Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 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: **68282_SUNSET BEACH**
Product name **Fragrance diffuser with wicks - Sunset Beach**
UFI : **MV13-70CF-Y00A-MG5D**

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

Intended use **Fragrance diffuser with wicks Purity Sunset Beach perfume line**

1.3. Details of the supplier of the safety data sheet

Name **STAR S.P.A. CON SOCIO UNICO**
Full address **Via Ungaretti 6**
District and Country **16157 Genova (Ge)**
Italia

Tel. +39 0108903600

Fax +39 0106129727

e-mail address of the competent person

responsible for the Safety Data Sheet **ufficiotecnico@starspa.net**

1.4. Emergency telephone number

For urgent inquiries refer to **+39 010 8903640 (Monday - Friday, 8.30-13.00, 14.30-18.00)**
Poison Centre, Azienda Ospedaliera Universitaria Riuniti, Viale Luigi Pinto 1, Foggia; Tel.: + 39800183459
Poison Centre, Azienda Ospedaliera Universitaria Careggi, U.O. Tossicologia medica, Via Largo Brambilla 3, Florence; Tel.: + 39 055-7947819
Poison Control Centre, National Centre for Toxicological Information, IRCCS Fondazione Salvatore Maugeri Work and Rehabilitation Clinic, Via Salvatore Maugeri 10, Pavia; Tel.: + 390382-24444
Poison Centre, Azienda Ospedaliera "Antonio Cardarelli", III Service of Anaesthesia and reanimation, Via Antonio Cardarelli 9, Naples; Tel.: + 39 081-5453333
Poison Centre, Niguarda Ca' Grande Hospital Authority, Piazza Ospedale Maggiore 3, Milan; Tel.: + 39 02-66101029
Poison Centre, Azienda ospedaliera "Papa Giovanni XXIII", clinical toxicology, Department of clinical pharmacy and pharmacology, Piazza OMS 1, Bergamo; Tel.: + 39 800883300
Poison Centre, "Umberto I" Polyclinic, PRGM emergency toxicology, Viale del Policlinico 155, Rome; Tel.: + 39 06-49978000
Poison Centre, Bambino Gesù Paediatric Hospital, Emergency and Acceptance Department DEA, Piazza Sant'Onofrio 4, Rome; Tel.: + 39 06 68593726
Poison Centre, Policlinico "Agostino Gemelli", Clinical Toxicology Service, Largo Agostino Gemelli 8, Rome; Tel.: + 39 06-3054343
Poison Centre of the Azienda Ospedaliera Universitaria Integrata (AOUI) di Verona sede di Borgo Trento, Piazzale Aristide Stefani, 1 - 37126 Verona. Tel.: + 39 800011858

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:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Eye irritation, category 2	H319	Causes serious eye irritation.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

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:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

EUH208 Contains: 3-p-cumenyl-2-methylpropionaldehyde, pentadecan-15-olide, nerolo, piperonal, 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethane-1-one, coumarin, citronellol, benzyl salicylate, slender cinnamon, linalool, eugenol, linalyl acetate, d-limonene
May produce an allergic reaction.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P273 Avoid release to the environment.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501 Dispose of the product/container according to local regulations in force

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)
Ethanol		
INDEX 603-002-00-5 EC 200-578-6 CAS 64-17-5 REACH Reg. 01-2119457610-43-xxxx	74 ≤ x < 78	Flam. Liq. 2 H225, Eye Irrit. 2 H319
(2-methoxymethylethoxy)propanol		
INDEX - EC 252-104-2 CAS 34590-94-8 REACH Reg. 01-2119450011-60	5 ≤ x < 6	Substance with a community workplace exposure limit.
d-limonene		
INDEX 601-029-00-7 EC 227-813-5 CAS 5989-27-5 REACH Reg. 01-2119529223-47-xxxx	0,5 ≤ x < 0,6	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
linalyl acetate		
INDEX - EC 204-116-4 CAS 115-95-7 REACH Reg. 01-2119454789-19-0000	0,3 ≤ x < 0,35	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
linalool		
INDEX 603-235-00-2 EC 201-134-4 CAS 78-70-6 REACH Reg. 01-2119474016-42-0000	0,25 ≤ x < 0,3	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
slender cinnamon		
INDEX - EC 639-566-4 CAS 165184-98-5 REACH Reg. 01-2119533092-50-xxxx	0,25 ≤ x < 0,3	Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411

galaxolide		
INDEX 603-212-00-7	0,25 ≤ x < 0,3	Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 214-946-9		
CAS 1222-05-5		
REACH Reg. 01-2119488227-29-0000		
benzyl salicylate		
INDEX -	0,25 ≤ x < 0,3	Eye Irrit. 2 H319, Skin Sens. 1B H317, Aquatic Chronic 3 H412
EC 204-262-9		
CAS 118-58-1		
REACH Reg. 01-2119969442-31-0000		
eugenol		
INDEX -	0,25 ≤ x < 0,3	Eye Irrit. 2 H319, Skin Sens. 1B H317
EC 202-589-1		
CAS 97-53-0		
REACH Reg. 01-2119971802-33-0000		
citronellol		
INDEX -	0,25 ≤ x < 0,3	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC 203-375-0		
CAS 106-22-9		
REACH Reg. 01-2119453995-23-0000		
coumarin		
INDEX -	0,1 ≤ x < 0,15	Acute Tox. 4 H302, Skin Sens. 1 H317, Aquatic Chronic 3 H412
EC 202-086-7		STA Oral: 500 mg/kg
CAS 91-64-5		
REACH Reg. 01-2119943756-26-xxxx		
Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one		
INDEX 606-092-00-4	0,1 ≤ x < 0,15	Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 422-320-3		
CAS 34902-57-3		
REACH Reg. 01-0000016883-62		
nerolo		
INDEX -	0,1 ≤ x < 0,15	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC 203-378-7		
CAS 106-25-2		
REACH Reg. 01-2119983244-33-0000		
pentadecan-15-olide		
INDEX -	0,1 ≤ x < 0,15	Skin Sens. 1B H317, Aquatic Chronic 2 H411
EC 203-354-6		
CAS 106-02-5		
REACH Reg. 01-2119987323-31		

3-p-cumenyl-2-methylpropionaldehyde		
INDEX -	0,1 ≤ x < 0,15	Skin Irrit. 2 H315, Skin Sens. 1B H317, Aquatic Chronic 3 H412
EC 203-161-7		
CAS 103-95-7		
REACH Reg. 01-2119970582-32-0000		
piperonal		
INDEX -	0,1 ≤ x < 0,15	Skin Sens. 1B H317
EC 204-409-7		
CAS 120-57-0		
REACH Reg. 01-2119969442-31-0000		
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethane-1-one		
INDEX -	0,1 ≤ x < 0,15	Skin Irrit. 2 H315, Skin Sens. 1B H317, Aquatic Chronic 1 H410 M=1
EC 259-174-3		
CAS 54464-57-2		
REACH Reg. 01-2119489989-04-0000		

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. 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.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

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. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. 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:

ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
EU	OEL EU	Directive (EU) 2022/431; 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.

(2-methoxymethylethoxy)propanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	308	50			
OEL	EU	308	50			SKIN

Predicted no-effect concentration - PNEC		
Normal value in fresh water	19	mg/l
Normal value in marine water	1,9	mg/l
Normal value for fresh water sediment	70,2	mg/kg
Normal value for marine water sediment	70,02	mg/kg
Normal value of STP microorganisms	4168	mg/l
Normal value for the terrestrial compartment	2,74	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				36 mg/kg bw/d				
Inhalation			NEA	37,2 mg/m3			VND	308 mg/m3
Skin			NPI			121 mg/kg bw/d	NPI	283 mg/kg bw/d

galaxolide

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0044	mg/l
Normal value in marine water	0,00044	mg/l
Normal value for fresh water sediment	2	mg/kg
Normal value for marine water sediment	0,394	mg/kg
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	0,31	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				3,8 mg/kg bw/d				
Inhalation				6,5 mg/m3				22 mg/m3
Skin				36 mg/kg bw/d				60 mg/kg bw/d

benzyl salicylate

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,001	mg/l
Normal value in marine water	0	mg/l
Normal value for fresh water sediment	0,538	mg/kg
Normal value for marine water sediment	0,058	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the food chain (secondary poisoning)	80	mg/kg
Normal value for the terrestrial compartment	1,41	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				0,78 mg/m3				3,17 mg/m3
Skin				0,45 mg/kg bw/d				0,9 mg/kg bw/d

eugenol

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,00113	mg/l
Normal value in marine water	0,000113	mg/l
Normal value for fresh water sediment	0,081	mg/kg
Normal value for marine water sediment	0,008	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								3 mg/kg bw/d
Inhalation				5,22 mg/m3				21,2 mg/m3
Skin				3 mg/kg bw/d				6 mg/kg bw/d

Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0027	mg/l
Normal value in marine water	0,00027	mg/l
Normal value for fresh water sediment	21	mg/kg
Normal value for marine water sediment	4,2	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	5,44	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		5,1 mg/kg bw/d		5,1 mg/kg bw/d				21,2
Inhalation				17,7 mg/m3				
Skin				12,7 mg/kg bw/d				21,2 mg/kg bw/d

coumarin

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,019	mg/l
Normal value in marine water	0,0019	mg/l
Normal value for fresh water sediment	0,15	mg/kg
Normal value for marine water sediment	0,015	mg/kg
Normal value of STP microorganisms	6,4	mg/l
Normal value for the food chain (secondary poisoning)	30,7	mg/kg
Normal value for the terrestrial compartment	0,018	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				0,39 mg/kg bw/d				
Inhalation				1,69 mg/m3				6,78 mg/m3
Skin				0,39 mg/kg bw/d				0,79 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 ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

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.
The following should be considered when choosing work glove material (see standard EN 374): 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 I 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.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

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, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (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.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	not available	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	> 35 °C	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	< 23 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not available	
Kinematic viscosity	not available	
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	not available	
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.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Information not available

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.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Ethanol
The bioaccumulus potential cannot be evaluated on the basis of the results of the study
This study indicates that about 20-30% of the ananol by inhalation following a low-level exposure is exhaled in the alveolar air, which indicates that about 70-80% of ethanol for inhalation is absorbed. The low -level inhalation of ethanol has determined measurable quantities of acetaldehyde in the alveolar air. For all the exposure concentrations, the results show that the concentration of ethanol and acetaldehyde in the expired alveloare air has increased proportionally and has reached a stable state after at least 2 hours of continuous exposure. Overall, there was a significant correlation between exposure to the ananol and the concentration of ethanol and acetaldehyde in the alveolar air. The relations between acetaldehyde and ethanol in the alveolar air after 4 hours of exposure to ethanol at 26, 102 or 991 ppm were 0.005, 0.008 and 0.006 respectively. Test performed on humans
A study was designed to determine the concentration of ethanol and its acetaldehyde metabolite in the alveolar air of five volunteers exposed (at rest) at

low concentrations of short -term ethanol steam. The volunteers were exhibited for 6 hours, on three different occasions, at about 26, 102 or 991 ppm of ethanol and samples of alveolar air exhausted for analysis were taken. The low -level inhalation of ethanol has determined measurable quantities of acetaldehyde in the alveolar air. The study indicated that about 70 - 80% inhaled ethanol is absorbed.
Using an in vitro method to evaluate the penetration of the ananol through the removed guinea pig, at full thickness, less than 1% of the total dose penetrated the "discovered" skin for a period of 19 hours. The increase in the volume of the dose in the system does not seem to involve an increase in penetration. The penetration has been significantly improved by "occlusion".
A test range of test volumes was used (25 -500 µl)

Information on likely routes of exposure

Information not available

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

(2-methoxymethylethoxy)propanol
Ratto oral noael: 1000 mg/kg
Noael Ratto inhalation: 200 ppm
Noael Dermico Rabbit: 2850 mg/kg BW/Day

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

Ethanol

LD50 (Dermal):	17100 mg/kg Specie: coniglio
LD50 (Oral):	10470 mg/kg Specie Ratto at the concentration of 95%
LC50 (Inhalation vapours):	124,7 mg/l/4h Specie: topo at the concentration of 95%

(2-methoxymethylethoxy)propanol

LD50 (Dermal):	> 19020 mg/kg Ratto
LD50 (Oral):	5135 mg/kg Ratto
LC50 (Inhalation vapours):	> 275 ppm/1h Ratto (LC0 non LC50, 7h non 1h)

d-limonene

LD50 (Dermal):	> 5000 mg/kg Coniglio
LD50 (Oral):	4400 mg/kg Ratto

linalyl acetate

LD50 (Dermal):	> 5000 mg/kg Coniglio
LD50 (Oral):	> 9000 mg/kg Topo

galaxolide

LD50 (Dermal):	> 10000 mg/kg Ratto
LD50 (Oral):	> 4640 mg/kg Ratto

benzyl salicylate

LD50 (Dermal):	> 2000 mg/kg coniglio
LD50 (Oral):	3031 mg/kg ratto

citronellol

LD50 (Dermal):	2650 mg/kg Coniglio
LD50 (Oral):	3450 mg/kg Ratto

eugenol

LD50 (Oral):	> 1500 mg/kg bw Topo
LC50 (Inhalation vapours):	> 2,6 mg/l Ratto

linalool

LD50 (Oral):	2790 mg/kg Ratto
LC50 (Inhalation vapours):	> 3,2 mg/l/1h30 Topo

Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one

LD50 (Dermal):	> 2000 mg/kg Coniglio
LD50 (Oral):	> 2000 mg/kg Ratto

3-p-cumenyl-2-methylpropionaldehyde

LD50 (Dermal):	> 5000 mg/kg bw ratto
LD50 (Oral):	> 5000 mg/kg bw ratto

piperonal

LD50 (Dermal):	> 5000 mg/kg Ratto
LD50 (Oral):	2700 mg/kg Ratto

1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethane-1-one

LD50 (Dermal):	> 5000 mg/kg Ratto
LD50 (Oral):	> 5000 mg/kg Ratto

coumarin

LD50 (Oral):	293 mg/kg Ratto

d-limonene

Test: LD50 - VIA: Oral - Species: Mouse = 5600 mg/kg

linalyl acetate
Test: LC50 - Via: Inhalation - Species: Mouse - Duration: 1.5h

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

Ethanol
Test performed on rabbit, no erythema/edema observed. Not irritating.

(2-methoxymethylethoxy)propanol
Non -irritating according to Regulation (EC) n. 1272/2008.

linalyl acetate
Test: Irritant for the skin - Via: skin - Species: negative human beings

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

Ethanol
The data obtained based on the guidelines of the GLP eye irritation study carried out on a rabbit, ascertain that ethanol causes irritation to the eyes. All symptoms are reversible in 14 days. The response was not severe enough to trigger the classification according to the criteria of Directive 67/548, but it was sufficient compared to the corneal and conjunctivals to trigger the classification as an irritating for the reversible eyes (category 2) pursuant to the GHS regulation of EU.

(2-methoxymethylethoxy)propanol
Mild completely reversible transient irritation within 2 hours. Non -irritating according to Regulation (EC) n. 1272/2008.

linalyl acetate
Test: Eyes irritating - Species: negative rabbit

citronellol
Irritating for positive eyes.

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.
Contains:

3-p-cumenyl-2-methylpropionaldehyde
pentadecan-15-olide
nerolo
piperonal
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethane-1-one
coumarin
citronellol
benzyl salicylate
slender cinnamon
linalool
eugenol
linalyl acetate
d-limonene

linalyl acetate
Test: irritating for the respiratory tract - species: negative human beings

Respiratory sensitization

Ethanol
It is not bronchoconstritor. Test performed on the chorey of India.

Skin sensitization

Ethanol
Not sensitizing. Test performed on the chorey of India.

(2-methoxymethylethoxy)propanol
Non -sensitizing for the skin according to Regulation (EC) n. 1272/2008.

citronellol
Sharing positive skin.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Ethanol
Negative genetic toxicity in vitro. Tests carried out on the rat.
Uncertain results in vivo. Tests carried out on mouse.

(2-methoxymethylethoxy)propanol
In vitro tests on fibroblasts of chickenish polyns: negative (without metabolic activation)

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Ethanol
Noaec:> = 1.3 mg/l Air
Tests carried out on the rat. Duration 24 months.

(2-methoxymethylethoxy)propanol
Noel 300 ppm (rat liver).
Non -carcinogenic according to Regulation (EC) n. 1272/2008.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Ethanol
Teramogenesis:
Noael: 15 Other: % in drinking water.
Test carried out on mouse.
Reproduction:
Noael: <1 000 mg/kg bw/day (nominal)

(2-methoxymethylethoxy)propanol
Not toxic for reproduction according to Regulation (EC) n. 1272/2008.

Adverse effects on sexual function and fertility

(2-methoxymethylethoxy)propanol
Noael P0: 300 ppm
Noael F1: 1000 ppm
Noael F2: 1000 ppm

Adverse effects on development of the offspring

Ethanol
Noael:> = 20 000 ppm

(2-methoxymethylethoxy)propanol
Noael P0: 300 ppm

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Ethanol
Nervous system:
Noaec: 19 000 mg/m³
Test performed on rat.
Immune system:
Noaec: 40 000 mg/m³
Test carried out on rat.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Ethanol
Oral:
Loael: 3 200 mg/kg BW/day (current dose received)
Noael: 1 730 mg/kg BW/day (current dose received)
Tests carried out on the rat.
Inhalation:
Noaec: 2.65 mg/l Air
Loae: 13.3 mg/L Air
Tests carried out on the rat.

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

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.
12.1. Toxicity

Ethanol
On fish:
LC0: 7.96 g/l (96 -hour test duration). Test carried out on Pimphaales Promolas.

On crustaceans:
LC50: 5 012 mg/l (duration 48h). Test performed on: Ceriodaphnea Dubia.
On invertebrates:
LC50: 454 mg/l (duration 9 days). Test performed on Daphnia Magna.
On algae and cyanobacteria:
EC100: 14200 mg/l (duration 3 days)
Test made on Chlorella Vulgaris.
On microorganisms:
IC50:> 1000 mg/l. Test duration 3 days. Test carried out on active sludge.
On aquatic organisms:
Noec:> 79 mg/l (48h test duration) test carried out on time frog.
On soil:
LC50 = 0.1 - 1mg/cm2 test carried out on Eisenia Foetida.
On earth arthropods:
EC0: 0.02% (duration 10 days). Test carried out on Diptera
On terrestrial plants:
Test carried out on: ALLIUM CEPA (duration 6 days).
EC50 = 11800mg/L
EC10 = 790mg/L
(2-methoxymethylethoxy)propanol
EC10 microorganisms - 4168 mg/l/18h pseudomonas putida
EC50 Terrestrial plants -> 500 g/l/21d Gossypium Hirsutum, Zea Mays, Brassica Napus, Glycine Max, Lycopersicon Esculletum, Vitis Vinifera, Triticum Asettivum
Noec terrestrial plants - 250 g/l Gossypium Hirsutum, Zea Mays, Brassica Napus, Glycine Max, Lycopersicon Esculletum, Vitis Vinifera, Triticum Asettivum
d-limonene
EC50 - Species: fish = 0.688 mg/l - Duration H: 96
galaxolide
EC50 Crustaceans (48h) = 0.47 mg/l Daphnia
Ec50 microorganisms (5D) = 10 mg/l slies

3-p-cumenyl-2-methylpropionaldehyde

LC50 - for Fish	> 3,032 mg/l/96h
EC50 - for Crustacea	> 1,4 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	2,7 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	0,2 mg/l Pseudokirchneriella subcapitata

pentadecan-15-olide

EC50 - for Algae / Aquatic Plants	0,4 mg/l/72h Desmodesmus subspicatus
EC10 for Algae / Aquatic Plants	0,2 mg/l/72h Desmodesmus subspicatus
Chronic NOEC for Fish	0,027 mg/l Pimephales promelas, 33 giorni
Chronic NOEC for Crustacea	0,068 mg/l Daphnia magna, 21 giorni
Chronic NOEC for Algae / Aquatic Plants	0,26 mg/l Desmodesmus subspicatus 72h

citronellol

LC50 - for Fish	14,66 mg/l/96h Leuciscus idus
EC50 - for Crustacea	17,48 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	2,4 mg/l/72h Scenedesmus sp.

nerolo

LC50 - for Fish	20,3 mg/l/96h Danio rerio
EC50 - for Crustacea	32,4 mg/l/48h Daphnia magna

linalyl acetate

LC50 - for Fish	11 mg/l/96h Cyprinus carpio
EC50 - for Crustacea	59 mg/l/48h Daphnia magna

Chronic NOEC for Crustacea	25 mg/l Daphnia magna 48h
benzyl salicylate	
LC50 - for Fish	1,03 mg/l/96h zebra fish
EC50 - for Crustacea	1,16 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	1,29 mg/l/72h Pseudokirchneriella subcapitata
piperonal	
LC50 - for Fish	2,5 mg/l/96h Cyprinus carpio
EC50 - for Crustacea	52 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	6,8 mg/l/72h Pseudokirchneriella subcapitata
EC10 for Algae / Aquatic Plants	0,94 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	1,6 mg/l Cyprinus carpio 96h
Chronic NOEC for Crustacea	22 mg/l Daphnia magna 48h
Chronic NOEC for Algae / Aquatic Plants	< 0,38 mg/l Pseudokirchneriella subcapitata 72h
galaxolide	
LC50 - for Fish	0,95 mg/l/96h Oryzias latipes
EC50 - for Crustacea	> 0,9 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0,723 mg/l/72h Pseudokirchneriella subcapitata
LC10 for Fish	0,068 mg/l/96h Pimephales promelas
(2-methoxymethylethoxy)propanol	
LC50 - for Fish	> 1000 mg/l/96h Poecilia reticulata
EC50 - for Crustacea	1930 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 969 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	1000 mg/l 48h Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	969 mg/l 72h Pseudokirchneriella subcapitata
Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one	
LC50 - for Fish	> 0,803 mg/l/48h
EC50 - for Crustacea	> 0,96 mg/l/24h Daphnia magna
Chronic NOEC for Fish	0,027 mg/l/14h
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethane-1-one	
LC50 - for Fish	1,3 mg/l/96h Lepomis macrochirus, OECD TG 203
EC50 - for Crustacea	1,38 mg/l/48h Daphnia magna, OECD TG 202
EC50 - for Algae / Aquatic Plants	2,6 mg/l/72h Desmodesmus subspicatus, OECD TG 201
d-limonene	
LC50 - for Fish	0,72 mg/l/96h Danio rerio
EC50 - for Algae / Aquatic Plants	0,214 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	0,37 mg/l/8d Danio rerio

slender cinnamon

LC50 - for Fish	1,7 mg/l/96h Pimephales promelas
EC50 - for Crustacea	> 0,36 mg/l/48h Daphnia magna
Chronic NOEC for Fish	0,93 mg/l Pimephales promelas 96h
Chronic NOEC for Crustacea	0,063 mg/l Daphnia magna

linalool

LC50 - for Fish	27,8 mg/l/96h Salmo gairdneri
EC50 - for Crustacea	59 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	88,3 mg/l/72h Desmodesmus subspicatus 96h
EC10 for Algae / Aquatic Plants	38,4 mg/l/96h Desmodesmus subspicatus
Chronic NOEC for Fish	< 3,5 mg/l Salmo gairdneri 96h
Chronic NOEC for Crustacea	25 mg/l Daphnia magna 48h

coumarin

LC50 - for Fish	1,324 mg/l/96h
EC50 - for Crustacea	8,012 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	1,452 mg/l/72h
Chronic NOEC for Crustacea	0,5 mg/l Daphnia magna 21 giorni
Chronic NOEC for Algae / Aquatic Plants	0,431 mg/l 72 ore

eugenol

LC50 - for Fish	13 mg/l/96h Danio rerio
EC50 - for Crustacea	1,13 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	23 mg/l/72h Desmodesmus subspicatus
EC10 for Algae / Aquatic Plants	< 22 mg/l/72h Desmodesmus subspicatus
Chronic NOEC for Fish	10 mg/l Danio rerio
Chronic NOEC for Algae / Aquatic Plants	23 mg/l Desmodesmus subspicatus 72h

Ethanol

LC50 - for Fish	14200 mg/l/96h Pimephales Promelas.
EC50 - for Algae / Aquatic Plants	4432 mg/l/72h Durata 7 giorni. Test effettuato su Lemna Gibba.
EC10 for Algae / Aquatic Plants	86 mg/l/10d Durata 4 giorni. Test effettuato su Chlorella Vulgaris.
Chronic NOEC for Fish	250 mg/l Durata test 120 h. Specie Danio Rerio.
Chronic NOEC for Crustacea	96 mg/l Test eseguito su Daphnia Magna.
Chronic NOEC for Algae / Aquatic Plants	280 mg/l Test effettuato su Lemna Gibba. Durata test 7 giorni.

12.2. Persistence and degradability

3-p-cumenyl-2-methylpropionaldehyde

Rapidly degradable
65,5 % in 28 giorni
pentadecan-15-olide

Rapidly degradable
90% in 28 giorni (consumo O2)
citronellol

Rapidly degradable

90% in 28 giorni (Consumo O2)
nerolo

Rapidly degradable
90% in 28 giorni (consumo O2)
linalyl acetate

Rapidly degradable
70% in 28 giorni
benzyl salicylate

Solubility in water 8,8 mg/l

Rapidly degradable
76% in 28d OECD 301F
piperonal

Rapidly degradable
82% in 28 giorni
galaxolide

Solubility in water 1,54 mg/l

NOT rapidly degradable

2 % a 28 giorni OECD 301 B
(2-methoxymethylethoxy)propanol

Solubility in water 1000 mg/l

Rapidly degradable
76% in 28d OECD 301F
Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one

Solubility in water 0,954 mg/l

Rapidly degradable
96,7 % in 28 giorni (consumo O2)
d-limonene

Solubility in water 5,69 mg/l

Rapidly degradable
80% (consumo di ossigeno) a 28 giorni
slender cinnamon

Rapidly degradable
97% in 28 giorni
linalool

Rapidly degradable
64.2% (consumo di ossigeno) a 28 giorni
coumarin

Solubility in water 1900 mg/l

Rapidly degradable
90 % in 28 giorni
eugenol

Solubility in water 1154 mg/l

Rapidly degradable
82 % in 28 giorni (consumo O2)
Ethanol

Rapidly degradable
84% (consumo di ossigeno) a 20 giorni

12.3. Bioaccumulative potential

linalyl acetate

BCF 174 l/kg

benzyl salicylate	
Partition coefficient: n-octanol/water	4 Log Kow
BCF	311 l/kg
(2-methoxymethylethoxy)propanol	
Partition coefficient: n-octanol/water	0,004 Log Kow
Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one	
Partition coefficient: n-octanol/water	1,3 Log Kow
eugenol	
Partition coefficient: n-octanol/water	1,83
Ethanol	
BCF	1 - Muscoli e tessuti.

12.4. Mobility in soil

3-p-cumenyl-2-methylpropionaldehyde	
Partition coefficient: soil/water	3,05
pentadecan-15-olide	
Partition coefficient: soil/water	4,65
benzyl salicylate	
Partition coefficient: soil/water	5623
galaxolide	
Partition coefficient: soil/water	24,547
Mixture of: (E)-oxacyclohexadec-12-en-2-one (E)-oxacyclohexadec-13-en-2-one a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one	
Partition coefficient: soil/water	4,65 l/kg
d-limonene	
Partition coefficient: soil/water	6324 l/kg
coumarin	
Partition coefficient: soil/water	1,63
Ethanol	
Partition coefficient: soil/water	10

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.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA:	1993

14.2. UN proper shipping name

ADR / RID:	FLAMMABLE LIQUID, N.O.S. (Ethanol)
IMDG:	FLAMMABLE LIQUID, N.O.S. (Ethanol)
IATA:	FLAMMABLE LIQUID, N.O.S. (Ethanol)

14.3. Transport hazard class(es)

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

14.4. Packing group

ADR / RID, IMDG, IATA:	II

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 1 L	Tunnel restriction code: (D/E)
	Special provision: 274, 601, 640D		
IMDG:	EMS: F-E, S-E	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3	

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: P5c

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. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 4	Acute toxicity, category 4
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

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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22. Delegated Regulation (UE) 2022/692 (XVIII 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.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 08 / 09 / 11 / 12 / 14 / 15 / 16.