Safety Data Sheet

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

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

1.1. Product identifier

Code:	**0030649**
Name	**SMACCHIO LIQUIDO**
Chemical name and synonyms	**SMACCHIO LIQUIDO**

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

Sector of use	**SU22 – Professional uses SU21 – Consumer uses**
Product category	**PC35 – Washing and cleaning products (including solvent-based products)**
Uses advised against	**Uses other than those described. Do not use in combination with other products**
Description/Usage	**Oxygen-based liquid whitening stain remover**

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

For urgent inquiries please contact

MARBEC srl
+390573959848 h8.30-13 h14-18 or +393348578502
Telephone number of Poison Control Centers active 24/24 hours
IRCSS Maugeri Foundation –
Pavia 0039-0382-24444
CAV Ospedali Riuniti –
Bergamo 0039-800-883300
CAV Niguarda Ca` Granda Hospital –
Milan 0039-02-66101029
CAV Careggi Hospital - Florence 0039-055-7947819
CAV Gemelli Polyclinic –
Rome 0039-06-3054343
CAV Umberto I Polyclinic –
Rome 0039-06 49978000
CAV Cardarelli Hospital –
Naples 0039-081 5453333
CAV Integrated Hospital Verona - Verona 800011858

SECTION 2. Hazards identification

2.1. Substance or mixture classification

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

Hazard classification and indications:

Serious eye damage, category 1	H318	Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms:

Warnings: Danger

Indications of danger:

H318	Causes serious eye damage.

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 eye protection / face protection.
P362	Take off contaminated clothing.

Contains:	HYDROGEN PEROXIDE Oxirane, 2-methyl-, polymer

2.3. Other dangers

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

The product does not contain substances having endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Blends

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
HYDROGEN PEROXIDE		
CAS 7722-84-1	7 ≤ x < 8	Ox. Liq. 1 H271, Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Corr. 1A H314, Eye Dam. 1 H318, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI of the CLP Regulation: B
EC 231-765-0		Ox. Liq. 1 H271: ≥ 70%, Skin Corr. 1A H314: ≥ 70%, Skin Corr. 1B H314: ≥ 50%, Skin Irrit. 2 H315: ≥ 8%, Eye Dam. 1 H318: ≥ 8%, Eye Irrit. 2 H319: ≥ 5%, STOT SE 3 H335: ≥ 35%
INDEX 008-003-00-9		Oral LD50: 1193 mg/kg, ATE Inhalation vapours: 11 mg/l
REACH Reg. 01-2119485845-22-xxxx		
Oxirane, 2-methyl-, polymer		
CAS 166736-08-9	3 ≤ x < 5	Acute Tox. 4 H302, Eye Dam. 1 H318
THERE IS		Oral LD50: >300 mg/kg
INDEX -		
N,N-dimethyl tetradecylamine N-oxide		
CAS 3332-27-2	0 ≤ x < 0.5	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411
EC 222-059-3		Oral LD50: 1064 mg/kg
INDEX -		
REACH Reg. 01-2119949262-37		
ETHANOLAMINE		
CAS 141-43-5	0 ≤ x < 0.5	Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335
CE 205-483-3		STOT SE 3 H335: ≥ 5%
INDEX 603-030-00-8		Oral LD50: 1515 mg/kg, ATE Dermal: 1100 mg/kg, ATE Inhalation vapours: 11 mg/l
REACH Reg. 01-2119486455-28		

The complete text of the danger indications (H) is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove any contact lenses. Wash immediately and abundantly with water for at least 30/60 minutes, opening the eyelids wide. Consult a doctor immediately.

SKIN: Take off all contaminated clothing. Take a shower immediately. Consult a doctor immediately.

INGESTION: Drink as much water as possible. Consult a doctor immediately. Do not induce vomiting unless specifically authorized by your doctor.

INHALATION: Call a doctor immediately. Move the person to fresh air away from the scene of the accident. If breathing stops, give artificial respiration. Take appropriate precautions for the rescuer.

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

No specific information on symptoms and effects caused by the product is known.

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

Information not available

SECTION 5. Fire fighting measures

5.1. Fire fighting

SUITABLE EXTINGUISHING MEANS
Choose the most appropriate extinguishing media for the specific situation.

UNSUITABLE EXTINGUISHING MEANS
No one in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS DUE TO EXPOSURE IN THE EVENT OF FIRE
The product is not flammable or combustible.

5.3. Recommendations for firefighters

EQUIPMENT
Normal fire fighting clothing, such as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame retardant gloves (EN 659) and firefighter boots (HO A29 or A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger.
Wearing of suitable protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These indications are valid both for those involved in the work and for emergency interventions.

6.2. Environmental precautions

Prevent the product from entering sewers, surface waters and groundwater.

6.3. Methods and materials for containment and cleaning up

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

6.4. Reference to other sections

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

SECTION 7. Handling and storage

7.1. Precautions for Safe Handling

Ensure an adequate earthing system for plants and people. Avoid contact with eyes and skin. Do not inhale any dusts or vapors or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid dispersion of the product in the environment.

7.2. Conditions for safe storage, including any incompatibilities

Keep only in the original container. Keep in a ventilated place, away from sources of ignition. Keep containers hermetically sealed. Keep product in clearly labeled containers. Avoid overheating. Avoid violent shocks. Store containers away from any incompatible materials, checking section 10.

Storage class TRGS 510 (Germany):
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7.3. Particular end uses

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Normative requirements:

DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
ESP	Spain	Professional exhibition limits for chemical agents in Spain 2021
BETWEEN	France	Values limiters of professional exposure to chemical agents in France. ED 984 - INRS
ITA	Italy	Legislative Decree 9 April 2008, n.81
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valoris-limite de exposição profissional indicative for chemical agents. Decreto-Lei n.º 35/2020 of 13 July, protection of workers against the risks associated with exposure during the work of cancerous or mutagenic agents
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	EU OEL	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 2021

HYDROGEN PEROXIDE

Threshold limit value

Guy	State	TWA/8h		STEL/15min		Notes / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	0.71	0.5	0.71	0.5	
VLA extension	ESP	1.4	1			
VLEP extension	BETWEEN	1.5	1			
WEL	GBR	1.4	1	2.8	2	
TLV-ACGIH		1.4	1			

Predicted no-effect concentration for the environment - PNEC		
Reference value in fresh water	0.0126	mg/l
Reference value in sea water	0.0126	mg/l
Reference value for sediments in fresh water	0.047	mg/kg
Reference value for sediments in marine water	0.047	mg/kg
Reference value for water, intermittent release	0.0138	mg/l
Reference value for the terrestrial compartment	0.0023	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Effects on consumers	Effects on workers

Exposure route	Sharp rooms	Acute systemic	Chronic premises	Chronic systemic	Sharp rooms	Acute systemic	Chronic premises	Chronic systemic
Inhalation	1.93 mg/m3		0.21mg/m3		3mg/m3		1.4mg/m3	

N,N-dimethyl tetradecylamine N-oxide

Predicted no-effect concentration for the environment - PNEC		
Reference value in fresh water	0.0335	mg/l
Reference value in sea water	0.00335	mg/l
Reference value for sediments in fresh water	5.24	mg/kg/d
Reference value for sediments in marine water	0.524	mg/kg/d
Reference value for water, intermittent release	0.0335	mg/l
Reference value for STP microorganisms	24	mg/l
Reference value for the food chain (secondary poisoning)	0.0000111	mg/kg
Reference value for the terrestrial compartment	1.02	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure route	Sharp rooms	Acute systemic	Chronic premises	Chronic systemic	Sharp rooms	Acute systemic	Chronic premises	Chronic systemic
Oral	VND	0.44mg/kg						
Inhalation			VND	1.53 mg/m3			VND	6.2 mg/m3
Dermal			VND	5.5mg/kg			VND	11 mg/kg

ETHANOLAMINE

Threshold limit value

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

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

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exposure route	Sharp rooms	Acute systemic	Chronic	Chronic	Sharp rooms	Acute	Chronic	Chronic

	premises	systemic	systemic	premises	systemic
Oral		3.75 mg/kg/d			
Inhalation	2mg/m3			3.3 mg/m3	
Dermal		0.24mg/kg/d			1 mg/kg/d

Legend:

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

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

8.2. Exposure controls

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

Provide for an emergency shower with a visor basin.

HAND PROTECTION
Protect your hands with category III work gloves (ref. standard EN 374).
For the final choice of work glove material, the following must be considered: compatibility, degradation, breakthrough time and permeation.
In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it cannot be foreseen. The gloves have a wear time that depends on the duration and method of use.

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

EYE PROTECTION
It is advisable to wear airtight protective goggles (ref. standard EN 166).

RESPIRATORY PROTECTION
Not necessary under normal conditions of use.
If the threshold value (e.g. TLV-TWA) of the substance or one or more of the substances present in the product is exceeded, it is advisable to wear a mask with a NO, P3 type filter whose class (1, 2 or 3) must be chosen in relation to the limit concentration for use. (ref. standard EN 14387). If gases or vapors of a different nature and/or gases or vapors with particles (aerosols, fumes, mists, etc.) are present, it is necessary to provide combined type filters. The use of respiratory protection means is necessary if the technical measures adopted are not sufficient to limit the worker's exposure to the threshold values taken into consideration. However, the protection offered by masks is limited.
In the event that the substance in question is odorless or its olfactory threshold is higher than the relevant TLV-TWA and in case of emergency, wear an open-circuit compressed air respirator (ref. standard EN 137) or a plug-in respirator external air (ref. standard EN 138). For the correct choice of respiratory protection device, refer to the EN 529 standard.

ENVIRONMENTAL EXPOSURE CONTROLS
Emissions from production processes, including those from ventilation equipment, should be controlled for compliance with environmental protection legislation.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	Value	Information
Physical state	thick liquid	

Color	transparent
Odor	odorless
Melting or freezing point	Not applicable
Initial boiling point	Not available
Flammability	incombustible
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Flash point	> 90°C
Self-ignition temperature	Not available
pH	5
Kinematic viscosity	Not available
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Vapor pressure	Not available
Density and/or Relative Density	1.04
Relative vapor density	Not available
Particle characteristics	Not applicable

9.2. More info

9.2.1. Information relating to classes of physical hazards

Information not available

9.2.2. Other security features

VOC (Directive 2010/75/EU)	0.40% - 4.16 g/litre
Explosive properties	not explosive
Oxidizing properties	non-oxidant

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no known dangerous reactions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Refer to par. 10 on responsiveness

10.4. Conditions to avoid

Avoid exposure to: light, heat. Avoid contact with: alkaline substances.

10.5. Incompatible materials

Not applicable

10.6. Hazardous decomposition products

None under normal use.

SECTION 11. Toxicological information

11.1. Information on the hazard classes defined in Regulation (EC) no. 1272/2008

Metabolism, kinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture:	> 20 mg/l
ATE (Oral) of the mix:	>2000mg/kg
ATE (Dermal) of the mixture:	Not classified (no relevant component)

HYDROGEN PEROXIDE

LD50 (Dermal):	> 2000 mg/kg (H_2O_2 35%)
LD50 (Oral):	1193 mg/kg Rat at 35% concentration
LC50 (Inhalation of vapours):	> 0.17 mg/l/4h rat (50% H_2O_2 vapor)
ATE (Inhalation of vapours):	11 mg/l estimate from table 3.1.2 of Annex I of CLP (data used for the calculation of the estimate of the acute toxicity of the mixture)

Oxirane, 2-methyl-, polymer

LD50 (Oral):	> 300 mg/kg rat

N,N-dimethyl tetradecylamine N-oxide

LD50 (Oral):	1064 mg/kg oral ATE rat

ETHANOLAMINE

LD50 (Dermal):	2504 mg/kg rat
ATE (Dermal):	1100 mg/kg estimate from table 3.1.2 of Annex I of CLP (data used for the calculation of the estimate of the acute toxicity of the mixture)
LD50 (Oral):	1515 mg/kg rat
LC50 (Inhalation of vapours):	1.48 mg/l/4h rat

SKIN CORROSION / SKIN IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / EYE IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITIZATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

Information not available

Harmful effects on offspring development

Information not available

Effects on or through breastfeeding

Information not available

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

DANGER IN CASE OF ASPIRATION

Does not meet the classification criteria for this hazard class

11.2. Information about 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 effects on human health under evaluation.

SECTION 12. Ecological information

12.1. Toxicity

HYDROGEN PEROXIDE	
LC50 - Fish	16,4 mg/l/96h Pimephales promelas (pure substance)
EC50 - Crustaceans	2,4 mg/l/48h Daphnia Pulex (fresh water - semi-static test - pure substance)
EC50 - Algae / Aquatic Plants	2,6 mg/l/72h Algae, skeletonema costatum (pure substance)
ETHANOLAMINE	
LC50 - Fish	349 mg/l/96h cyprinus carpio
EC50 - Crustaceans	65 mg/l/48h daphnia magna
EC50 - Algae / Aquatic Plants	2.5 mg/l/72h pseudokirchneriella subcapitata
N,N-dimethyl tetradecylamine N-oxide	
LC50 - Fish	2.67mg/l/96h
EC50 - Crustaceans	3.1mg/l/48h
EC50 - Algae / Aquatic Plants	0.19mg/l/72h
Chronic NOEC Pisces	0.067 mg/l
Oxirane, 2-methyl-, polymer	
LC50 - Fish	> 10 mg/l/96h Danio rerio
EC50 - Crustaceans	> 10 mg/l/48h Daphnia magna
EC50 - Algae / Aquatic Plants	> 10 mg/l/72h Scenedesmus subspicatus

12.2. Persistence and degradability

HYDROGEN PEROXIDE

Solubility in water	100000 mg/l

Quickly degradable

ETHANOLAMINE

Solubility in water	1000 - 10000 mg/l

Quickly degradable

N,N-dimethyl tetradecylamine N-oxide

Degradability: data not available

Oxirane, 2-methyl-, polymer

Quickly degradable

12.3. Bioaccumulative potential

HYDROGEN PEROXIDE

Partition coefficient: n-octanol/water	-1.57

ETHANOLAMINE

Partition coefficient: n-octanol/water	-2.3

12.4. Mobility in soil

ETHANOLAMINE

Partition coefficient: soil/water	-0.5646

12.5. Results of PBT and vPvB assessment

Based on available data, the product does not contain PBT or vPvB substances in a percentage ≥ 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 effects on the environment being evaluated.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse if possible. Product residues are to be considered special hazardous waste. The dangerousness of the waste which partially contains this product must be evaluated on the basis of the legislative provisions in force.
Disposal must be entrusted to an authorized waste management company, in compliance with national and possibly local legislation.

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

SECTION 14. Transportation Information

The product is not to be considered dangerous pursuant to the provisions in force concerning the transport of dangerous goods by road (ADR), by rail (RID), by sea (IMDG Code) and by air (IATA).

14.1. UN number or ID number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard classes

Not applicable

14.4. Packing group

Not applicable

14.5. Dangers to the environment

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Shipping in bulk in accordance with IMO acts

Irrelevant information

SECTION 15. Regulatory Information

15.1. Safety, health and environmental laws and regulations specific to the substance or mixture

Seveso category - Directive 2012/18/EU: None

Restrictions relating to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006

Product
Point 3

Substances contained

Point 75

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

Disciplined explosive precursor
The acquisition, introduction, possession or use of the regulated explosives precursor by private individuals is subject to the reporting obligation in accordance with Article 9.
All suspicious transactions and significant disappearances and thefts must be reported to the relevant national contact point.

Substances in Candidate List (Art. 59 REACH)

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

Substances subject to authorization (Annex XIV REACH)

None

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

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Sanitary checks

Workers exposed to this chemical agent dangerous to health must be subjected to health surveillance carried out according to the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the worker's health and safety has been assessed as irrelevant, in accordance with the provisions

of art. 224 paragraph 2.

15.2. Chemical safety assessment

A chemical safety assessment has been prepared for the following substances contained in the mixture:
Hydrogen peroxide, ethanolamine.

SECTION 16. Other information

Text of the danger indications (H) mentioned in sections 2-3 of the sheet:

Ox. Liq. 1	Oxidising liquid, category 1
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1A	Skin corrosion, category 1A
Eye Dam. 1	Serious eye damage, category 1
STOT IF 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H271	May cause fire or explosion; very oxidizing.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	It causes serious skin burns and serious eye injuries.
H318	Causes serious eye damage.
H335	May irritate the respiratory tract.
H400	Very toxic to aquatic organisms.
H411	Toxic to aquatic life with long lasting effects.

LEGEND:
- ADR: European agreement for the carriage of dangerous goods by road
- CAS: Chemical Abstract Service Number
- CE: Identification number in ESIS (European Archive of Existing Substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EC50: Concentration that affects 50% of the population tested
- EmS: Emergency Schedule
- GHS: Globally Harmonized System for the classification and labeling of chemicals
- IATA DGR: Regulations for the transport of dangerous goods of the International Air Transport Association
- IC50: Concentration of immobilisation of 50% of the test population
- IMDG: International Maritime Code for the transport of dangerous goods
- IMO: International Maritime Organization
- INDEX: Identification number in Annex VI of the CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Level of occupational exposure
- PBT: Persistent, bioaccumulating and toxic according to REACH
- PEC: Predictable environmental concentration
- PEL: Predictable level of exposure
- PNEC: Predicted No Effect Concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation for the international transport of dangerous goods by train
- STA: Acute Toxicity Estimate
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that must not be exceeded during any moment of occupational exposure.

- TWA: Weighted Average Exposure Limit
- TWA STEL: Short Term Exposure Limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulating according to REACH
- WGK: Aquatic hazard class (Germany).

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

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

Changes from the previous revision
Changes have been made to the following sections:
01 / 02 / 03 / 09 / 11 / 12 / 15 / 16.