses or visors, and safety boots. If fire protection equipment is not available or not used, fight the fire from a place of reasonable safety or at a safe distance. Standard EN469 provides a basic level of protection in case of a chemical incident.
Other recommendations: Cool with water the tanks, cisterns, or containers near the source of heat or fire. Observe the wind direction. Prevent products used in firefighting from going into drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES:
Eliminate possible ignition sources and, if necessary, ventilate the area. No smoking, Avoid direct contact with the product. Avoid breathing in the vapours. Keep people without protection facing away from the wind direction.

6.2 2 ENVIRONMENTAL PRECAUTIONS:
Avoid contamination of drains, surface or ground water, and soil. If large spills occur, or if the product contaminates lakes, rivers, or drains, inform the competent authorities in accordance with local legislation.

6.3 3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:
Clear up the spill with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc.). Avoid the use of solvents. Keep waste in a closed container.

6.4 4 REFERENCE TO OTHER SECTIONS:
For emergency contact information, see section 1. For information on safe handling, see section 7.
See section 8 on exposure control and personal protection measures. For waste disposal, follow the recommendations in section 13.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Comply with the legislation in force on occupational risk prevention.

General recommendations:

Prevent any type of spill or leakage. Do not leave containers open.

Recommendations to prevent fire and explosion risks:

Vapours are heavier than air; they can travel along the ground over considerable distances and can form mixtures with air that can ignite or explode when they reach distant ignition sources. Due to its flammability, this material can only be used in areas free of ignition sources and away from heat or electrical sources. Turn off mobile phones and don't smoke. Do not use any tools which may cause sparks.

- Flash point : 22* ºC CLP 2.6.4.3.
- Kindling point : 366* ºC
- Lower/upper flammability/explosive limits: 3.3* - 19.1* % Volume 25 ºC

Recommendations to prevent toxicological risks:

Do not eat, drink, or smoke in the application and drying areas. Wash your hands with soap and water after handling. See section 8 on exposure control and personal protection measures.

Recommendations to prevent contamination of the environment:

Not considered to be a hazard to the environment. In case of accidental spillage, follow instructions in section 6.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Prohibit access to unauthorised persons. Keep out of the reach of children. The product should be stored away from heat and electrical sources. Do not smoke in the storage area. If possible, avoid direct sunlight. To prevent spills, opened containers should be carefully closed and kept in an upright position. For further information, see section 10.

Maximum storage time : 4 years

Temperature range : min: 15. ºC, max: 25. ºC (recommended).

Incompatible materials:

Keep away from oxidising agents and highly alkaline or strongly acidic materials.

Type of packaging:

In accordance with the provisions in force.

Quantity limit (Seveso III): Directive 2012/18/EU (DL.150/2015):

- Designated hazardous substances/mixtures: None
- Categories of hazards and lower/upper limit quantities in tonnes (t):

· Physical hazards: Highly flammable liquid and vapour (P5c) (5000t/50000t).
· Health hazards: Not applicable
· Environmental hazards: Not applicable
· Other hazards: Not applicable.

- Threshold quantity for the application of lower level requirements: 5000 tonnes
- Threshold quantity for the application of upper level requirements: 50000 tonnes
- Notes:

The threshold quantities indicated above relate to each facility. The quantities to be taken into account for the application of the relevant articles are the maximum quantities present or likely to be present at any given time. Hazardous substances present at a facility in quantities equal to or less than 2% of the relevant threshold quantity shall not be taken into account for the calculation of the total quantity present if their location within a facility is such that it cannot act as a trigger of a major accident elsewhere at that facility. For further details, see note 4 of Annex I of the Seveso Directive.

7.3 SPECIFIC END USE(S):

No specific recommendations available for the use of this product other than those already indicated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1

CONTROL PARAMETERS:
If a product contains ingredients with exposure limits, in-person monitoring of the work or biological environment may be required to determine the effectiveness of ventilation or other control measures and/or the need to use respiratory protective equipment. The monitoring standards such as EN689, EN14042, and EN482 on methods for assessing inhalation exposure to chemical agents and exposure to chemical and biological agents must be mentioned. National guideline documents for the methods of determination of hazardous substances must also be referred to.

OCCUPATIONAL EXPOSURE LIMIT VALUES (OELs)

(DL.41/2018) (Portugal, 2021)	Year	OEL-WA ppm	OEL-WA mg/m3	OEL-ST ppm	OEL-ST mg/m3	Notes
Ethyl alcohol	2013	1000.	1910.	-	-	

OEL - Occupational Exposure Limit Value, OEL-WA (TWA) - Time Weighted Average, OEL-ST (STEL) - Short Term Occupational Exposure Limit.

BIOLOGICAL LIMIT VALUES:
Not available.

DERIVED NO-EFFECT LEVEL (DNEL):
The Derived No-Effect Level (DNEL) is an exposure level that is estimated to be safe, derived from toxicity data according to specific REACH guidance. The DNEL value may differ from a corresponding occupational exposure limit (OEL) for the same chemical. OEL values may be recommended by a specific company, a governmental regulatory body, or an expert organisation. Although they are considered to protect the health, the OEL values are obtained in a different way from REACH.

	DNEL Inhalation: mg/m3		DNEL Skin mg/kg bw/d		DNEL Oral mg/kg bw/d	
Derived no-effect level, employees: - Systemic effects, both acute and chronic: Not available (no REACH registration data).	-	-	-	-	-	-

	DNEL Inhalation: mg/m3		DNEL Skin mg/cm2		DNEL Eyes mg/cm2	
Derived no-effect level, employees: - Systemic effects, both acute and chronic: Not available (no REACH registration data).	-	-	-	-	-	-

Derived no-effect level, general population:
Not applicable (product for professional or industrial use).

PREDICTED NO-EFFECT CONCENTRATION (PNEC)

	PNEC Freshwater mg/l	PNEC Marine mg/l	PNEC Intermittent mg/l
Predicted no-effect concentration, aquatic environment: - Freshwater, marine environment, and intermittent discharges: Not available (no REACH registration data).	-	-	-

	PNEC STP mg/l	PNEC Sediment mg/kg dw/d	PNEC Sediment mg/kg dw/d
- Residual scrubbers (STP) and sediments in freshwater and marine water: Not available (no REACH registration data).	-	-	-

	PNEC Air mg/m3	PNEC Soil mg/kg dw/d	PNEC Oral mg/kg dw/d
Predicted No-Effect Concentration, terrestrial environment: - Air, soil and effects for predators and humans: Not available (no REACH registration data).	-	-	-

8.2 EXPOSURE CONTROL:

TECHNICAL MEASURES

Provide suitable ventilation. On site, there must be very good ventilation through a good general extraction system. If this is not enough to keep concentrations of particles and vapours below the exposure limits during work, the user should wear appropriate respiratory protection.

Protection of the respiratory system: Avoid inhaling vapours.
Protection of eyes and face: Taps, fountains, or eyewash bottles containing clean water are recommended near the area of use.
Hand and skin protection: Taps and fountains with clean water are recommended near the area of use. The use of protective creams can help to protect exposed areas of the skin. Protective creams are not to be applied after exposure.

PROFESSIONAL EXPOSURE CONTROL: Regulation (EC) no. 2016/425:
The use of basic personal protective equipment (PPE) with the relevant CE marking is recommended as a general safety prevention measure in the working environment. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of PPE, protection class, marking, category, CEN standard, etc.), please consult the information leaflets provided by the PPE manufacturers.

Mask:  ✓	Type A (brown) filter mask for gases and vapours of organic compounds with a boiling point higher than 65 ºC (EN14387). Class 1: low capacity up to 1000 ppm, Class 2: average capacity up to 5000 ppm, Class 3: high capacity up to 10000 ppm. To obtain an adequate level of protection, the filter class is to be chosen according to the type and concentration of the contaminants present, as specified by the filter manufacturer. Filter breathing apparatus does not operate satisfactorily when the air contains high concentrations of vapour or oxygen content of less than 18% by volume. In the presence of high vapour concentrations, wear self-contained breathing apparatus.
Safety glasses  ✓	Safety glasses with side protections against liquid splashes (EN166). Clean daily and disinfect regularly according to the manufacturer's instructions.
Safety visors	No.
Gloves:  ✓	Chemical-resistant gloves (EN374). The penetration time of the gloves selected is to be according to the intended period of use. When frequent or prolonged contact is possible, wearing gloves with protection level 5 or higher, with a penetration time of >240 min, is recommended. When brief contact is expected, wearing gloves with protection level 2 or higher, with a penetration time of >30 min, is recommended. There are several factors (e.g. temperature), which make the wearing period of a chemical-resistant protective glove in practice markedly shorter than that established in the EN374 standard. Due to the wide range of circumstances and possibilities, one must take into account the glove manufacturers' instruction manual. The gloves are to be replaced immediately if any signs of degradation are observed.
Safety boots:	No.
Apron:	No.
Protective suit:	No.

Thermal hazards:
 # Not applicable (the product is handled at room temperature).

ENVIRONMENTAL EXPOSURE CONTROL:
Avoid any spillage into the environment. Avoid emissions into the atmosphere.

Spillages in the soil: Avoid penetrating the ground.

Spillages in the water: The product must not be allowed to enter drains or water courses.
- Water management law: This product contains no substance on the list of priority substances in the area of water policy in accordance with Directive 2000/60/EC~2013/39/EU.

Emissions into the atmosphere: Emissions into the atmosphere may occur during handling and use due to volatility. Avoid emissions into the atmosphere.
- VOC (industrial facilities): If the product is used in an industrial facility, it is important to verify whether Directive 2010/75/EU (DL.127/2013) on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain industrial activities and installations applies: Solvents: 65.7% Weight, VOC (supply): 65.7% Weight, VOC: 34.3% C (expressed as carbon), Molecular weight (average): 46.1, Atom number C (average): 2.0.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance

- Physical state	:	Liquid.
- Colour	:	Blue.
- Odour	:	Characteristic.
- Odour threshold	:	Not available (mixture).

pH

- pH	:	3.7 ± 0.7* at 20 ºC

Change of state

- Melting point	:	Not available.
- Initial boiling point	:	78.3* ºC at 760 mmHg
Density:	:	0.796 to 0.887

Stability

- Decomposition temperature	:	Not available (technical impossibility to obtain the data).

Viscosity

- Kinematic viscosity	:	<7 mm2/s at 40 ºC

Volatility:

- Evaporation rate	:	Not available (no data).
- Vapour pressure	:	28.9* mm Hg at 20 ºC
- Vapour pressure	:	19.7* kPa at 50 ºC

Solubility(ies)

- Solubility in water:	:	Immiscible
- Lipophilicity	:	Not available (mixture not tested).
- N-octanol-water partition coefficient	:	Not applicable (mixture)

Flammability:

- Flash point	:	22* ºC	CLP 2.6.4.3.
- Lower/upper flammability/explosive limits:		3.3* - 19.1* % Volume 25 ºC	
- Kindling point	:	366* ºC	

Explosive properties:
Vapours can form mixtures with air that can ignite or explode when in the presence of ignition sources.
Combustive properties:
Not classified as a combustive product.

*Values estimated on the basis of the substances in the mixture.

9.2 OTHER INFORMATION:

- Surface tension	:	33.2* din/cm at 20 ºC
- Combustion heat	:	4722* Kcal/kg
- Non-volatile	:	1. % Weight
- VOC (supply)	:	65.7 % Weight
- VOC (supply)	:	560.3 g/l

The values indicated do not always coincide with product specifications. The corresponding product data specification can be found on the product data sheet. For further information on physical and chemical properties relating to safety and the environment, see sections 7 and 12.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY:
Metals corrosivity: It is non-corrosive to metals.
Pyrophoric properties: Non-pyrophoric.

10.2 CHEMICAL STABILITY:
Stable in recommended storage and handling conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:
Possible hazardous reaction with oxidising agents.

10.4 CONDITIONS TO AVOID:
Heat: Keep away from heat sources.
Sunlight: If possible, avoid direct sunlight.
Air: The product is not affected by exposure to air, but containers are not to be left open.
Pressure: Non-relevant.
Shocks: The product is not shock-sensitive, but as a general recommendation, shocks and rough handling are to be avoided to prevent dents and breakage of packaging, especially when the product is handled in large quantities, and during loading and unloading operations.

10.5 INCOMPATIBLE MATERIALS:
Keep away from oxidising agents and highly alkaline or strongly acidic materials.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:
Hazardous products may be formed as a result of thermal decomposition: carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

There are no available experimental toxicological data on the preparation. The toxicological classification of this mixture was carried out using the conventional calculation method of Regulation (EU) no. 1272/2008~2020/1182 (CLP).

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

ACUTE TOXICITY:

Lethal doses and concentrations of individual components: Ethyl alcohol	DL50 (OECD 401) mg/kg bw oral	DL50 (OECD 402) mg/kg bw skin	CL50 (OECD 403) mg/m 3-4h inhalation
	8300. Guinea pig	> 20000. Rabbit	> 20000. Guinea pig

Acute toxicity estimates (ATE) of individual components:
Not classified as an acutely toxic product.

Dose with no observed adverse effects	NOAEL Oral mg/kg bw/d	NOAEL Skin mg/kg bw/d	NOAEC Inhalation mg/m 3
Ethyl alcohol	9400. Guinea pig		

Lowest dose with no observed adverse effects
Not available

INFORMATION ON LIKELY EXPOSURE ROUTES: Acute toxicity:

Exposure routes	Acute toxicity	Cat.	Main effects, acute and/or delayed	Criterion
Inhalation: Non-classified	ATE > 20000 mg/m3	-	# *Not classified as an acutely toxic product through inhalation (based on available data, the classification criteria are not met).*	GHS/CLP 3.1.3.6.
Skin: Non-classified	ATE > 2000 mg/kg bw	-	# *Not classified as an acutely toxic product when in contact with the skin (based on available data, the classification criteria are not met).*	GHS/CLP 3.1.3.6.
Eyes: Non-classified	Not available.	-	# *Not classified as an acutely toxic product through eye contact (lack of data).*	GHS/CLP 1.2.5.
Ingestion: Non-classified	ATE > 2000 mg/kg bw	-	# *Not classified as an acutely toxic product through ingestion (based on available data, the classification criteria are not met).*	GHS/CLP 3.1.3.6.

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

CORROSION / IRRITATION / SENSITIZATION:

Hazard class	Target organs	Cat.	Main effects, acute and/or delayed	Criterion
Corrosion/respiratory irritation: Non-classified	-	-	# *Not classified as a corrosive or irritating product through inhalation (based on available data, the classification criteria are not met).*	GHS/CLP 1.2.6. 3.8.3.4.
Corrosion/skin irritation: Non-classified	-	-	# *Not classified as a corrosive or irritating product through contact with the skin (based on available data, the classification criteria are not met).*	GHS/CLP 3.2.3.3.
Serious eye damage/irritation:	Eyes	Cat. 2	# *IRRITATING: Causes serious eye irritation.*	GHS/CLP 3.3.3.3.
Respiratory sensitization: Non-classified	-	-	# *Not classified as a sensitizing product through inhalation (based on available data, the classification criteria are not met).*	GHS/CLP 3.4.3.3.
Skin sensitization: Non-classified	-	-	# *Not classified as a sensitizing product through contact with the skin (based on available data, the classification criteria are not met).*	GHS/CLP 3.4.3.3.

GHS/CLP 3.2.3.3: Classification of mixtures if there is data for all the ingredients or only for some ingredients.
GHS/CLP 3.3.3.3: Classification of mixtures if there is data for all the ingredients or only for some ingredients.
GHS/CLP 3.4.3.3: Classification of mixtures if there is data for all the ingredients or only for some ingredients.

ASPIRATION HAZARD:

Hazard class	Target organs	Cat.	Main effects, acute and/or delayed	Criterion
Aspiration hazard: Non-classified	-	-	# *Not classified as an aspiration hazard product (based on available data, the classification criteria are not met).*	GHS/CLP 3.10.3.3.

GHS/CLP 3.10.3.3: Classification of mixtures if there is data for all the ingredients or only for some ingredients of the mixture.

SPECIFIC TARGET ORGAN TOXICITY STOT: Single exposure (SE) and/or Repeated exposure (RE):
Not classified as a specific target organ toxicity product (based on available data, the classification criteria are not met).

CMR EFFECTS:
Carcinogenic effects: Not considered to be a carcinogenic product.
Genotoxicity: Not considered to be a mutagenic product.
Reproductive toxicity: Does not harm fertility. Does not harm the development of the foetus.
Effects through breastfeeding: Not classified as a harmful product for breast-feeding infants.

IMMEDIATE AND DELAYED EFFECTS AND CHRONIC EFFECTS OF SHORT-TERM AND LONG-TERM EXPOSURE:
Exposure routes: May be absorbed by inhalation of vapour, through the skin and if ingested.
Short-term exposure: Exposure to solvent vapour concentration above the set occupational exposure limit may result in a harmful effect on health, with irritation of mucous membranes and the respiratory tract, and a harmful effect on the kidneys, liver, and central nervous system. Liquid splashed into the eyes may cause irritation and reversible damage. If ingested, it may cause irritation to the throat; other effects, similar to those described for vapour exposure, may occur.
Prolonged or repeated exposure: Repeated or prolonged contact can lead to the elimination of natural cutaneous fat, resulting in non-allergic contact dermatitis and absorption through the skin.

INTERACTIONS:
Not available

INFORMATION ON TOXICOKINETICS, METABOLISM, AND DISTRIBUTION:
Dermal absorption: # *Not available.*
Basic toxicokinetics: # *Not available.*

ADDITIONAL INFORMATION
Not available.

SECTION 12: ECOLOGICAL INFORMATION

There are no available experimental ecotoxicological data on the preparation. The ecotoxicological classification of this mixture was carried out using the conventional calculation method of Regulation (EU) No 1272/2008~2020/1182 (CLP).

12.1 TOXICITY:

Acute toxicity in aquatic environments of individual components:	CL50 (OECD 203)	CE50 (OECD 202)	CE50 (OECD 201)
	mg/l·96hours	mg/l·48hours	mg/l·72hours
Ethyl alcohol	12500. Fishes	5012. Daphnia	275. Algae
No Observed Adverse Effect Concentration	NOEC (OECD 210)	NOEC (OECD 211)	NOEC (OECD 201)
	mg/l·28days	mg/l·21days	mg/l·72hours
Ethyl alcohol			11. Algae

Lowest-observed-adverse-effect

Not available

AQUATIC ENVIRONMENT TOXICITY ASSESSMENT:

Aquatic environment toxicity	Cat.	Main hazards for the aquatic environment	Criterion
Acute aquatic environment toxicity: Non-classified	-	# *Not classified as a hazardous material, with acute toxicity to aquatic organisms (based on available data, the classification criteria are not met).*	GHS/CLP 4.1.3.5.5.3.
Chronic aquatic environment toxicity: Non-classified	-	# *Not classified as a hazardous product with chronic toxicity for aquatic organisms with long-lasting effects (based on available data, the classification criteria are not met).*	GHS/CLP 4.1.3.5.5.4.

CLP 4.1.3.5.5.3: Classification of mixtures in terms of acute hazards, based on the sum of the classified components.
CLP 4.1.3.5.5.4: Classification of mixtures in terms of chronic (long-term) hazards, based on the sum of the classified components.

12.2 PERSISTENCE AND DEGRADABILITY:
Not available.

Aerobic biodegradation of individual components:	DQO	%DBO/DQO	Biodegradability
	mgO2/g	5 days 14 days 28 days	
Ethyl alcohol	1990.	~ 74. ~ 95. ~ 99.	Easy

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

12.3 BIOACCUMULATION POTENTIAL:
Not available.

Bioaccumulation of individual components:	log Pow	BCF	Potential
		L/kg	
Ethyl alcohol	-0.350	3.2 (calculated)	Not bioaccumulable

12.4 MOBILITY IN SOIL:
Not available.

Mobility of individual components:	log Poc	Henry's law constant	Potential
		Pa·m3/mol 20 ºC	
Ethyl alcohol	0.200		Not bioaccumulable

12.5 RESULTS OF THE PBT AND vPvB ASSESSMENT:

Annex XIII of the Regulation (EC) no. 1907/2006:
Contains no substances meeting the PBT/vPvB criteria.

12.6 OTHER ADVERSE EFFECTS:
Ozone depletion potential: Not available.
Photochemical ozone creation potential: Not available.
Global Warming Potential: In the event of fire or incineration, CO2 is released.
Endocrine disrupting potential: Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Directive 2008/98/EC~Regulation (EU) no. 1357/2014 (DL.178/2006~DL. 73/2011):
Take all measures necessary to avoid the production of waste as much as possible. Analyse possible methods of revalorisation or recycling. Do not discharge into drains or the environment; dispose of at an authorised waste collection point. Waste must be handled and disposed of in accordance with current local and national legislation. See section 8 on exposure control and personal protection measures.

Disposal of empty containers: Directive 94/62/EC~2015/720/EU (DL.152-D/2017), Decision 2000/532/EC~2014/955/EU (DL.92/2006, DL. 178/2006 e DL.73/2011) and Decision 2014/955/UE (DL.71/2016):
Empty containers must be handled and disposed of in accordance with current local and national legislation. The classification of the packaging as hazardous waste will depend on the degree to which it has been emptied, and the waste holder is responsible for its classification, in accordance with Chapter 15 01 of Decision 2014/955/EU (DL.71/2016), and for forwarding it to the final destination. The measures adopted for the product should be adopted for the contaminated containers and packaging.

Procedures for the neutralisation or destruction of the product:
Controlled incineration in special chemical waste facilities in accordance with local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN NUMBER: 1170

14.2 UN PROPER SHIPPING NAME:
ETHANOL IN SOLUTION (ETHYL ALCOHOL IN SOLUTION)

14.3 TRANSPORT HAZARD CLASSES:

Road transport (ADR 2021) and
Rail transport (RID 2021):

- Class: 3
- Packing group: II
- Classification Code: F1
- Tunnel restriction code: (D/E)
- Transport category: 2, max. ADR 1.1.3.6. 333 L
- Limited quantity: 1 L (see full ADR exemptions 3.4)
- Transport document: Transport document.
- Written instructions: ADR 5.4.3.4

Shipping by sea (IMDG 39-18):

- Class: 3
- Packing group: II
- Emergency Card (EmS): F-E,S-D
- First Aid Guide (MFAG): 305,306
- Marine Pollutant: No.
- Transport document: Bill of lading.

Shipping by air (ICAO/IATA 2021):

- Class: 3
- Packing group: II
- Transport document: Airway Bill.

Inland waterway transport (ADN):
Not available.

14.4 PACKING GROUP:
See section 14.3

14.5 ENVIRONMENTAL HAZARDS:
Not applicable (not classified as dangerous for the environment).

14.6 SPECIAL PRECAUTIONS FOR USER:
Ensure that the people transporting the product know what to do in the event of an accident or spillage. Always transport in closed containers kept in a secure and upright position. Ensure suitable ventilation.

14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE
Not applicable.

SECÇÃO 15 : REGULATORY INFORMATION

15.1 SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:
The regulations applicable to this product are generally listed throughout this safety data sheet.

Restrictions on manufacture, placing on the market, and use: See section 1.2

Tactile hazard warning: Not applicable (product for professional or industrial use).

Child safety protection: Not applicable (the classification criteria are not met).

OTHER LEGISLATIONS:

· Regulation (EC) no. 1272/2018 on classification, labelling, and packaging of substances and mixtures

applies.

Control of major accident hazards (Seveso III): See section 7.2

Other local legislation:
The recipient must check the possible existence of local regulations applicable to the chemical.

15.2 CHEMICAL SAFETY ASSESSMENT:
A chemical safety assessment has not been carried out for this mixture.

SECÇÃO 16 : OTHER INFORMATION

SENTENCES TEXT AND NOTES REFERRED TO IN SECTIONS 2 AND/OR 3:
Hazard indications according to Regulation (EU) no.1272/2008~2020/1182 (CLP), Annex III:
H225 Highly flammable liquid and vapour.

ASSESSMENT OF INFORMATION ON THE HAZARD OF MIXTURES: See sections 9.1, 11.1, and 12.1.

RECOMMENDATIONS FOR ANY TRAINING TO BE GIVEN TO WORKERS:
All employees who handle this product are recommended to undertake basic training in occupational risk prevention to help with the understanding and interpretation of the safety data sheets and product labelling.

IMPORTANT BIBLIOGRAPHIC REFERENCES AND SOURCES OF THE DATA USED:
· European Chemicals Agency: ECHA, http://echa.europa.eu/
· Access to European Union Law, http://eur-lex.europa.eu/
· Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).
· Threshold Limit Values, (AGCIH, 2018).
· The European Agreement concerning 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 could be used (although not necessarily used) in this safety data sheet:
· REACH: Regulation on Registration, Evaluation, Authorisation, and Restriction of Chemicals
· GHS: UN Globally Harmonized System of Classification and Labelling of Chemicals.
· CLP: European Regulation on the Classification, Labelling, and Packaging of chemical substances and mixtures.
· EINECS: European inventory of existing commercial chemical substances
· ELINCS: European inventory of notified chemical substances.
· CAS: Chemical Abstracts Service (Division of the American Chemical Society).
· UVCB: Complex substances of unknown or variable composition, complex reaction products, or biological materials
· SVHC: Substances of very high concern.
· PBT: Persistent, bioaccumulative, and toxic substances.
· mPmB: Very persistent and very bioaccumulative substances.
· VOC: Volatile Organic Compounds.
· DNEL: Derived no-effect level (REACH).
· PNEC: Predicted no-effect concentration (REACH).
· LD50: Lethal dose, 50 percent.
· LC50: Lethal concentration, 50 percent.
· UN: The United Nations.
· ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.
· RID: Regulations concerning the international carriage of dangerous goods by rail.
· IMDG: International Maritime Dangerous Goods Code.
· IATA: International Air Transport Association.
· ICAO: International Civil Aviation Organization.

REGULATORY INFORMATION ON SAFETY DATA SHEETS:
Safety Data Sheet in accordance with Article 31 of Regulation (EC) no. 1907/2006 (REACH) and the Annex to Regulation (EU) no. 2015/830.

HISTORY:
Version: Provisional