

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

1.1. Product identifier

Trade name	Marizyme TPD-B
Article No.	24-7678
UFI code	UR36-W09X-4003-GMJA

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

Product type	Descaling agent.
Relevant identified uses	Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Supplier	AB DFS
Street address	Fiskebäcks Hamn 7 426 58 Västra Frölunda Sweden
Telephone	031-29 14 35
Email	order@dfs-ab.se
Web site	www.dfs-ab.se

1.4. Emergency telephone number

Emergency phone number	112
Available outside office hours	Yes

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification	Hazardous to the aquatic environment — Chronic hazard category 3 Serious eye damage, hazard category 1 Skin corrosion, hazard category 1
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Hazard statements	H314, H318, H412
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2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word	Danger
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Hazard statements	H314 Causes severe skin burns and eye damage. H412 Harmful to aquatic life with long lasting effects.
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SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4

Issued: 2022-05-06

Replaces SDS: 2021-06-30

Precautionary statements

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P273 Avoid release to the environment.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P310 Immediately call a POISON CENTER/doctor
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

More information

Contains:
Citric acid
Sulphamic acid

2.3. Other hazards

Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Citric acid	- 201-069-1 01-2119457026-42 -	30%	Eye Irrit. 2	H319 - -	-
Sulphamidic acid	5329-14-6 226-218-8 01-2119488633-28 016-026-00-0	15 - 30%	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3	H315, H319, H412 - -	-

Substance additional information

Section 16 for the full text of H-phrases mentioned in this section.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Fresh air. Rinse mouth. If symptoms persist, call a physician. Remove person to fresh air and keep comfortable for breathing.

Skin contact

Remove contaminated clothing. Rinse the skin immediately with lots of water. Consult a physician for specific advice. Burns should be treated by a doctor.

Eye contact

Rinse immediately with water for at least 15 minutes (separate eyelids). Remove any contact lenses. As a long rinsing time is required, the water must be temperate. Transport to hospital. Continue rinsing during transport.

Ingestion

If the injured person is fully conscious, give him/her a couple of glasses of milk or water immediately. DO NOT INDUCE VOMITING! Immediately to hospital.

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4

Issued: 2022-05-06

Replaces SDS: 2021-06-30

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

Most important symptoms and effects, both acute and delayed

Causes severe caustic burns to skin and eyes.
Perforation of stomach/intestine, burns in mouth and throat.

Inhalation

Inhalation of vapors may cause burning in the nose and throat, sneezing, coughing and breathing difficulties. Inhalation of high concentrations of mist entails a risk of lung injury.

Skin contact

May cause chemical burns with blisters and sores. Even some risk of this with dilute solutions.

Eye contact

Splashes causes pain and burns. Risk of permanent visual impairment.

Ingestion

Ingestion may cause severe burns with pain, vomiting, abdominal pain and possibly severe general effect (shock) and kidney damage. Risk of permanent damage due to scarring of burns in the esophagus or stomach.

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

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

Do not use a direct jet of water.

5.2. Special hazards arising from the substance or mixture

Special hazards arising from the substance or mixture

Toxic, irritating and corrosive smoke.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Containers in the vicinity of fire should be moved immediately or cooled with water. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face mask. Firefighter equipment (eg helmet, safety boots and gloves) that complies with the European standard EN 469, provides basic protection in the event of chemical accidents. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Measures in case of fire

Immediately isolate the area by dismissing people in the vicinity of the fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures

Ensure good ventilation. Wear suitable protective equipment. Avoid inhalation and contact with the skin and eyes. Prevent further leakage or spillage if safe to do so.

6.2. Environmental precautions

Environmental precautions

Prevent entry to sewers and public waters. Notify the responsible authority in the event of contamination of soil or water, or discharges into sewage systems.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up

Spillage should be banked with sand, earth or similar material and collected into suitable enclosed containers for further destruction.

6.4. Reference to other sections

Reference to other sections

Personal protection see section 8 and for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Ensure good ventilation. Do not breathe vapours/dust. Avoid contact with skin and eyes. Wear personal protective equipment.

General hygiene

Emergency shower and eyewash shall be available at the work site. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities

The product is not flammable. Keep locked-up. Keep in a frost-free place. The product should be stored in sealed containers at room temperature or cooler. Keep in properly labelled containers.

7.3. Specific end use(s)

Specific end use(s)

Identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

Ensure that eyewash stations and safety showers are close to the workstation location.

Eye / face protection

Use goggles or face shield (EN 166).

Hand protection

The gloves must conform to the standard EN 374.
Wear suitable gloves (such as vinyl or nitrile).

Other skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Full face mask with a particle filter (P2) may be needed if eg spray mist is formed.

Environmental exposure controls

To limit the environmental exposure of the product, the product must be disposed of or incinerated in accordance with local regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Dry powder

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4

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Replaces SDS: 2021-06-30

Colour	White
Odour	Slight odour
Melting point / freezing point	No information available
Boiling point or initial boiling point and boiling range	No information available
Flammability	No information available
Lower and upper explosion limit	No information available
Flash point	No data available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
pH	Approx. 2 (concentrate)
Kinematic viscosity	No information available
Solubility	Easy soluble in water
Partition coefficient n-octanol/water	No information available
Vapour pressure	No information available
Density and/or relative density	1.08
Relative vapour density	No information available
Particle characteristics	Not relevant

9.2. Other information

Other information	No information available
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable under normal conditions and temperatures.
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10.2. Chemical stability

Chemical stability	Stable under normal conditions and temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The product should not be mixed with strong bases, since a violent reaction may occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heating.
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10.5. Incompatible materials

Incompatible materials	The product reacts violently with strong bases. Avoid contact with strong oxidizing agents and acids.
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10.6. Hazardous decomposition products

Hazardous decomposition products

Upon heating, toxic gases of sulfur dioxide and sulfur trioxide can be formed. In case of fire, harmful vapors may form.

SECTION 11: Toxicological information

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

Acute toxicity

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

Skin corrosion/irritation

Causes severe skin burns and eyes.

Serious eye damage/irritation

Causes serious eye damage.

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

LD50 Oral

LD50(Citric Acid):> 5400 mg/kg (rat)
LD50(Sulphamidic acid): >2065 mg/kg (rat)

LD50 Dermal

LD50(Citric Acid):> 2000 mg/kg (rat)
LD50(Sulphamidic acid): >2000 mg/kg (rabbit)

11.2. Information on other hazards

Endocrine disrupting properties

Contains no substances with endocrine disrupting properties.

Other information

No information available

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

The product is classified as dangerous for the environment: Long term adverse effects to aquatic organisms.

Acute fish toxicity

LC50(48h)(Citric Acid): 440 mg/l (Leuciscus idus melanotus)
LC50(96h)(Sulphamidic acid): 70,3 mg/l (Pimephales promelas)

Acute crustacean toxicity

EC50(48h)(Sulphamidic acid): 71,6 mg/l (Daphnia Magna)

12.2. Persistence and degradability

Persistence and degradability

The surfactants are readily biodegradable according to Regulation (EC) No. 648/2004.

12.3. Bioaccumulative potential

Bioaccumulative potential

Bioaccumulation is unlikely.

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4
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Replaces SDS: 2021-06-30

12.4. Mobility in soil

Mobility No information available

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment The substance/mixture does not contain any components that are considered persistent, bioaccumulative and toxic (PBT) or very persistent and highly bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

Endocrine disrupting properties Not applicable.

12.7. Other adverse effects

Other adverse effects No other adverse effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations The product should be disposed of as hazardous waste. Dispose of any product, residue or packing material according to national and local regulations. Do not dispose of waste into sewer.

Packaging Contaminated packaging must be disposed of as product. Empty, cleaned packaging can be sorted for recycling.

Waste code	Description
07 06 01*	aqueous washing liquids and mother liquors
20 01 29*	detergents containing hazardous substances

Please note - an asterisk (*) next to a code denotes that it is HAZARDOUS WASTE.

Other

Waste code The waste code is a recommendation. Depends on business area and use. Appropriate classification of waste is the user's responsibility.

SECTION 14: Transport information

14.1. UN number

UN number 3261

14.2. UN proper shipping name

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Citric acid, Sulphamidic acid)

IMDG proper shipping name CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Citric acid, Sulphamidic acid)

14.3. Transport hazard class(es)

Label 8

ADR / RID Class 8

ADR / RID Classification code C4

ADR / RID hazard identification number 88

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4

Issued: 2022-05-06

Replaces SDS: 2021-06-30

IMDG Class 8

14.4. Packing group

Packing group I

14.5. Environmental hazards

Environmental hazards The product is not classified as environmentally hazardous.

IMDG Marine Pollutant No.

14.6. Special precautions for user

Special precautions for user The product is classified as corrosive and should be handled as such. Follow precautionary statements and accompanying transport cards when handling the product.

Tunnel restriction code: E
IMDG EmS: F-A, S-B

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk according to IMO instruments Not intended for bulk transport.

SECTION 15: Regulatory information

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

EU regulations Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council.
EUROPEAN PARLIAMENT AND COUNCIL REGULATION (EC) No 648/2004 on detergents.
The International Maritime Dangerous Goods (IMDG) Code, 2020 Edition.
ADR 2021: Agreement concerning the International Carriage of Dangerous Goods by Road, ECE/TRANS/300.

National regulations Local laws and regulations should be carefully observed.

15.2. Chemical safety assessment

Chemical safety assessment A chemical safety assessment has been performed for:
Citric Acid
Sulphamidic acid

SECTION 16: Other information

Changes to previous revision 1

Abbreviations PBT: Persistent, Bioaccumulative and Toxic.
vPvB: very Persistent and very Bioaccumulative.
LD50: Lethal dose, the dose that kills 50% of a population.
LC50: Lethal concentration for 50% of a test population.
DNEL: Derived level without observed effects.
PNEC: Presumed concentration without observed effects.
EC50: The concentration of a substance that affects 50% of a population over a given period of time.

References to key literature and data sources <http://echa.europa.eu>
<http://eur-lex.europa.eu>
C&L Inventory

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Marizyme TPD-B

Version number: 4

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Evaluation methods for classification

The classification is based on the addition method according to Regulation (EC) No 1272/2008 (CLP).

Phrase meaning

Skin Irrit. 2 - Skin irritation, hazard category 2
Eye Irrit. 2 - Eye irritation, hazard category 2
Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.