Safety Data Sheet

In accordance with Annex II of REACH - Regulation (EU) 2020/878

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code:	**0030160**
Name	**SOLVALL**
Chemical name and synonyms	**SOLVALL**

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

Description/Use **solvent-based wax/film remover cleaner**

1.3. Details of the supplier of the safety data sheet

Company Name	**MARBEC SRL**
Address	**VIA CROCE ROSSA 5/i**
Location and State	**51037 MONTALE (PISTOIA)** **ITALIA**
	tel. +039 0573/959848
e-mail of the competent person, responsible for the safety data sheet	**info@marbec.it**

1.4. Emergency telephone number

For urgent information please contact
MARBEC srl
0573959848 8.30am-1pm 2pm-6pm or +393348578502
Telephone number of Poison Control Centers active 24/7

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as dangerous according to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adjustments).
The product therefore requires a safety data sheet compliant with the provisions of Regulation (EU) 2020/878.
Any additional information regarding health and/or environmental risks is given in sections 11 and 12 of this sheet.

Classification and hazard statements:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin sensitization, category 1B	H317	May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to Regulation (EC) 1272/2008 (CLP) and subsequent amendments and adjustments.

Hazard pictograms:

Warnings: Danger

Hazard statements:

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames or other ignition sources. No smoking.
P331	DO NOT induce vomiting.
P280	Wear protective gloves/clothing and eye/face protection.
P261	Avoid breathing dust / fumes / gas / mist / vapors / spray.
P312	If you feel unwell, contact a POISON CENTER / doctor / . . .
P403+P233	Keep container tightly closed and in a well-ventilated place.
P361+P364	Remove all contaminated clothing immediately and wash before reuse.

Contains:
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics <2% aromatics";
1-methoxy-2-propanol;
Benzyl alcohol

Product not intended for uses envisaged by Directive 2004/42/EC.

2.3. Other dangers

Based on available data, the product does not contain PBT or vPvB substances in percentage ≥ 0.1%.

The product does not contain substances with endocrine-disrupting properties in concentrations ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
DIMETHYL ADIPATE DIMETHYL GLUTARATE DIMETHYL SUCCINATE		
INDEX -	9 ≤ x < 30	
EC 906-170-0		
CAS -		
REACH Reg. 01-2119475445-32		
Dimethyl-2-methyl glutarate		
INDEX	9 ≤ x < 30	
THERE IS -		
CAS 14035-94-0		
REACH Reg. 01-0000017895-56		
DIPROPYLENE GLYCOL MONOMETHYL ETHER		
INDEX -	9 ≤ x < 30	Substance with a Community workplace exposure limit.
EC 252-104-2		
CAS 34590-94-8		
REACH Reg. 01-2119450011-60-xxxx		
1-METHOXY-2-PROPANOL		
INDEX 603-064-00-3	9 ≤ x < 20	Flam. Liq. 3 H226, STOT SE 3 H336
EC 203-539-1		
CAS 107-98-2		
REACH Reg. 01-2119457435-35		
BENZYL ALCOHOL		
INDEX 603-057-00-5	3 ≤ x < 9	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1B H317
EC 202-859-9		LD50 Oral: 1200 mg/kg
CAS 100-51-6		
REACH Reg. 01-2119492630-38-xxxx		
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"		
INDEX -	3 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, EUH066
EC 919-857-5		Asp. Tox. 1 H304: ≥ 1%
CAS -		
REACH Reg. 01-2119463258-33		
2-BUTOXYETHANOL		
INDEX 603-014-00-0	3 ≤ x < 9	Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		LD50 Oral: >1200 mg/kg, LC50 Inhalation vapours: 3 mg/l/4h

CAS 111-76-2		
REACH Reg. 01-2119475108-36-0005		
Alcohols, C11-13-branched, ethoxylated (>2.5 mol EO)		
INDEX	1 ≤ x < 3	Acute Tox. 4 H302, Eye Dam. 1 H318
THERE IS -		LD50 Oral: >300 mg/kg
CAS 68439-54-3		
ETHANOLAMINE		
INDEX 603-030-00-8	0.5 ≤ x < 1	Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Aquatic Chronic 3 H412
EC 205-483-3		STOT SE 3 H335: ≥ 5%
CAS 141-43-5		LD50 Oral: 1089 mg/kg, STA Dermal: 1100 mg/kg, STA Inhalation vapours: 11 mg/l
REACH Reg. 01-2119486455-28		

The full text of the hazard statements (H) is given in section 16 of the sheet.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

NOTE: The dearomatized white spirit in this product is a UVCB complex (PrC3), CAS na, EC 919-857-5, No. INDEX: na ("C9-C11 hydrocarbons, n-alkanes, isoalkanes, cyclics, <2% aromatics" a complex and variable combination of paraffinic, cyclic and aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C11 and boiling in the range of 130°C to 210°C). Some manufacturers provide the following related CASs: 64742-48-9.
Applicable Note P of Annex 1. Benzene concentration < 0.1 & by weight.

SECTION 4. First aid measures

4.1. Description of first aid measures

If in doubt or if you experience symptoms, contact a doctor and show this document.
In case of more serious symptoms, call 118 for immediate medical assistance.

EYES: Remove any contact lenses. Wash immediately with plenty of water for at least 15 minutes, holding the eyelids wide open. Consult a doctor if the problem persists.

SKIN: Remove contaminated clothing. Shower immediately. Call a doctor immediately. Wash contaminated clothing before reuse.

INHALATION: Remove the person to fresh air. If breathing stops, perform artificial respiration. Call a physician immediately.

INGESTION: Call a doctor immediately. Do not induce vomiting. Do not give anything that is not expressly authorized by your doctor.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

INGESTION: Do not induce vomiting to avoid the risk of aspiration. Transport the injured person to the hospital immediately. Do not wait for symptoms to appear. In case of spontaneous vomiting, keep the head low to avoid the risk of aspiration of vomit into the lungs.

Protection of rescuers

It is good practice for the rescuer who provides assistance to a subject who has been exposed to a chemical substance or mixture to wear personal protective equipment. The nature of such protection depends on the dangerousness of the substance or mixture, the method of exposure and the extent of contamination. In the absence of other more specific indications, it is recommended to use disposable gloves in case of possible contact with biological fluids. For the type of PPE suitable for the characteristics of the substance or mixture, refer to section 8.

4.2. Main symptoms and effects, both acute and delayed

There is no specific information available on symptoms and effects caused by the product.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

If accidentally ingested, the product can enter the lungs due to its low viscosity and cause the rapid development of serious lung damage (keep under medical supervision for 48 hours).
Notes to physician: Treat symptomatically.

4.3. Indication of any need to immediately consult a doctor and require special treatment

IF SWALLOWED: Immediately call a POISON CENTER / doctor / . . .
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

If accidentally ingested, the product can enter the lungs due to its low viscosity and cause the rapid development of serious lung damage (keep under medical supervision for 48 hours).
Notes to physician: Treat symptomatically.

Means to have available in the workplace for specific and immediate treatment

Running water for washing skin and eyes.

SECTION 5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING MEANS
Extinguishing media include: carbon dioxide, foam, and dry chemical. For spills and leaks that have not ignited, water spray may be used to disperse flammable vapors and protect those working to stop the leak.

UNSUITABLE EXTINGUISHING MEANS
Do not use water jets. Water is not effective in extinguishing fires, however it can be used to cool closed containers exposed to flames, preventing bursts and explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS DUE TO EXPOSURE IN CASE OF FIRE
Overpressure may build up in containers exposed to fire with risk of explosion. Avoid breathing combustion products.

5.3. Recommendations for firefighters

GENERAL INFORMATION
Cool containers with water jets to prevent product decomposition and the development of substances potentially hazardous to health. Always wear complete fire protection equipment. Collect extinguishing water that must not be discharged into drains. Dispose of contaminated fire extinguishing water and fire residue according to current regulations.
EQUIPMENT
Normal firefighting clothing, such as open-circuit compressed air breathing apparatus (EN 137), flame-retardant overalls (EN469), flame-retardant gloves (EN 659) and firefighter's boots (HO A29 or A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if it is safe to do so.

Wear appropriate protective equipment (including personal protective equipment as per section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These instructions apply to both workers and emergency response personnel.

Keep unequipped persons away. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) or heat from the area where the leak occurred.

6.2. Environmental precautions

Prevent the product from entering sewers, surface water or groundwater.

6.3. Methods and materials for containment and remediation

Suck up the spilled product into a suitable container. Assess the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material.
Provide adequate ventilation of the area affected by the spill. Disposal of contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information regarding personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames, do not smoke or use matches or lighters. Without adequate ventilation, vapors can accumulate on the floor and ignite even at a distance, if triggered, with the risk of backfire. Avoid accumulation of electrostatic charges. Do not eat, drink or smoke during use. Remove contaminated clothing and protective devices before entering eating areas. Avoid dispersion of the product into the environment.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

Use appropriate personal protective equipment if necessary. Avoid contact with skin and eyes. Do not ingest. Avoid breathing vapours. Do not release into the environment. Ensure that adequate housekeeping measures are taken. Contaminated material should not accumulate in the workplace and should never be kept in pockets. Keep away from food and drink. Do not eat, drink or smoke when using the product. Wash hands thoroughly after handling. Do not reuse contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool, well-ventilated place away from heat, open flames, sparks and other sources of ignition. Store containers away from any incompatible materials, see section 10.

Storage class TRGS 510 (Germany):
3

7.3. Specific end uses

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

DEU	Germany	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung

		gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
ESP	Spain	Professional exposure limits for chemical agents in Spain 2023
BETWEEN	France	Value limits for professional exposure to chemical agents in France Decree n° 2021-1849 of 28 December 2021
ITA	Italy	Legislative Decree 9 April 2008, n.81
PRT	Portugal	Legislative Decree n. 1/2021 of 6 January, indicative professional exposure limit values for chemical agents. Legislative Decree no. 35/2020 of 13 July, protection of workers against risks linked to exposure during work with cancerous or mutagenic agents
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	TLV-ACGIH RCP TLV	ACGIH 2023

ACGIH TLVs and BEIs – Appendix H

DIMETHYL ADIPATE DIMETHYL GLUTARATE DIMETHYL SUCCINATE

Predicted no-effect concentration - PNEC		
Reference value in fresh water	0.018	mg/l
Reference value in sea water	0.0018	mg/l
Reference value for sediments in fresh water	0.16	mg/kg/day
Reference value for sediments in seawater	0.016	mg/kg/day
Reference value for water, intermittent release	0.18	mg/l
Reference value for STP microorganisms	10	mg/l
Reference value for the terrestrial compartment	9	mg/kg/day

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Inhalation			5 mg/m3	VND			8.3 mg/m3	VND

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	310	50	310	50	11
MAKE	DEU	310	50	310	50	
VLA	ESP	308	50			SKIN
VLEP	BETWEEN	308	50			SKIN
VLEP	ITA	308	50			SKIN
VLE	PRT	308	50			SKIN
WELL	GBR	308	50			SKIN
OEL	EU	308	50			SKIN
TLV-ACGIH			50			

1-METHOXY-2-PROPANOL

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	370	100	740	200	
MAKE	DEU	370	100	740	200	
VLA	ESP	375	100	568	150	SKIN

VLEP	BETWEEN	188	50	375	100	SKIN
VLEP	ITA	375	100	568	150	SKIN
VLE	PRT	375	100	568	150	
WELL	GBR	375	100	560	150	SKIN
OEL	EU	375	100	568	150	SKIN
TLV-ACGIH		184	50	368	100	

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Oral			VND	3.3 mg/kg bw/d				
Inhalation			VND	43.9 mg/m3	553.5 mg/m3	VND		369 mg/m3
Dermal			VND	18.1 mg/kg bw/d		VND		50.6 mg/kg bw/d

BENZYL ALCOHOL

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	22	5	44	10	SKIN	11
MAKE	DEU	22	5	44	10	SKIN	

Predicted no-effect concentration - PNEC		
Reference value in fresh water	1	mg/l
Reference value in sea water	0.1	mg/l
Reference value for sediments in fresh water	5.27	mg/kg
Reference value for sediments in seawater	0.527	mg/kg
Reference value for water, intermittent release	2.3	mg/l
Reference value for STP microorganisms	39	mg/l
Reference value for the terrestrial compartment	0.45	mg/kg/day

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Oral		20 mg/kg bw/d		4 mg/kg bw/d				
Inhalation		27 mg/m3		5.4 mg/m3		110 mg/m3		22 mg/m3
Dermal		20 mg/kg bw/d		4 mg/kg bw/d		40 mg/kg bw/d		8 mg/kg bw/d

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations
		mg/m3	ppm	mg/m3	ppm	
RCP TLV		1200	197			

Predicted no-effect concentration - PNEC	
Reference value in fresh water	NPI
Reference value in sea water	NPI
Reference value for sediments in fresh water	NPI

Reference value for sediments in seawater	NPI
Reference value for water, intermittent release	NPI
Reference value for STP microorganisms	NPI
Reference value for the food chain (secondary poisoning)	NPI
Reference value for the terrestrial compartment	NPI
Reference value for the atmosphere	NPI

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Oral				125 mg/kg bw/d				
Inhalation				185 mg/m3 24h				871 mg/m3 8h
Dermal				125 mg/kg bw/d				208 mg/kg bw/d

2-BUTOXYETHANOL

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	49	10	98	20	SKIN	
MAKE	DEU	49	10	98	20	SKIN	Note
VLA	ESP	98	20	245	50	SKIN	
VLEP	BETWEEN	49	10	246	50	SKIN	
VLEP	ITA	98	20	246	50	SKIN	
VLE	PRT	98	20	246	50	SKIN	
WELL	GBR	123	25	246	50	SKIN	
OEL	EU	98	20	246	50	SKIN	
TLV-ACGIH		97	20				

Predicted no-effect concentration - PNEC

Reference value in fresh water	8.8	mg/l
Reference value in sea water	0.88	mg/l
Reference value for sediments in fresh water	34.6	mg/kg
Reference value for sediments in seawater	3.46	mg/kg
Reference value for water, intermittent release	9.1	mg/l
Reference value for STP microorganisms	463	mg/l
Reference value for the food chain (secondary poisoning)	20	mg/kg
Reference value for the terrestrial compartment	2.33	mg/kg

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Oral		26.7 mg/kg bw/d		6.3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3		59 mg/m3	246 mg/m3	1091 mg/m3		98 mg/m3
Dermal				38 mg/kg bw/d				

ETHANOLAMINE

Threshold limit value

Type	State	TWA/8h		STEL/15min		Notes / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	0.5	0.2	0.5	0.2	SKIN 11
MAKE	DEU	0.51	0.2	0.51	0.2	
VLA	ESP	2.5	1	7.5	3	SKIN
VLEP	BETWEEN	2.5	1	7.6	3	SKIN
VLEP	ITA	2.5	1	7.6	3	SKIN
VLE	PRT	2.5	1	7.6	3	SKIN
WELL	GBR	2.5	1	7.6	3	SKIN
OEL	EU	2.5	1	7.6	3	SKIN
TLV-ACGIH		7.5	3	15	6	

Predicted no-effect concentration - PNEC		
Reference value in fresh water	0.085	mg/l
Reference value in sea water	0.0085	mg/l
Reference value for sediments in fresh water	0.425	mg/kg
Reference value for sediments in seawater	0.0425	mg/kg
Reference value for water, intermittent release	0.025	mg/l
Reference value for STP microorganisms	100	mg/l
Reference value for the terrestrial compartment	0.035	mg/kg

Health - Derived No-Effect Level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure Way	Sharp locals	Acute systemic	Chronic premises	Chronic systemic	Sharp locals	Acute systemic	Chronic premises	Chronic systemic
Oral				3.75 mg/kg/d				
Inhalation			2 mg/m3				3.3 mg/m3	
Dermal				0.24 mg/kg/d				1 mg/kg/day

Legend:

(C) = CEILING ; INALAB = Inhalable Fraction ; RESPIR = Respirable Fraction ; TORAC = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available; NEA = no exposure expected; NPI = no hazard identified; LOW = low hazard; MED = medium hazard; HIGH = high hazard.

8.2. Exposure controls

Considering that the use of appropriate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local extraction.
When choosing personal protective equipment, seek advice from your chemical suppliers.
Personal protective equipment must bear the CE marking which certifies their compliance with current regulations.

Provide emergency shower with eye basin.

HAND PROTECTION
Protect hands with category III work gloves.
For the final choice of work glove material (ref. EN 374 standard) the following must be considered: compatibility, degradation, permeation time.

In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is not predictable. Gloves have a wear time that depends on the duration and method of use.

SKIN PROTECTION
Wear long-sleeved work clothes and category II professional safety footwear (ref. Regulation 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

Consider providing antistatic clothing if the work environment presents an explosive risk.

EYE PROTECTION
It is recommended to wear airtight protective glasses (ref. standard EN ISO 16321).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) of the substance or one or more of the substances present in the product is exceeded, it is recommended to wear a mask with a type A filter whose class (1, 2 or 3) must be chosen in relation to the limit concentration of use. (ref. standard EN 14387). If gases or vapours of a different nature and/or gases or vapours with particles (aerosols, fumes, mists, etc.) are present, combined type filters must be provided.
The use of respiratory protection devices is necessary if the technical measures adopted are not sufficient to limit the worker's exposure to the threshold values taken into consideration. The protection offered by masks is however limited.
In case the substance in question is odorless or its olfactory threshold is higher than the relevant TLV-TWA and in case of emergency, wear an open-circuit compressed air breathing apparatus (ref. standard EN 137) or an external air-supplied respirator (ref. standard EN 138). For the correct choice of respiratory protection device, refer to standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS Emissions from manufacturing processes, including those from ventilation equipment, should be controlled to comply with environmental protection regulations.
Do not release into the environment. Storage facilities must be equipped with appropriate systems to prevent contamination of soil and water in the event of leaks or spills. Prevent the release of undissolved substances or recover them from wastewater. Do not spread sludge generated from industrial water treatment on natural soils. Sludge generated from industrial water treatment must be incinerated, held under containment or treated.
Further information Minimize exposure to mists/vapours/aerosols. Before entering storage tanks and starting any work in a confined space, carry out adequate decontamination, check the atmosphere and verify the oxygen content and flammability.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	Value	Information
Physical State	liquid	
Color	yellowish	
Odor	characteristic	
Melting or freezing point	not available	
Initial boiling point	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	40 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not applicable	Reason for missing data: the substance/mixture is not soluble (in water)
Kinematic viscosity	not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not available	

Vapor pressure	not available
Density and/or Relative Density	0.99 Kg/lt
Relative vapor density	not available
Particle Characteristics	not applicable

9.2. Other information

9.2.1. Information relating to physical hazard classes

Information not available

9.2.2. Other security features

VOC (Directive 2010/75/EU)	95.15% - 942.00	g/liter

Explosive properties	non-explosive
Oxidizing properties	non-oxidizing

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular dangers of reaction with other substances under normal conditions of use.

10.2. Chemical stability

The product is stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

May react violently with: strong oxidizing agents.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidizing agents, strong acids.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidizing agents, sulfuric acid. Risk of explosion on contact with: phosphorus trichloride.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

Vapours may form explosive mixtures with air. Contact with strong oxidizers (such as peroxides and chromates) may cause a fire hazard. Mixture with nitrates or other strong oxidizers (such as chlorates, perchlorates and liquid oxygen) may generate an explosive mass. Sensitivity to heat, friction and shock cannot be assessed in advance.

2-BUTOXYETHANOL

May react dangerously with: aluminum, oxidizing agents. Forms peroxides with: air.

ETHANOLAMINE

May react dangerously with: acrylonitrile, chlorepoxypropane, chlorosulfuric acid, hydrogen chloride, iron-sulfur compounds, acetic acid, acetic anhydride, mesityl oxide, nitric acid, sulfuric acid, strong acids, vinyl acetate, cellulose nitrate.

10.4. Conditions to avoid

Avoid overheating. Avoid static electricity. Avoid any source of ignition.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Thermal decomposition or fire may release gases and vapours that are potentially harmful to health.

2-BUTOXYETHANOL

May develop: hydrogen.

ETHANOLAMINE

May produce: nitrogen oxides, carbon oxides.

SECTION 11. Toxicological information

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

In the absence of experimental toxicological data on the product itself, the possible health hazards of the product have been assessed on the basis of the properties of the substances contained, according to the criteria provided for by the reference legislation for classification. Therefore, consider the concentration of the individual dangerous substances possibly mentioned in section 3, to assess the toxicological effects resulting from exposure to the product.
Acute effects: Contact with eyes causes irritation; symptoms may include: redness, swelling, pain and tearing. Ingestion may cause health problems, including abdominal pain with burning, nausea and vomiting.
The product contains highly volatile substances that can cause significant depression of the central nervous system (CNS), with effects such as drowsiness, dizziness, loss of reflexes, narcosis.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

Local effects. Product information:
Skin contact. Symptoms: Redness. Repeated exposure may cause skin dryness or cracking. Eye contact: Contact with eyes may cause irritation.
Inhalation: Inhalation of vapors may cause drowsiness and dizziness. May cause irritation. Inhalation of vapors may cause headache, nausea, vomiting and alterations in the state of consciousness.
Ingestion: If accidentally ingested, the product may enter the lungs due to its low viscosity and cause rapid development of serious lung damage (keep under medical supervision for 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression.
Other adverse effects
Vapor concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headache and dizziness, have anaesthetic effect and cause other effects on the central nervous system. Repeated and/or prolonged skin contact with low viscosity materials may degrease the skin with possible development of irritation and dermatitis. Small amounts of liquid, aspirated into the lungs in case of ingestion or vomiting, may cause chemical pneumonitis or pulmonary edema.

Metabolism, kinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL
WORKERS: inhalation; skin contact.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; skin contact with products containing the substance.

Immediate, delayed and chronic effects resulting from short and long-term exposure

1-METHOXY-2-PROPANOL
The main route of entry is the skin, while the respiratory route is less important, given the low vapor pressure of the product. Above 100 ppm there is irritation of the ocular, nasal and oropharyngeal mucous membranes. At 1000 ppm there are disturbances in the balance and severe irritation to the eyes. Clinical and biological tests performed on exposed volunteers have not revealed anomalies. Acetate produces greater skin and eye irritation by direct contact. No chronic effects on humans are reported.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - vapors) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Cutaneous) of the mixture:	Not classified (no relevant components)

DIMETHYL ADIPATE DIMETHYL GLUTARATE DIMETHYL SUCCINATE

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	> 5000 mg/kg rat
LC50 (Inhalation of vapours):	> 11 mg/l/4h rat

Dimethyl-2-methyl glutarate

LD50 (Dermal):	> 2000 mg/kg rat
LC50 (Inhalation of vapours):	> 5.6 mg/l/4h rat

1-METHOXY-2-PROPANOL

LD50 (Dermal):	> 2000 mg/kg Rabbit
LD50 (Oral):	4016 mg/kg Rat
LC50 (Inhalation of vapours):	> 7000 mg/l/4h Rat

BENZYL ALCOHOL

LD50 (Dermal):	2000 mg/kg Rabbit
LD50 (Oral):	1200 mg/kg Rat
LC50 (Inhalation of vapours):	> 4.1 mg/l/4h Rat

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

LD50 (Dermal):	> 2000 mg/kg
LD50 (Oral):	> 5000 mg/kg
LC50 (Inhalation of vapours):	> 9300 mg/l/4h

2-BUTOXYETHANOL

LD50 (Dermal):	> 2000 mg/kg Guinea pig (OECD - guideline 402)
LD50 (Oral):	> 1200 mg/kg Guinea pig
LC50 (Inhalation of vapours):	3 mg/l/4h Rat

Ethoxylated aliphatic alcohol 7 moles

LD50 (Dermal):	> 2000 mg/kg rabbit
LD50 (Oral):	> 300 mg/kg rat

ETHANOLAMINE

LD50 (Dermal):	2504 mg/kg
STA (Cutaneous):	1100 mg/kg estimate from Table 3.1.2 of Annex I of CLP (data used for the calculation of the estimate of the acute toxicity of the mixture)
LD50 (Oral):	1089 mg/kg Rat
LC50 (Inhalation of vapours):	> 1.3 mg/l/6h Rat

SKIN CORROSION / SKIN IRRITATION

Does not meet the classification criteria for this hazard class

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

Repeated exposure may cause skin dryness or cracking. Slightly irritating to skin on prolonged exposure.

SERIOUS EYE DAMAGE / EYE IRRITATION

Causes serious eye irritation

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

EYE CONTACT: May cause short-term, mild eye discomfort. Based on test data for materials of similar structure to OECD Guideline 405.

RESPIRATORY OR SKIN SENSITIZATION

Skin sensitizer

Respiratory sensitization

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

It is not expected to be a respiratory sensitizer.

Skin sensitization

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

It is not expected to be a skin sensitizer to OECD Guideline 406.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

The mutagenic potential of the substance has been extensively studied in a range of in-vivo and in-vitro assays. Genetic toxicity: negative. Not expected to be a germ cell mutagen. Based on test data for materials of a structural similarity to OECD Guidelines 471 473 474 476 478 479.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

This product is not classified as a carcinogen. It is not expected to cause cancer. Based on test data for materials of a similar structure to OECD Guideline 453.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

No information available. Not expected to be a reproductive toxicant. Based on test data for structurally similar materials to OECD Guidelines 414 421 422.

Harmful effects on the development of offspring

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

The results of the developmental toxicity studies on the substance, dictated by the OECD guidelines and those of the screening studies in the same field, did not show toxicity in rats.

Effects on or through breastfeeding

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Lactation: It is not expected to be harmful to breastfed infants.

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

May cause drowsiness or dizziness

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Single exposure: May cause drowsiness and dizziness. This substance does not meet the EU criteria for classification.

Target organs

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Central nervous system

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Repeated exposure: Not expected to cause damage to organs following prolonged or repeated exposure. Based on test data for materials of similar structure to OECD Guideline 408 413 422. No known effects based on the information provided.

Target organs

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Central nervous system.

DANGER IN CASE OF ASPIRATION

Toxic by aspiration

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

The fluid can enter the lungs and cause damage (chemical pneumonitis, potentially fatal).

11.2. Information on other hazards

Based on available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on human health under evaluation.

SECTION 12. Ecological information

Use according to good working practices, avoiding dispersal of the product into the environment. Notify the competent authorities if the product has reached water courses or if it has contaminated the soil or vegetation.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics"

Use according to good working practices, avoiding release of the product into the environment. Notify the competent authorities if the product has reached water courses or sewers or if it has contaminated the soil or vegetation. Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): Based on the ecological information below and in accordance with the criteria indicated in the regulations on dangerous substances, this substance is not classified as dangerous for the environment.

12.1. Toxicity

1-METHOXY-2-PROPANOL
The product is most likely not harmful to aquatic organisms. Correct introduction of low concentrations into a biological purification plant should not compromise the degradation activity of the activated sludge.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): A summary of the most representative studies in the Registration Dossier is given below. Aquatic toxicity:
Endpoint: Invertebrates - Short term (Daphnia magna)
Result: EL50 (48 h): >1000 mg/L (mobility); EL50 (24 h): >1000 mg/L (mobility)
Comments: Key study (C9-C11, <2% aromatics) - OECD Guideline 202 - SRC (1995)
Endpoint: Invertebrates - Short term (Chaetogammarus marinus)
Result: LL50 (48 h): > 1000 mg/L (mortality); LL50 (24 h): >1000 mg/L (mortality)
Comments: Key study (C9-C11 <2 % aromatics) OECD Guideline 202 - TNO (1992)
Endpoint: Invertebrates - Long term (Daphnia magna)
Result: NOELR (21 days): 0.23 mg/L (reproduction)
Comments: Supporting study (C9-C11 <2 % aromatics) (Q)SAR Modeled data - CONCAWE (2010)
Endpoint: Algae (Pseudokirchnerella subcapitata) Growth inhibition
Result: EC50 (72 h): > 1000 mg/L (Growth); EC50 (72 h): > 1000 mg/L (Biomass); NOELR (72 h): 3 mg/L (Number of cells); NOELR (72 h):
h): 100 mg/L (Growth)
Comments: Key study (C9-C11 <2 % aromatics) OECD Guideline 201 - SRC (1995)
Endpoint: Fish - Short term (Oncorhynchus mykiss)
Result: LL50 (24 h):>1000 mg/L; LL0 (24 h):1000 mg/L; LL50 (48 h): >1000 mg/L; LL0 (48 h):1000 mg/L; LL50 (72): >1000 mg/L; LL0 (72 h) mg/L:
Comments: Key study (C9-C11 <2 % aromatics) OECD Guideline 203 - SRC (1995).

2-BUTOXYETHANOL
Aquatic toxicity assessment (supplier): The product is most likely not harmful to aquatic organisms. There is a high probability that the product is not chronically harmful to aquatic organisms. Correct introduction of low concentrations into a biological wastewater treatment plant should not compromise the degradation activity of the activated sludge. Terrestrial toxicity assessment (supplier): Study not scientifically justified.

2-BUTOXYETHANOL

LC50 - Fish	1474 mg/l/96h oncorhynchus mykiss
EC50 - Crustaceans	1550 mg/l/48h daphnia magna
EC50 - Algae / Aquatic Plants	1840 mg/l/72h pseudokirchneriella subcapitata
NOEC Chronic Fish	> 100 mg/l Brachydanio rerio
NOEC Chronic Crustaceans	100 mg/l daphnia magna

ETHANOLAMINE

NOEC Chronic Fish	1.2 mg/l Oryzias latipes
NOEC Chronic Crustaceans	0.85 mg/l Daphnia magna

BENZYL ALCOHOL

LC50 - Fish	460 mg/l/96h Pimephales promelas
EC50 - Crustaceans	230 mg/l/48h daphnia magna
EC50 - Algae / Aquatic Plants	770 mg/l/72h Pseudokircheneriella subcapitata

1-METHOXY-2-PROPANOL

LC50 - Fish	> 6800 mg/l/96h leuciscus idus
EC50 - Crustaceans	23300 mg/l/48h daphnia magna

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

LC50 - Fish	> 1000 mg/l/96h
EC50 - Crustaceans	> 1000 mg/l/48h
EC50 - Algae / Aquatic Plants	> 1000 mg/l/72h

Ethoxylated aliphatic alcohol 7 moles

LC50 - Fish	5 mg/l/96h
EC50 - Crustaceans	5 mg/l/48h
EC50 - Algae / Aquatic Plants	5 mg/l/72h
Chronic NOEC Algae / Aquatic Plants	10 mg/kg OECD Method 208

Dimethyl-2-methyl glutarate

LC50 - Fish	56 mg/l/96h Oncorhynchus mykiss
EC50 - Crustaceans	> 100 mg/l/48h Daphnia magna
EC50 - Algae / Aquatic Plants	> 60 mg/l/72h Pseudokirchneriella subcapitata

12.2. Persistence and degradability

1-METHOXY-2-PROPANOL
Biodegradability and elimination assessment (H2O): Readily biodegradable (according to OECD criteria). Disposal considerations: 90-100% (28 days) (OECD 301E/92/96/EEC, C 4-B) (aerobic, municipal wastewater treatment plant effluent). In water, hydrolytic stability has not been determined but rapid biodegradability was found (96% degraded in 28 days). OECD 301E test. Atmospheric vapour photodegraded rapidly (half-life <1 day)

Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5):
Abiotic Degradability: Hydrolysis: This substance is resistant to hydrolysis. Therefore, this process will not contribute to a measurable loss of degradation of the substance in the environment.
Biotic degradability: Based on available studies and the properties of C9-C16 hydrocarbons, this substance is considered to be inherently biodegradable. biodegradable.
Method: Non-adapted microorganisms OECD Guideline 301 F
Result: Readily biodegradable 80% (28 days)
Comments : Key Study Reliable without restrictions (C9-C11, <2% aromatics)
Source: Shell (1997).

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

2-BUTOXYETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

ETHANOLAMINE
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

BENZYL ALCOHOL
Rapidly degradable

1-METHOXY-2-PROPANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics”

Inherently degradable

Ethoxylated aliphatic alcohol 7 moles
Rapidly degradable

Dimethyl-2-methyl glutarate
Rapidly degradable

DIMETHYL ADIPATE DIMETHYL
GLUTARATE DIMETHYL SUCCINATE
Rapidly degradable

12.3. Bioaccumulative potential

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): Standard tests for this endpoint are not applicable to UVCB substances.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Partition coefficient: n-octanol/water 0.0043

2-BUTOXYETHANOL
Partition coefficient: n-octanol/water 0.81
BCF 3.16 (calculated QSAR value). This substance is not expected to bioaccumulate.

ETHANOLAMINE
Partition coefficient: n-octanol/water -2.3

BENZYL ALCOHOL
Partition coefficient: n-octanol/water 1.1

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water < 1

12.4. Mobility in soil

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): Koc absorption: Standard tests for this endpoint are not applicable to UVCB substances.

2-BUTOXYETHANOL
Assessment of transport between environmental compartments (supplier): The substance does not evaporate into the atmosphere from the water surface. Adsorption to the solid phase of soil is not expected. Study not scientifically justified. Stability in water: Not expected to be immediately hydrolyzed; does not contain functional groups that are considered to be hydrolyzed in water. Stability in soil: Low adsorption to soil particles is expected.

12.5. Results of PBT and vPvB assessment

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): Comparison with the criteria of Annex XIII of the REACh Regulation
Persistence assessment: Some hydrocarbon structures contained in this substance exhibit characteristics of P (Persistent) or vP (very persistent). (Persistent).
Assessment of bioaccumulation potential: The structure of most of the hydrocarbons contained in this substance do NOT show vB (very Bioaccumulative) characteristics, however some components have B (Bioaccumulative) characteristics.
Toxicity assessment: For hydrocarbon structures that showed P and B characteristics, toxicity was assessed but no relevant component meets the toxicity criteria except for anthracene which has been confirmed as a PBT. Since anthracene is not present, the product is not considered PBT/vPvB.
Based on available data, the product does not contain PBT or vPvB substances in percentage ≥ 0.1%.

12.6. Endocrine disrupting properties

Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics (EC 919-857-5): Release into the environment may lead to contamination of environmental matrices (air, soil, subsoil, surface and underground water). Use according to good working practices, avoiding dispersing the products into the environment
Based on available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on the environment under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal Considerations

13.1. Waste treatment methods

Reuse, if possible. Product residues are to be considered hazardous special waste. The hazardousness of wastes containing part of this product must be assessed according to the current legislative provisions.
Disposal must be entrusted to a company authorised to manage waste, in compliance with national and, where applicable, local legislation.
The transport of waste may be subject to ADR.

CONTAMINATED PACKAGING
Contaminated packaging must be sent for recovery or disposal in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1993

14.2. UN official shipping name

ADR / RID:	FLAMMABLE LIQUID, NOS (hydrogenated heavy naphtha, 1-methoxy-2-propanol)
IMDG:	FLAMMABLE LIQUID, NOS (hydrogenated heavy naphtha, 1-methoxy-2-propanol)
IATA:	FLAMMABLE LIQUID, NOS (hydrogenated heavy naphtha, 1-methoxy-2-propanol)

14.3. Transport hazard classes

ADR / RID:	Class: 3	Label: 3
IMDG:	Class: 3	Label: 3
IATA:	Class: 3	Label: 3

14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	non-marine pollutant
IATA:	NO

14.6. Special precautions for users

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 274, 601		
IMDG:	EMS: FE, IF	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging Instructions: 366
	Passengers:	Maximum quantity: 60 L	Packaging Instructions: 355
	Special provision:	A3	

14.7. Bulk maritime transport in accordance with IMO acts

Irrelevant information

SECTION 15. Regulatory Information

15.1. Legislative and regulatory provisions on health, safety and environment specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: P5c

Restrictions relating to the product or the substances contained in accordance with Annex XVII of Regulation (EC) 1907/2006

Product

Point 3 - 40

Substances contained

Point 75

Regulation (EU) 2019/1148 - on the placing on the market and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

Based on available data, the product does not contain SVHC substances in percentage ≥ 0.1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to export notification requirement Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Health Checks

Workers exposed to this chemical agent which is hazardous to health must be subjected to health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

15.2. Chemical safety assessment

A chemical safety assessment has been developed for the following substances in the mixture:
Dipropylene glycol monomethyl ether, 1-methoxy 2-propanol, C9-C11 hydrocarbons, n-alkanes, isoalkanes, cyclics, <2% aromatics, 2-butoxyethanol, Benzyl alcohol, Ethanolamine

SECTION 16. Other information

Text of the hazard statements (H) cited in sections 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4

Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H226	Flammable liquid and vapour.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and serious eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May irritate respiratory tract.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of dangerous goods by road
- ATE / STA: Acute Toxicity Estimation
- CAS: Chemical Abstract Service Number
- CE: Identification number in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EC50: Concentration that produces an effect in 50% of the test population
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulations
- IC50: Immobilization concentration of 50% of the test population
- IMDG: International Maritime Dangerous Goods Code
- IMO: International Maritime Organization
- INDEX: Identification number in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted No Effect Concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulations for the international carriage of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time Weighted Average Exposure Limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic compound
- vPvB: Very Persistent and Very Bioaccumulative

- vPvM: Very persistent and very mobile
- WGK: Water hazard class (Germany).

GENERAL BIBLIOGRAPHY:
1. Regulation (EC) 1907/2006 of the European Parliament (REACH)
2. Regulation (EC) 1272/2008 of the European Parliament and of the Council (CLP)
3. Regulation (EU) 2020/878 (Annex II REACH Regulation)
4. Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP)
5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
7. Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
8. Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
9. Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)
10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (EU) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (EU) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (EU) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (EU) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (EU) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (EU) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (EU) 2023/707
24. Delegated Regulation (EU) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (EU) 2023/1435 (XX Atp. CLP)
- The Merck Index. - 10th Edition
- Chemical Safety Handling
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- NI Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS Website
- ECHA Agency Website
- Database of SDS models of chemical substances - Ministry of Health and Istituto Superiore di Sanità

Note for user:
The information contained in this sheet is based on the knowledge available to us at the date of the last version. The user must ensure the suitability and completeness of the information in relation to the specific use of the product.
This document should not be construed as a guarantee of any specific property of the product.
Since the use of the product is not under our direct control, it is the user's obligation to observe under his own responsibility the laws and provisions in force regarding hygiene and safety. We assume no responsibility for improper use.
Provide adequate training to personnel involved in the use of chemicals.
CLASSIFICATION CALCULATION METHODS
Chemical-physical hazards: The classification of the product was derived from the criteria established by the CLP Regulation Annex I Part 2. The methods for evaluating the chemical-physical properties are reported in section 9.
Health hazards: The classification of the product is based on the calculation methods in Annex I of CLP Part 3, unless otherwise indicated in section 11.
Environmental hazards: The classification of the product is based on the calculation methods in Annex I of CLP Part 4, unless otherwise indicated in section 12.

Changes from the previous revision
Changes have been made to the following sections:
02 / 03 / 04 / 08 / 09 / 11 / 12 / 14 / 16.