Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: **411 00 21300**
Product name **FAP/DPF REGENERATION #1 PREMIUM**
UFI : **RJA2-C157-S40U-53S9**

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

Intended use **Liquid for washing internal anti-path filters**

1.3. Details of the supplier of the safety data sheet

Name **Meccanocar Italia S.r.l.**
Full address **Via San Francesco, 22**
District and Country **56033 Capannoli (PI)**
Italy
Tel. +39 0587 609433
Fax +39 0587 607145
e-mail address of the competent person
responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**
Supplier:

1.4. Emergency telephone number

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Substance or mixture corrosive to metals, category 1	H290	May be corrosive to metals.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.

2.2. Label elements

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

Hazard pictograms:

Signal words: Danger

Hazard statements:

H290 May be corrosive to metals.
H318 Causes serious eye damage.
H315 Causes skin irritation.

Precautionary statements:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P280 Wear protective gloves / eye protection / face protection.
P310 Immediately call a POISON CENTER / doctor.
P390 Absorb spillage to prevent material damage.

Contains: ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
ALCOHOLS, C12-C14, ETHOXYLATES (> 2-5EO)
AMMONIA

Ingredients compliant with Regulation (EC) Nr. 648/2004

<5% Anionic surfactants.
>5% <15% Non-ionic surfactants; EDTA (ethylenediaminetetraacetic acid) sodium salt; Scent; Citral; Citronellol; Geraniol; Hexyl Cinnamaldehyde; Limonene; Linalool.

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration >= 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM CAS 64-02-8 EC 200-573-9 INDEX 607-428-00-2 REACH Reg. 01-2119486762-27-	8 ≤ x < 9	Acute Tox. 4 H302, Acute Tox. 4 H332, STOT RE 2 H373, Eye Dam. 1 H318 LD50 Oral: 1780 mg/kg, STA Inhalation mists/powders: 1,5 mg/l

XXXX

ALCOHOLS, C12-C14, ETHOXYLATES (> 2-5EO)		
CAS 68439-50-9	8 ≤ x < 9	Eye Dam. 1 H318
EC 931-014-3		
INDEX -		
1-METHOXY-2-PROPANOL		
CAS 107-98-2	8 ≤ x < 9	Flam. Liq. 3 H226, STOT SE 3 H336
EC 203-539-1		
INDEX 603-064-00-3		
REACH Reg. 01-2119457435-35-XXXX		
SODIUM P-CUMENSULPHONATE		
CAS 15763-76-5	4,5 ≤ x < 5	Eye Irrit. 2 H319
EC 239-854-6		
INDEX -		
REACH Reg. 01-2119489411-37-XXXX		
2-BUTOXYETHANOL		
CAS 111-76-2	2,5 ≤ x < 3	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		LD50 Oral: 615 mg/kg
INDEX 603-014-00-0		
REACH Reg. 01-2119475108-36-XXXX		
GLICOL ETILENICO		
CAS 107-21-1	1,5 ≤ x < 2	Acute Tox. 4 H302, STOT RE 2 H373
EC 203-473-3		STA Oral: 500 mg/kg
INDEX 603-027-00-1		
REACH Reg. 01-2119456816-28-XXXX		
AMMONIA		
CAS 1336-21-6	1,5 ≤ x < 2	Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Aquatic Acute 1 H400 M=1, Classification note according to Annex VI to the CLP Regulation: B
EC 215-647-6		STOT SE 3 H335: ≥ 5%
INDEX 007-001-01-2		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on 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, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

1-METHOXY-2-PROPANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	375	100	568	150	SKIN
VLEP	FRA	188	50	375	100	SKIN
VLEP	ITA	375	100	568	150	SKIN
TLV	NOR	180	50			SKIN
VLE	PRT	375	100	568	150	
WEL	GBR	375	100	560	150	SKIN
OEL	EU	375	100	568	150	SKIN
TLV-ACGIH		184	50	368	100	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l

Normal value for fresh water sediment	52,3	mg/kg
Normal value for marine water sediment	5,2	mg/kg
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	4,59	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				33 mg/kg bw/d				
Inhalation				78 mg/m3	553,5 mg/m3	553,5 mg/m3		369 mg/m3
Skin				43,9 mg/kg bw/d				183 mg/kg bw/d

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		2				
TLV-ACGIH		10				INHAL
TLV-ACGIH		3				RESP

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2,2	mg/l
Normal value in marine water	0,22	mg/l
Normal value for water, intermittent release	1,2	mg/l
Normal value of STP microorganisms	43	mg/l
Normal value for the terrestrial compartment	0,72	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				25 mg/kg bw/d				
Inhalation		1,2 mg/m3		0,6 mg/m3		3 mg/m3		1,5 mg/m3

SODIUM P-CUMENSULPHONATE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,23	mg/l
Normal value in marine water	0,023	mg/l
Normal value for fresh water sediment	0,862	mg/kg/d
Normal value for marine water sediment	0,086	mg/kg/d
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,037	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				3,8 mg/kg bw/d				
Inhalation				6,6 mg/m3				26,9 mg/m3

Skin	0,048 mg/kg bw/d	68,1 mg/kg bw/d		0,096 mg/kg bw/d	136,25 mg/kg bw/d

2-BUTOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	98	20	245	50	SKIN
VLEP	FRA	49	10	246	50	SKIN
VLEP	ITA	98	20	246	50	SKIN
TLV	NOR	50	10			SKIN
VLE	PRT	98	20	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	8,8	mg/l
Normal value in marine water	0,88	mg/l
Normal value for fresh water sediment	34,6	mg/kg
Normal value for marine water sediment	3,46	mg/kg
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	0,02	mg/kg
Normal value for the terrestrial compartment	2,33	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	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			98 mg/m3
Skin		89 mg/kg/d		75 mg/kg bw/d		89 mg/kg bw/d		125 mg/kg bw/d

AMMONIA

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	14	20	36	50	

GLICOL ETILENICO

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	52	20	104	40	SKIN
VLEP	FRA	52	20	104	40	SKIN
VLEP	ITA	52	20	104	40	SKIN
TLV	NOR	52	20			SKIN
VLE	PRT	52	20	104	40	SKIN

WEL	GBR	52	20	104	40	SKIN
OEL	EU	52	20	104	40	SKIN
TLV-ACGIH			25		50	
TLV-ACGIH				10		INHAL

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	37	mg/kg
Normal value for marine water sediment	3,7	mg/kg
Normal value of STP microorganisms	199,5	mg/l
Normal value for the terrestrial compartment	1,53	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			7 mg/m3				35 mg/m3	
Skin				53 mg/kg bw/d				106 mg/kg bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

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

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

1-METHOXY-2-PROPANOL

Use chemical resistant gloves classified according to EN374: protective gloves against chemicals and microorganisms. Examples of preferred barrier material for gloves include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable barrier materials for gloves include: Natural rubber ("latex"). Neoprene. Nitrile / butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. In case of prolonged or frequently repeated contact, a glove with a protection class of 5 or higher is recommended (breakthrough time greater than 240 minutes according to EN 374). When only brief contact is expected, a glove with a protection class of 1 or more is recommended (breakthrough time greater than 10 minutes according to EN 374). NOTICE: selection of a specific glove for a particular application and duration of use in a work environment should also take into account all relevant factors in the workplace such as, but not limited to: Other chemicals that can be handled , physical requirements (cut / puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as instructions / specifications provided by the glove supplier.

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

Suitable materials also with prolonged direct contact (Recommended: protection index 6, corresponding to> 480 minutes of breakthrough time according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm).

SODIUM P-CUMENSULPHONATE

gloves suitable for permanent contact:
Material: butyl rubber
Breakthrough time:> = 480 min
Material thickness:> = 0.7 mm
gloves suitable for splash protection:
Material: Nitrile Rubber / Nitrile Latex
Breakthrough time:> = 30 min
Material thickness:> = 0.4 mm
Eye protection Tightly fitting safety goggles:
Skin and body protection Protective suit
Hygiene measures Handle in accordance with good industrial hygiene and safety practices. Keep away from food, drink and pet food.
Protective measures Avoid contact with eyes. Wear suitable gloves and eye / face protection.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	light blue	
Odour	lemon	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Flammability	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	

Flash point	> 60 °C
Auto-ignition temperature	Not available
pH	9,8
Kinematic viscosity	Not available
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Vapour pressure	Not available
Density and/or relative density	1,05
Relative vapour density	Not available
Particle characteristics	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

1-METHOXY-2-PROPANOL

Dissolves various plastic materials.Stable in normal conditions of use and storage.

Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

AMMONIA

Corrodes: aluminium,iron,zinc,copper,copper alloys.

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In the air absorbs moisture.Decomposes at temperatures above 200°C/392°F.

10.2. Chemical stability

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

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

Decomposition temperature> 150 ° C

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

1-METHOXY-2-PROPANOL

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

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

It can corrode metals in the presence of water or moisture

2-BUTOXYETHANOL

May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.

AMMONIA

Risk of explosion on contact with: strong acids,iodine.May react dangerously with: strong bases.

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Risk of explosion on contact with: perchloric acid.May react dangerously with: chlorosulphuric acid,sodium hydroxide,sulphuric acid,phosphorus pentasulphide,chromium (III) oxide,chromyl chloride,potassium perchlorate,potassium dichromate,sodium peroxide,aluminium.Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

Do not distill to dryness. The product can oxidize at high temperatures. The generation of gas during decomposition can cause pressure in closed systems.

2-BUTOXYETHANOL

Avoid exposure to: sources of heat,naked flames.

High temperatures and sources of ignition. Prolonged exposure with air / oxygen and light.

GLICOL ETILENICO

Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances,strong acids,alkaline metals.

Avoid contact with: strong acids. Strong bases. Strong oxidants.

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

Oxidizing agents, amphoteric metals and light metals

2-BUTOXYETHANOL

Oxidizing agents.

AMMONIA

Incompatible with: silver,silver salts,lead,lead salts,zinc,zinc salts,hydrochloric acid,nitric acid,oleum,halogens,acrolein,nitromethane,acrylic acid.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

1-METHOXY-2-PROPANOL

Decomposition products depend on temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

2-BUTOXYETHANOL

May develop: hydrogen.

Carbon oxides.

AMMONIA

May develop: nitric oxide.

GLICOL ETILENICO

May develop: hydroxyacetaldehyde,glyoxal,acetaldehyde,methane,carbon monoxide,hydrogen.

SECTION 11. Toxicological information

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

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

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WORKERS: inhalation; contact with the skin.
POPULATION: room air inhalation; skin contact with products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

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By ingestion it initially stimulates the central nervous system; subsequently a phase of depression takes over. Kidney damage can occur, with anuria and uremia. The symptoms of overexposure are: vomiting, drowsiness, difficult breathing, convulsions. The lethal dose for humans is approximately 1.4 ml / kg.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	> 5 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM

LD50 (Oral):	1780 mg/kg Ratto (equivalente o similare a OECD 401)

SODIUM P-CUMENSULPHONATE

LD50 (Oral):	> 7000 mg/kg
LD50 (Dermal):	> 2000 mg/kg
LC50 (Inhalation mists/powders):	> 6,41 mg/l/4h

2-BUTOXYETHANOL

LD50 (Oral):	615 mg/kg Rat
LD50 (Dermal):	405 mg/kg Rabbit
LC50 (Inhalation vapours):	2,2 mg/l/4h Rat

AMMONIA

LD50 (Oral):	350 mg/kg Rat

GLICOL ETILENICO

STA (Oral):	500 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

1-METHOXY-2-PROPANOL
Method: EU Method B.1
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: LD50 = 3739 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Not classified
Method: Equivalent or similar to EU Method B.3
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: oral
Results: LD50 = 1780 mg / kg
Method: OECD 412
Reliability: 1
Species: Rat (wistar; male)
Route of exposure: inhalation (aerosol)
Results: harmful by inhalation

2-BUTOXYETHANOL
Method: OECD 401
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Oral
Results: LD50 = 1414 mg / kg bw
Method: CFR title 49, section 173.132
Reliability: 2
Species: Guinea pig (Dunkin-Hartley; male / female)

Route of exposure: Inhalation (vapor)
Results: Not classified
Method: OECD 402
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Dermal
Results: Not classified

GLICOL ETILENICO
Method: Not indicated
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50 = 7712 mg / kg bw
Method: Not indicated
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (aerosol)
Results: LC50> 2.5 mg / L air
Bibliographic reference: Evaluation of the Developmental Toxicity of Ethylene Glycol Aerosol in the CD Rat and CD-1 Mouse by Whole-Body Exposure, Tyl RW, Ballantyne B, Fisher LC, Fait DL, Savine TA, Dodd DE, Klonne DR, Pritts IM (1995)
Method: Not indicated
Reliability: 2
Species: Mouse (CD-1; male / female)
Route of exposure: Dermal
Results: LD50> 3500 mg / kg bw
Bibliographic reference: Assessment of the Developmental Toxicity of Ethylene Glycol Applied Cutaneously to CD-1 Mice, Tyl RW, Fisher LC, Kubena MF, Vrbanic MA, Losco PE (1995)

SKIN CORROSION / IRRITATION

Causes skin irritation

1-METHOXY-2-PROPANOL
Method: Equivalent or similar to EU Method B.4
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: OECD 404
Reliability: 1
Species: Rabbit (Vienna White)
Route of exposure: cutaneous
Results: not irritating

SODIUM P-CUMENSULPHONATE
Method: As described in the U.S. Federal Register Vol. 38, No. 187, Section 1500: 41, 1973
Reliability: 2
Species: rabbit
Route of exposure: cutaneous
Results: mildly irritating

2-BUTOXYETHANOL
Method: EU Method B.4
Reliability: 2
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Dermal
Results: Irritating
Bibliographic reference: Jacobs G, Martens M, Mosselmans G, Proposal of limit concentrations for skin irritation within the context of a new EEC directive on the classification and labeling of preparations. (1987)

GLICOL ETILENICO
Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: Dermal
Results: Not classified

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

1-METHOXY-2-PROPANOL
Method: Equivalent or similar to EU Method B.5
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: equivalent or similar to OECD 405
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: ocular
Results: causes serious eye damage (Harmonized classification, Annex VI, CLP Reg.)

2-BUTOXYETHANOL
Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Ocular
Results: Irritating

GLICOL ETILENICO
Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: Ocular
Results: Not classified

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

1-METHOXY-2-PROPANOL
Method: Equivalent or similar to EU Method B.6
Reliability: 1
Species: guinea pig (male / female)
Route of exposure: Dermal
Results: Not sensitizing

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: OECD 406 - Read across
Reliability: 1
Species: guinea pig (Hartley; female)
Route of exposure: cutaneous
Results: non sensitizing

2-BUTOXYETHANOL
Method: OECD 406
Reliability: 1
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

Respiratory sensitization

Information not available

Skin sensitization

SODIUM P-CUMENSULPHONATE
Method: OECD Guideline 406
Reliability: 1
Species: guinea pig
Route of exposure: cutaneous
Results: not sensitizing

GLICOL ETILENICO
Method: Not indicated
Reliability: 2
Species: guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not classified
Bibliographic reference: Evaluation of Skin Irritation and Sensitization of Two Diol Solutions used as Experimental Dentin Primers in Humans and Guinea Pigs, Kurihara A, Manabe A, Katsuno K, Itoh K, Hismitsu H, Wakumoto S, Yoshida T (1996)

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

1-METHOXY-2-PROPANOL
Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 2
Species: Mouse (CD-1; male / female)
Route of exposure: Intraperitoneal
Results: Negative

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: equivalent or similar to 471 - In vitro test
Reliability: 2
Species: S. typhimurium, E.Coli
Results: negative with and without metabolic activation
Method: OECD 474 - in vivo test
Reliability: 1
Species: Mouse (NMRI; male)
Route of exposure: oral
Results: negative.

SODIUM P-CUMENSULPHONATE
Method: OECD Guideline 474-in vivo test
Reliability: 1
Species: mouse
Route of exposure: oral
Results: negative

2-BUTOXYETHANOL
Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium TA 1535
Results: negative
Bibliographic reference:
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

GLICOL ETILENICO
Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Not indicated - in vivo test
Reliability: 2
Species: Rat (Fischer 344; male / female)

Route of exposure: Oral
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

1-METHOXY-2-PROPANOL
Method: OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: study report (1977)
Reliability: 2
Species: Mouse (B6C3F1; male / female)
Route of exposure: oral
Results: negative. NOAEL (carcinogenicity) = 938 mg / kg bw / day

SODIUM P-CUMENSULPHONATE
Method: OECD Guideline 453
Reliability: 2
Species: mouse
Route of exposure: cutaneous
Results: NOAEL> = 727 mg / kg bw / day

GLICOL ETILENICO
The available studies have not shown carcinogenic power. In a 2-year carcinogenicity study, conducted by the US National Toxicology Program (NTP), in which ethylene glycol was administered in feeding, "no evidence of carcinogenic activity" was observed in male and female B6C3F1 mice (NTP, 1993).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: Not indicated
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: oral
Results: negative. NOAEL (reproduction)> = 250 mg / kg body weight / day
Bibliographic reference: Oser, B.L. et al., Toxicology and applied pharmacology (1963)
Method: not indicated
Reliability: 2
Species: Rat (Albino)
Route of exposure: oral
Results: negative. NOAEL (development, fetus)> = 1 374 mg / kg body weight / day
Bibliographic reference: Schardein, J.L. et alb, Toxicology and Applied Pharmacology (1981)

2-BUTOXYETHANOL
Method: Not indicated
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: NOAEL = 720 mg / kg bw / day
Bibliographic reference: Heindel JJ, Gulati DK, Russel VS, Reel JR, Lawton AD and Lamb JC, Assessment of Ethylene Glycol Monobutyl and monophenol Ether reproductive toxicity using a continuous breeding protocol in Swiss CD-1 mice (1990).

Adverse effects on sexual function and fertility

1-METHOXY-2-PROPANOL
Method: OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL (fertility) = 300 ppm

SODIUM P-CUMENSULPHONATE
Method: OECD Guideline 414
Reliability: 1
Species: rabbit
Route of exposure: oral
Results: NOAEL ca. 1 000 mg / kg bw / day

Adverse effects on development of the offspring

1-METHOXY-2-PROPANOL
Method: Equivalent or similar to OECD 414
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Inhalation
Results: Negative, NOAEL (development) = 3000 ppm

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

1-METHOXY-2-PROPANOL
Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

ALCOHOLS, C12-C14, ETHOXYLATES (> 2-5EO)
Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

2-BUTOXYETHANOL
Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

GLICOL ETILENICO
Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Target organ

1-METHOXY-2-PROPANOL
Central nervous system

Route of exposure

1-METHOXY-2-PROPANOL
Inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

1-METHOXY-2-PROPANOL
Method: OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL = 300 ppm
Method: Equivalent or similar to OECD 410
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative, NOAEL> 1000 mg / kg bw / day

ALCOHOLS, C12-C14, ETHOXYLATES (> 2-5EO)
Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Method: Not indicated-Read across
Reliability: 2
Species: Rat (Holtzman; male)
Route of exposure: Oral
Results: Negative, NOAEL> = 500 mg / kg bw / day
Bilbiographical reference: The Toxicity and Pharmacodynamics of EGTA: Oral Administration to Rats and Comparisons with EDTA, Wynn, J.E. et al (1970)
Method: OECD 413
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Inhalation (dust)
Results: Negative, NOAEC = 3 mg / m3 air

2-BUTOXYETHANOL
Method: Equivalent or similar to OECD 408
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative, NOAEL <69 mg / kg bw
Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC <31 ppm
Method: Equivalent or similar to OECD 411
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative; NOAEL> 150 mg / kg bw / day

GLICOL ETILENICO
Method: OECD 410
Reliability: 1
Species: Dog (Beagle; male / female)
Route of exposure: Dermal
Results: NOAEL> 2 200 - <4 400 mg / kg bw / day

Target organ

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Respiratory tract

GLICOL ETILENICO
Kidney

Route of exposure

ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Inhalation

GLICOL ETILENICO
Oral

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

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

SECTION 12. Ecological information

12.1. Toxicity

AMMONIA	
LC50 - for Fish	47 mg/l/96h Channa punctata
EC50 - for Crustacea	20 mg/l/48h Daphnia magna
GLICOL ETILENICO	
LC50 - for Fish	72860 mg/l/96h
EC10 for Algae / Aquatic Plants	100 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	100 mg/l
1-METHOXY-2-PROPANOL	
LC50 - for Fish	6812 mg/l/96h
EC50 - for Crustacea	23300 mg/l/48h
SODIUM P-CUMENSULPHONATE	
LC50 - for Fish	> 1000 mg/l/96h
EC50 - for Crustacea	> 1000 mg/l/48h

12.2. Persistence and degradability

1-METHOXY-2-PROPANOL
Easily degradable in water, 4% in 28 days.
ETHYLENDIAMMINOTETRAACETATE OF TETRASODIUM
Not rapidly degradable, 0-10% in 28 days (OECD 302 B)
2-BUTOXYETHANOL
Easily degradable.
GLICOL ETILENICO

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

Rapidly degradable

AMMONIA
Degradability: information not available

GLICOL ETILENICO

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

1-METHOXY-2-PROPANOL

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

12.3. Bioaccumulative potential

2-BUTOXYETHANOL

Partition coefficient: n-octanol/water	0,81

GLICOL ETILENICO

Partition coefficient: n-octanol/water	-1,36

1-METHOXY-2-PROPANOL

Partition coefficient: n-octanol/water	< 1

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

1-METHOXY-2-PROPANOL
This product, when disposed of in its unused and uncontaminated state, must be treated as a hazardous waste according to EC Directive 91/689 / EEC. Disposal practices must comply with all national and provincial laws and local or local laws governing hazardous waste. Further evaluation may be required for used, contaminated and residual materials. Do not discharge into sewers, onto the ground or into any body of water.

2-BUTOXYETHANOL
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA:	1760

14.2. UN proper shipping name

ADR / RID:	CORROSIVE LIQUID, N.O.S.
IMDG:	CORROSIVE LIQUID, N.O.S.
IATA:	CORROSIVE LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR / RID:	Class: 8	Label: 8
IMDG:	Class: 8	Label: 8
IATA:	Class: 8	Label: 8

14.4. Packing group

ADR / RID, IMDG, IATA:	III

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80 Special provision: 274	Limited Quantities: 5 L	Tunnel restriction code: (E)

IMDG:	EMS: F-A, S-B	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 852
	Special provision:	A3, A803	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point	3 - 40

Contained substance

Point	75

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

Not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%

- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport 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 Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
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14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
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20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.