

COMBAT 222

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 18-09-2025

Version : 12

Print date: 18-09-2025

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

1.1 Product identifier

Product identifier : 4810222

Name: COMBAT 222

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

Relevant identified uses: Additive

1.3 Details of the supplier of the safety data sheet

Supplier: San Marco Group Spa

Address: Via Alta, 10

Postal code/City: 30020 - Marcon (VE)

Country: Italy

Telephone: +39 041 4569322

E-mail (competent person): sicurezza.prodotti@sanmarcogroup.it

1.4 Emergency telephone number

Emergency phone number

Malta: Emergency number: 112 (24/7)

Luxembourg: (+352) 8002 5500

Free telephone number with a 24/7 access

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Met. Corr. 1, H290

Skin Corr. 1, H314

Eye Dam. 1, H318

Aquatic Acute 1, H400

Aquatic Chronic 2, H411

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Signal word: Danger

Contains: sodium hypochlorite.

Hazard statements

H290 - May be corrosive to metals.

H314 - Causes severe skin burns and eye damage.

H400 - Very toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

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

P102 - Keep out of reach of children.

P103 - Read label before use.

P273 - Avoid release to the environment.

COMBAT 222

P280 - Wear protective gloves/clothing and eye/face protection.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or a doctor / physician

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

Supplemental hazard information

EUH031 - Contact with acids liberates toxic gas.

EUH206 - Warning! Do not use together with other products. May release dangerous gases (chlorine).

2.3 Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Hazardous ingredients

Name	Product identifier	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL, M-factor, ATE
sodium hypochlorite	CAS No. : 7681-52-9 EC No.: 231-668-3 Index No.: 017-011-00-1 EU REACH No. : 01-2119488154-34-XXXX	7.0% <= C < 10.0%	Met. Corr. 1, H290 / Skin Corr. 1B, H314 / Eye Dam. 1, H318 / Aquatic Acute 1, H400 / Aquatic Chronic 1, H410 / EUH031, / Substance with a community workplace exposure limit	M (acute) = 10 / M (chronic) = 1

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Seek medical advice immediately (poison centre).

Following inhalation:

Remove casualty to fresh air and keep warm and at rest.

Following skin contact:

After contact with skin, wash immediately with plenty of water and soap.

Remove contaminated, saturated clothing immediately.

Wash thoroughly the body (shower or bath).

After eye contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

Following ingestion:

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

There are no specific information on symptoms and effects caused by the product. Delayed effects: based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

COMBAT 222

Suitable extinguishing media

Water
Carbon dioxide (CO₂)

Unsuitable extinguishing media

No special measures are necessary.

5.2 Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

5.3 Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
Move undamaged containers from immediate hazard area if it can be done safely.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Use personal protection equipment.
Remove persons to safety.

6.1.2 For emergency responders

Use personal protection equipment.

6.2 Environmental precautions

Do not allow to enter into soil/subsoil.
Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up

6.3.1 For containment

Suitable material for taking up:
Absorbing material, organic
Sand

6.3.2 For cleaning up

Wash with plenty of water.

6.3.3 Other information

No data available

6.4 Reference to other sections

Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

7.1.1 Protective measures

Handle and open container with care.

7.1.2 Advices on general occupational hygiene

Avoid contact with skin, eyes and clothes.
Remove contaminated, saturated clothing.
Wash hands and face before breaks and after work and take a shower if necessary.
When using do not eat, drink, smoke, sniff.

COMBAT 222

7.1.3 Measures to prevent aerosol and dust generation

This information is not available.

7.1.4 Environmental precautions

This information is not available.

7.1.5 Measures to prevent fire

No special fire protection measures are necessary.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Technical measures and storage conditions

Keep in a cool, well-ventilated place.

7.2.2 Requirements for storage rooms and vessels

This information is not available.

7.2.3 Packaging materials:

This information is not available.

7.2.4 Storage class

This information is not available.

7.3 Specific end use(s)

7.3.1 Recommendation

Observe instructions for use.

7.3.2 Industrial sector specific solutions

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

sodium hypochlorite - CAS: 7681-52-9

Type	Country	mg/m ³	ppm	Test duration	mg/m ³	ppm	Test duration	Remark	Source
AIHA WEELs					2.0		15min		AIHA (Last Revised 2010)
UE					1.5	0.5	15min	expressed as chlorine	
ACGIH		1.0			4.0		15min	expressed as chlorine	

Monitoring and observation processes

This information is not available.

DNEL values

sodium hypochlorite - CAS: 7681-52-9

DNEL worker	Exposure route	Exposure time	Type	Value	Remark
Workers	Inhalation	short-term	acute	3.1 mg/m ³	
Workers	Inhalation	long-term	repeated	1.55 mg/m ³	
Workers	Inhalation	short-term	systemic	3.1 mg/m ³	
Workers	Inhalation	long-term	systemic	1.55 mg/m ³	

PNEC

sodium hypochlorite - CAS: 7681-52-9

Type	Value	Remark
aquatic, freshwater	0.00021 mg/L	
aquatic, marine water	4e-05 mg/L	
sewage treatment plant	4.69 mg/L	
secondary poisoning	11.1 mg/kg bw/day	
aquatic, intermittent release	0.00026 mg/L	

Biological limit values

COMBAT 222

This information is not available.

8.2 Exposure controls

Appropriate engineering controls

See section 7 of the safety data sheet.

Personal protection equipment

Skin protection

Body protection:

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Care should be taken in the selection of protective clothing to ensure that inflammation and irritation of the skin at neck and wrists through contact with the product are avoided.

Breakthrough times and swelling properties of the material must be taken into consideration.

Hand protection

Tested protective gloves must be worn

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Eye/face protection

Face protection shield

Do not wear contact lenses.

Respiratory protection

Usually no personal respirative protection necessary.

Thermal hazards

This information is not available.

Environmental exposure controls

This information is not available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	stinging
Melting point	Not applicable
Freezing point	<0 °C Remark: waterfall
Softening point	Not applicable
Boiling point or initial boiling point and boiling range	>100 °C Remark: waterfall
flammability	Non-flammable.
Lower and upper explosion limit	Not applicable
Flash point	Not applicable

COMBAT 222

pH	11.5
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	This information is not available.
Water solubility	dispersible
Fat solubility (Oil)	This information is not available.
Solubility (Ethanol)	This information is not available.
Partition coefficient n-octanol/water (log value)	Not applicable
Vapour pressure	Not applicable
Density	1,14 kg/L
Relative vapour density	Not applicable
refraction index	This information is not available.
Particle size	Not applicable
Particle size distribution range	Not applicable
Shape and aspect ratio	Not applicable
Aggregation and agglomeration state	Not applicable
Specific surface area	Not applicable

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Corrosive to metals

This information is not available.

9.2.2 Other safety characteristics

This information is not available.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

COMBAT 222

10.3 Possibility of hazardous reactions

No known hazardous reactions.
Further risks: see subsection 2.3.

10.4 Conditions to avoid

Stable under recommended storage and handling conditions.
Further information on storage conditions: see subsection 7.2.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information

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

Mixtures

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Assessment/classification: Skin Corr. 1/H314

Serious eye damage/irritation

Assessment/classification: Eye Dam. 1/H318

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Substances

sodium hypochlorite - CAS: 7681-52-9

Acute toxicity

Method	Species:	Exposure route	Exposure time	Value	Source	Notes	Considerations
LD50	Rat	oral		1100.0 mg/kg bw		OECD 401	
LD50	Albino rabbit	dermal		> 20000.0 mg/kg bw		OECD 402	
LC50	Rat	Inhalation	60min	> 105.0 mg/L		OECD 403	

STOT-repeated exposure

Method	Species:	Exposure route	Exposure time	Value	Source	Notes	Considerations
NOAEL	Mouse			34.4 mg/kg bw/day			
LOAEL	Mouse			34.4 mg/kg bw/day			

11.2 Information on other hazards

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

This information is not available.

SECTION 12: Ecological information

COMBAT 222

12.1 Toxicity

Do not allow uncontrolled discharge of product into the environment.

There are no data available on the mixture itself.

The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

Mixtures

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Substances

sodium hypochlorite - CAS: 7681-52-9

Aquatic acute toxicity

Effective dose	Species	Test duration	Value	Notes	Method	Source	Considerations
EC50	Ceriodaphnia spec	48h	0.035 mg/L				

Acute (short-term) fish toxicity

Effective dose	Species	Test duration	Value	Notes	Method	Source	Considerations
LC50	Oncorhynchus mykiss (Rainbow trout)	96h	0.062 mg/L	OECD 202			

Acute (short-term) toxicity to algae and cyanobacteria

Effective dose	Species	Test duration	Value	Notes	Method	Source	Considerations
EC50	Pseudokirchneriella subcapitata	72h	0.0499 mg/L	OECD 201			

Chronic (long-term) fish toxicity

Effective dose	Species	Test duration	Value	Notes	Method	Source	Considerations
NOEC	Menidia Peninsulae	28d	0.04 mg/L				

Chronic (long-term) toxicity to algae and cyanobacteria

Effective dose	Species	Test duration	Value	Notes	Method	Source	Considerations
NOEC	Pseudokirchneriella subcapitata		0.0171 mg/L	OECD 201			

12.2 Persistence and degradability

Mixtures

This information is not available.

Substances

This information is not available.

12.3 Bioaccumulative potential

Mixtures

This information is not available.

Substances

This information is not available.

12.4 Mobility in soil

Mixtures

This information is not available.

Substances

This information is not available.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Endocrine disrupting properties

COMBAT 222

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7 Other adverse effects

This information is not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste codes/waste designations according to EWC/AVV

This information is not available.

13.1.1 Disposal operations

Consult the appropriate authorities about waste disposal.

Delivery to an approved waste disposal company.

Packing which cannot be properly cleaned must be disposed of.

13.1.2 Other disposal recommendations

Recycle according to official regulations.

SECTION 14: Transport information

Hazard pictograms



14.1 UN number

ADR/RID/ADN:	UN1791
IMDG:	UN1791
ICAO-TO/IATA-DGR:	UN1791

14.2 UN proper shipping name

ADR/RID/ADN:	HYPOCHLORITE SOLUTION
IMDG:	HYPOCHLORITE SOLUTION
ICAO-TO/IATA-DGR:	HYPOCHLORITE SOLUTION

14.3 Transport hazard class(es)

ADR/RID/ADN:	8
IMDG:	8
ICAO-TO/IATA-DGR:	8

COMBAT 222

14.4 Packing group

ADR/RID/ADN:	II
IMDG:	II
ICAO-TO/IATA-DGR:	II

14.5 Environmental hazards

ADR/RID/ADN:	ENVIRONMENTALLY HAZARDOUS
IMDG:	ENVIRONMENTALLY HAZARDOUS Marine pollutant: Yes.
ICAO-TO/IATA-DGR:	ENVIRONMENTALLY HAZARDOUS

14.6 Special precautions for user

ADR/RID/ADN:	Limited quantity (LQ)	1 L
	Excepted Quantities (EQ)	E2
	Special Provisions	521
	Classification code:	C9
	Transport category	2
	Tunnel restriction code	E
	Hazard identification number (Kemler No.)	80
IMDG:	Limited quantity (LQ)	1 L
	Excepted Quantities (EQ)	E2
	Special Provisions	274 900
	Segregation group	SG20 SGG8
	Stowage	Category B
	EmS-No.	F-A, S-B
ICAO-TO/IATA-DGR:	Limited quantity (LQ)	1 L
	Excepted Quantities (EQ)	E2
	Special Provisions	A3 A803
	Subsidiary Risks	-
	Emergency Response Guide Number	8L
	Passenger Aircraft/Rail	851
	Cargo Aircraft only	855

14.7 Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

COMBAT 222

EU legislation

- Regulation (EC) No 1907/2006 and subsequent amendments
- Regulation (EC) No 1272/2008 (CLP) and subsequent amendments
- Latest amendment
 - Commission delegated Regulation (EU) 2024/2865
 - Regulation (EU) No. 2020/878
 - Directive 2004/42/EC on the limitation of emissions of volatile organic compounds
 - Not relevant

Other regulations (EU)

This information is not available.

Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Mixtures

Use restriction according to REACH annex XVII, no.: 3

Other relevant ingredients

Use restriction according to REACH annex XVII, no.: 75
sodium hypochlorite (CAS: 7681-52-9; EINECS: 231-668-3; INDEX: 017-011-00-1)

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer

not relevant

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

not relevant

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]

Hazard categories: E1

National regulations

This information is not available.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes

This safety data sheet has been completely updated

Abbreviations and acronyms

Abbreviations and acronyms	Description
ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AOX	Adsorbable Organic halogen compounds
ATE	Acute Toxicity Estimate
ATEmix	Acute Toxicity Estimate for Mixtures
BCF	Bioconcentration Factor
BLV	Biological Limit Value
BOD	Biochemical (Biological) Oxygen Demand
bw	body weight
CAS	Chemical Abstracts Service
CK	Peak concentration
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic, toxic for Reproduction
CO ₂	Carbon dioxide
COD	Chemical Oxygen Demand
COSHH	Control of Substances Hazardous to Health
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report

COMBAT 222

DGR	Dangerous Goods Regulations (IATA)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOC	Dissolved Organic Carbon
DU	Downstream User
EbC50	Effective Concentration 50 % reduction in biomass
EC	European Community
EC10	Effective Concentration 10%
EC50	Effective Concentration 50%
ECHA	European Chemicals Agency
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %
ELINCS	European Inventory of Existing Commercial Chemical Substances
EmS	emergency procedures
EN	European Standard
ErC10	Effective Concentration 10 % reduction in growth rate
ErC50	Effective Concentration 50 % reduction in growth rate
ES	Exposure Scenario
EU	European Union
EWC	European Waste Catalogue
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
IC50	Inhibition Concentration 50 %
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International nomenclature of cosmetic ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
KOC	Partition coefficient n-octanol/water
LC50	Lethal (fatal) Concentration 50%
LD50	Lethal (fatal) Dose 50%
LDL0	Lowest Lethal (fatal) Dose
LL50	Lethal Loading 50 %
LOAEC	Lowest Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest Observable Effect Concentration
LOEL	Lowest Observable Effect Level
M-factor	Multiplication factor
NOAEC	no observed adverse effect concentration
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
NOELR	No Observed Effect Level
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational exposure limit (EU)
PBT	persistent and bioaccumulative and toxic
PEC	Predicted Environmental Concentration
PEL	Permissible Exposure Limit
PNEC	Predicted No Effect Concentration
PROC	Process Category
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SCL	Specific concentration limit
STEL	Short-term Exposure Limit
STOT	Specific Target Organ Toxicity
STP	sewage treatment plant
SU	use category

COMBAT 222

SVHC	substance of very high concern
ThCO2	Theoretical carbon dioxide amount
TLV	Threshold Limit Value
TWA	Eight-hour time-weighted average exposure limit value
UN	United Nations
VOC	Volatile organic compounds

Key literature references and sources for data

Regulation (EC) No. 1272/2008 on the classification, labelling, and packaging (Classification, Labelling and Packaging) of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/UE.
Guidance on the compilation of safety data sheets by ECHA
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
International Maritime Dangerous Goods Code (IMDG)
IATA Dangerous Goods Regulations (IATA DGR)
The ED Lists (List I: Substances identified as endocrine disruptors at EU level, List II: Substances under evaluation for endocrine disruption under an EU legislation, List III: Substances considered, by the evaluating National Authority, to have endocrine disrupting properties)

List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Classification according to Regulation (EC) No 1272/2008 [CLP]	List of relevant hazard statements and/or precautionary statements from sections 2 to 15
Met. Corr. 1, H290	May be corrosive to metals.
Skin Corr. 1, H314	Causes severe skin burns and eye damage.
Eye Dam. 1, H318	Causes serious eye damage.
Aquatic Acute 1, H400	Very toxic to aquatic life.
Aquatic Chronic 2, H411	Toxic to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).
Aquatic Chronic 1, H410	Very toxic to aquatic life with long lasting effects.

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Met. Corr. 1, H290	
Skin Corr. 1, H314	
Eye Dam. 1, H318	
Aquatic Acute 1, H400	
Aquatic Chronic 2, H411	

Disclaimer: The information in this safety data sheet (SDS) applies only to the specified product, unless otherwise specified, for the mixture of this product and other substances, etc. Circumstances do not apply.
This SDS only provides information on product safety for those who have received proper professional training. Users of this SDS must make independent judgments on the applicability of this SDS under special conditions of use. In special occasions, the writer of this SDS will not be responsible for any damage caused by using this SDS.