

Product name: **AquaClean MF**
Creation date: **18.8.2017** · Revision: **22.3.2018** · Version: **1**

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name

AquaClean MF

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

Relevant identified uses

Enzymatic cleaner.

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Manufacturer

CLADE GmbH
Address: Schelztorstraße 54-56, 73728 Esslingen, Germany
Phone: +49 711-400 52 400
Fax: +49 711-400 52 800
E-mail: info@clade.io

1.4. Emergency telephone number

112

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Eye Dam. 1; H318 Causes serious eye damage.

2.2 Label elements

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



Signal word: **Danger**

H318 Causes serious eye damage.

EUH208 Contains subtilisin; lipase, triacylglycerol; α -amylase. May produce an allergic reaction.

P102 Keep out of reach of children.

P261 Avoid breathing mist/vapours.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/eye protection.

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

P310 Immediately call a POISON CENTER/doctor.

P501 Dispose of contents/container in accordance with national regulation.

2.2.2. Contains:

alcohols, C9-11 ethoxylated (CAS: 68439-46-3)

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2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

May cause respiratory sensitization in susceptible individuals.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
alcohols, C9-11 ethoxylated	68439-46-3 - -	<5	Acute Tox. 4; H302 Eye Dam. 1; H318		-
citric acid, monohydrate	5949-29-1 201-069-1 -	<2,5	Eye Irrit. 2; H319		01-2119457026-42
boric acid [SVHC]	10043-35-3 233-139-2 005-007-00-2	<2,5	Repr. 1B; H360FD	Repr. 1B; H360FD: C ≥ 5,5 %	01-2119486683-25
lipase, triacylglycerol	9001-62-1 232-619-9 -	<1	Resp. Sens. 1; H334		01-2119972939-13
subtilisin	9014-01-1 232-752-2 -	<1	Skin Irrit. 2; H315 Eye Dam. 1; H318 Resp. Sens. 1; H334 STOT SE 3; H335 Aquatic Acute 1; H400		01-2119480434-38
α-amylase	9000-90-2 232-565-6 647-015-00-4	<1	Resp. Sens. 1; H334		01-2119938627-26

Notes for substances:

SVHC Substance of very high concern.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

Take off all contaminated clothing immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. Consult a physician immediately!

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Following ingestion

Do not induce vomiting without prior consultation with a doctor. Rinse mouth with water and drink a glass of water by sips! Never give anything by mouth to an unconscious person. Immediately consult a doctor. Show the physician the safety data sheet or label.

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

Inhalation

Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation.
Coughing, sneezing, nasal discharge, labored breathing.
May cause respiratory sensitization in susceptible individuals.

Skin contact

Contact with skin may cause irritation (redness, itching).

Eye contact

Discomfort or pain, excessive blinking, lacrimation and redness, swelling of the conjunctiva.
On contact with eyes causes serious damage.

Ingestion

May cause nausea/vomiting and diarrhea.
Attention, danger of foam aspiration.

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

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

The preparation does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated:
carbon monoxide (CO), carbon dioxide (CO₂).
Nitrogen oxides (NO_x).

5.3. Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8). In case of formation of vapors, dust or fumes wear respiratory protection.

Emergency procedures

Ensure adequate ventilation. Prevent access to unprotected personnel. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing. No action shall be taken involving any personal risk or without suitable training.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Make sure the leakage site is well aired.

6.3.3. Other information

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6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

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Measures to protect the environment

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7.1.2. Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist. Refer to instructions on label and regulations for safety and health at work. Wear suitable protective equipment; see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Keep in tightly closed container. Keep in cool and well ventilated area. Keep in a dry place. Keep away from food, drink and animal feeding stuffs. Storage temperature: +5 - 25 ° C. Keep away from oxidising substances. Keep out of the reach of children.

7.2.2. Packaging materials

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7.2.3. Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking.

7.2.4. Storage class

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7.2.5. Further information on storage conditions

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7.3. Specific end use(s)

Recommendations

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Industrial sector specific solutions

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

Name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m ³ (ppm)	mg/m ³	ml/m ³ (ppm)	mg/m ³		
Subtilisins (1395-21-7 (Bacillus subtilis BPN) 9014-01-1 (Bacillus subtilis Carlsberg))		4,0E-5			Sen	

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

No information.

8.1.4. PNEC values

No information.

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse. Keep eyewash bottles or personal eyewash units available at the workplace.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

8.2.2. Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

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Hand protection

Protective gloves (EN 374). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. The penetration time is determined by the protective glove manufacturer and must be observed. Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately.

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

Not needed under normal use and adequate ventilation. In case of insufficient ventilation wear suitable respiratory protection. Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387).

Thermal hazards

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8.2.3. Environmental exposure controls

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	Physical state:	liquid
-	Colour:	yellow
-	Odour:	mild

Important health, safety and environmental information

-	pH	6,5 – 8,5 at 20 °C
-	Melting point/freezing point	< 0 °C
-	Initial boiling point/boiling range	> 100 °C
-	Flash point	No information.
-	Evaporation rate	No information.
-	Flammability (solid, gas)	No information.
-	Explosion limits (vol%)	No information.
-	Vapour pressure	No information.
-	Vapour density	No information.
-	Density	Density: 1,01 – 1,07 g/cm ³ at 25 °C
-	Solubility	Water: miscible
-	Partition coefficient	No information.
-	Auto-ignition temperature	No information.
-	Decomposition temperature	No information.
-	Viscosity	No information.
-	Explosive properties	No information.
-	Oxidising properties	No information.

9.2. Other information

-	Weight organic solvents	0 % (VOC)
-	Remarks:	

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SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

Reactions with oxidising agents.

10.4. Conditions to avoid

To avoid thermal decomposition do not overheat.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Carbon dioxide; Carbon monoxide.
Nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
alcohols, C9-11 ethoxylated (68439-46-3)	oral	LD ₅₀	rat		300 – 2000 mg/kg		
citric acid, monohydrate (5949-29-1)	oral	LD ₅₀	rat		3000 mg/kg		

(b) Skin corrosion/irritation

Additional information: May cause skin irritation.

(c) Serious eye damage/irritation

Additional information: Causes serious eye damage.

(d) Respiratory or skin sensitisation

Additional information: May cause respiratory sensitization in susceptible individuals.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

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(h) STOT-single exposure

Additional information: STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure

Additional information: STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

Additional information: Attention, danger of foam aspiration.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

No information.

12.1.2. Chronic (long-term) toxicity

No information.

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

No information.

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

No information.

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

No information.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information.

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12.7. Additional information

For product

Water hazard class 2 (self-assessment): hazardous for water.

Do not allow to reach ground water, water courses or sewage system.

Contained surfactants are biodegradable in accordance with the Regulation (EC) 648/2004 on detergents.

Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Recycle, if possible. Waste should be handled in accordance with local or national regulations. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Do not allow product to reach drains/sewage systems. Waste is suitable for incineration in authorised incineration plants.

Waste codes / waste designations according to LoW

07 06 99 - wastes not otherwise specified

Packaging

Deliver completely emptied containers to approved waste disposal authorities. Recycle if possible. Uncleaned containers are classified as hazardous waste - they should be handled in the same manner as the contents. The packaging must be disposed in accordance with local or national regulations.

13.1.2. Waste treatment-relevant information

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13.1.3. Sewage disposal-relevant information

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13.1.4. Other disposal recommendations

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SECTION 14. TRANSPORT INFORMATION

14.1. UN number

Not applicable.

14.2. UN proper shipping name

ADR, RID, IMDG, ADN, IATA: Not dangerous according to transport regulations.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.1.2. Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.

15.1.3. Ingredients according to Regulation EC 648/2004 on detergents

< 5%: non-ionic surfactants; enzymes, preservation agents (Benzisothiazolinone, Methylisothiazolinone)

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

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Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air

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IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC₅₀ - Lethal Concentration to 50 % of a test population
LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

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List of relevant H phrases

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H360FD May damage fertility. May damage the unborn child.
H400 Very toxic to aquatic life.

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The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.