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:	**DT04A**
Product name	**BACTEX**
Chemical name and synonym	**Mixture of water and hydrogen peroxide**

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

Intended use: **Universal cleaner**

Identified Uses	Industrial	Professional	Consumer
Consumer uses	**-**	**-**	**ERC: 8a, 8b, 8d, 8e. PC: 21, 35.**
Professional uses: public sector (administration, education, entertainment, services, crafts)	**-**	**ERC: 8b, 8e. PROC: 10, 11, 19. PC: 1.**	**-**

1.3. Details of the supplier of the safety data sheet

Name	**Industria Chimica General S.r.l.**
Full address	**Via Repubblica di San Marino 8**
District and Country	**41122 Modena (MO) Italy**
	Tel. (+39) 059 450991 / 059 450978
	Fax (+39) 059 450615
e-mail address of the competent person responsible for the Safety Data Sheet	**ricerca@generalchemical.it**
Supplier:	**Industria Chimica General S.r.l.**

1.4. Emergency telephone number

For urgent inquiries refer to

Milano, Italy	**(+39) 02 66101029**	**Centro Antiveleni Ospedale Niguarda Ca' Granda**
Pavia, Italy	**(+39) 0382 24444**	**Centro Antiveleni IRCSS Fondazione Maugeri**
Bergamo, Italy	**(+39) 800 883300**	**Centro Antiveleni Ospedali Riuniti**
Firenze, Italy	**(+39) 055 7947819**	**Centro Antiveleni Ospedale Careggi**
Roma, Italy	**(+39) 06 3054343**	**Centro Antiveleni Policlinico Gemelli**
Roma, Italy	**(+39) 06 49978000**	**Centro Antiveleni Policlinico Umberto I**
Napoli, Italy	**(+39) 081 7472870**	**Centro Antiveleni Ospedale Cardarelli**

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:

Eye irritation, category 2	H319	Causes serious eye irritation.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

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

Hazard pictograms:

Signal words: Warning

Hazard statements:

H319 Causes serious eye irritation.

Precautionary statements:

P102 Keep out of reach of children.
P101 If medical advice is needed, have product container or label at hand.
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.
P337+P313 If eye irritation persists: Get medical advice / attention.
P264 Wash the hands thoroughly after handling.

Ingredients compliant with Regulation (EC) No. 648/2004
Less than 5%
oxygen-based whiteners

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)
hydrogen peroxide			
INDEX	*008-003-00-9*	1 ≤ x < 5	**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 to 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: ≥ 35%, Eye Dam. 1 H318: ≥ 8%, Eye Irrit. 2 H319: ≥ 5%, STOT SE 3 H335: ≥ 35%**
CAS	*7722-84-1*		**LD50 Oral: 1193 mg/kg, STA Inhalation vapours: 11 mg/l**
REACH Reg.	*01-2119485845-22*		
citric acid			
INDEX	*607-750-00-3*	0,1 ≤ x < 0,5	**Eye Irrit. 2 H319, STOT SE 3 H335**
EC	*201-069-1*		
CAS	*77-92-9*		
REACH Reg.	*01-2119457026-42*		

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.

hydrogen peroxide
Take care of your own safety.
Take affected people out of the danger area. Immediately remove any polluted or soaked clothing and discard it safely. Keep the affected person warm, calm and covered.
Don't leave affected people unattended.
In case of fainting: lie the subject on his side in a stable position.
Inhalation
In case of aerosol or mist formation an inhalation is possible.
Bring the affected to fresh air.
In case of breathlessness: inhalation of oxygen. Get medical attention.
In case of respiratory arrest: mouth-to-mouth resuscitation. Call the medical guard immediately.
Contact with the skin
Wash the affected area immediately with plenty of water for at least 15 minutes.
If symptoms persist, seek medical attention for therapy.
Eye contact
If the eyelids are open, rinse immediately with plenty of water for at least 10 minutes.
In case of persistent complaints, consult an ophthalmologist promptly.
In case of corrosive substances, call the medical guard promptly (key word: burning eyes).
Ingestion
Rinse your mouth.
Immediately give large quantities of water to drink.
Call a doctor.
In case of corrosive substances, call the medical guard promptly.

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

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

hydrogen peroxide
Symptoms
Appearances of skin and mucous membrane irritations.
Causes burns.
drowsiness,
Headache, dizziness, drowsiness, nausea.
Health damage can be delayed.
Dangers
From highly irritating to corrosive. Harmful in contact with skin and if swallowed. Inhalation of vapors may cause drowsiness and dizziness

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

hydrogen peroxide
In case of accident or discomfort, consult a doctor immediately, showing the label and / or the safety data sheet. No special treatment provided.

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

SECTION 5. Firefighting measures ... / >>

Do not breathe combustion products.

hydrogen peroxide
The product is oxidizing.
Contact with the following substances may cause fire: flammable substances.
The product itself does not burn.In case of fire in the surrounding environment, danger of decomposition with development of oxygen.
Danger of overpressure and bursting in case of decomposition in closed containers and pipes.
The release of oxygen can promote fires.

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).

hydrogen peroxide
Evacuate personnel to safe areas.
Keep unprotected people away.
Keep unauthorized people away.
In the event of a large fire there is the possibility of violent decomposition or even explosion.
In case of fire, cool the endangered containers with water or dilute with deluge water.
or
In case of fire, remove the containers in danger and take them to a safe place, if it is possible to do so safely.
Provide for the quenching water.
Contaminated extinguishing water must be disposed of in compliance with current standards.
The remains of the fire must be disposed of in compliance with the standards.
The extinguishing water must not reach the sewers, the aquifer, or the surface waters.
In case of fire, wear a respirator independent of the ambient air and wear a chemical resistant suit.

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

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after 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 in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

SECTION 7. Handling and storage ... / >>

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
	TLV-ACGIH	ACGIH 2023

hydrogen peroxide

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			1			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0126	mg/l
Normal value in marine water	0,0126	mg/l
Normal value for fresh water sediment	0,47	mg/kg
Normal value for marine water sediment	0,47	mg/kg
Normal value for water, intermittent release	0,0138	mg/l
Normal value of STP microorganisms	4,66	mg/l
Normal value for the terrestrial compartment	0,0023	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	1,93 mg/m3	0,21 mg/m3			3 mg/m3	1,4 mg/m3		

citric acid

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	2		4		INHAL
MAK	DEU	2		4		INHAL

Predicted no-effect concentration - PNEC

Normal value in fresh water	NPI
Normal value in marine water	NPI
Normal value for fresh water sediment	NPI
Normal value for marine water sediment	NPI
Normal value for water, intermittent release	NPI
Normal value for marine water, intermittent release	NPI
Normal value for fresh water, intermittent release	NPI
Normal value of STP microorganisms	NPI
Normal value for the food chain (secondary poisoning)	NPI
Normal value for the terrestrial compartment	NPI
Normal value for the atmosphere	NPI

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								NPI
Skin								NPI

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

SECTION 8. Exposure controls/personal protection ... / >>

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 your hands with category III work gloves (ref. Standard EN 374).
For the final choice of material for work gloves, the following must be considered: compatibility, degradation, breakage time and permeation.
In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is unpredictable. Gloves have a wear time that depends on the duration and mode 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.
EYE PROTECTION
Wear splash goggles with side shields and / or protective visors complying with EN 166 and EN 165. Do not use eye lenses.
RESPIRATORY PROTECTION
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. Use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	various	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	not available	
Flammability	not applicable (liquid)	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	not applicable	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	3,5	
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	
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

Total solids (250°C / 482°F)	0 %	
VOC (Directive 2010/75/EU)	4,32 % - 43,20	g/litre
Explosive properties	not explosive	
Oxidising properties	non-oxidizing	

SECTION 10. Stability and reactivity

10.1. Reactivity

hydrogen peroxide
Decomposes if exposed to: light,heat.Decomposes on contact with: alkaline metals.Possibility of explosion.

10.2. Chemical stability

Information not available

10.3. Possibility of hazardous reactions

The product may react violently with water.

10.4. Conditions to avoid

Avoid overheating. Prevent moisture or water from penetrating inside the containers.

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

10.5. Incompatible materials

hydrogen peroxide
Incompatible with: flammable substances,acetone,ethanol,glycerol,organic sulphides,hydrated bases,oxidising substances,iron,copper,bronze,chromium,zinc,lead,silver,manganese,acetic acid.

10.6. Hazardous decomposition products

Information not available

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

Information not available

Delayed and immediate effects as well as chronic effects 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 mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

hydrogen peroxide

LD50 (Dermal):	> 2000 mg/kg rabbit at the concentration of 35%
LD50 (Oral):	1193 mg/kg Rat at the concentration of 35%
LC50 (Inhalation vapours):	> 0,17 mg/l/4h rat at the concentration of 50%
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

citric acid

LD50 (Dermal):	> 2000 mg/kg rat

SECTION 11. Toxicological information ... / >>

LD50 (Oral): 5400 mg/kg Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

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

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

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

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

hydrogen peroxide

LC50 - for Fish	16,4 mg/l/96h (Pimephales promelas) Hydrogen peroxide 100%
EC50 - for Crustacea	2,4 mg/l/48h (Daphnia pulex) Hydrogen peroxide 100%
Chronic NOEC for Crustacea	0,63 mg/l 21d (Daphnia magna) Hydrogen peroxide 100%
Chronic NOEC for Algae / Aquatic Plants	0,63 mg/l (Skeletonema costatum) Hydrogen peroxide 100%

citric acid

LC50 - for Fish	> 100 mg/l/96h
EC50 - for Crustacea	> 50 mg/l/48h Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	425 mg/l 8 days

12.2. Persistence and degradability

hydrogen peroxide

Solubility in water	100000 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

citric acid
Solubility in water > 10000 mg/l
Rapidly degradable

12.3. Bioaccumulative potential

hydrogen peroxide
Partition coefficient: n-octanol/water -1,57

citric acid
BCF 3,2

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

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

not applicable

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

Further rules, limitations and legal requirements
Regulation (EC) N. 648/2004 of 31 March 2004 relating to detergents

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
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
Regulated explosives precursor
The acquisition, introduction, possession or use of that regulated explosives precursor by members of the general public is subject to reporting obligations as set out in 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)
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 been performed for the following contained substances
hydrogen peroxide
citric acid
This safety data sheet contains one or more Exposure Scenarios in an integrated form. Contents have been included in sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 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 Irrit. 2	Eye irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.

SECTION 16. Other information ... / >>

H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Use descriptor system:

ERC	8a	Widespread use of non- reactive processing aid (no inclusion into or onto article, indoor)
ERC	8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC	8d	Widespread use of non- reactive processing aid (no inclusion into or onto article, outdoor)
ERC	8e	Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
PC	1	Adhesives, sealants
PC	21	Laboratory chemicals
PC	35	Washing and cleaning products
PROC	10	Roller application or brushing
PROC	11	Non industrial spraying
PROC	19	Manual activities involving hand contact

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
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- 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
- vPvM: Very persistent and very mobile
- 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
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 (UE) 2018/1480 (XIII Atp. CLP)

SECTION 16. Other information ... / >>

17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

- 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:
02 / 03 / 04 / 08 / 11 / 12 / 15.