

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

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

1.1. Product identifier

Trade name

Descaling Tablets

UFI code

9MCV-F0Q5-7K1F-4S7T

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

Relevant identified uses

Descaler tab

Professional user, Private user, consumer

Not suitable for use in

All other uses are discouraged.

1.3. Details of the supplier of the safety data sheet

Supplier

LIGRE GmbH & Co KG

Address

Innstrasse 2

6342 Niederndorf

Austria

Telephone

+43 5373 62190 600

Email

ligre@ligre.com

Contact person

Regulatory Affairs

Email

info@budich.de

1.4. Emergency telephone number

+49 5223 9970 990

Available outside office hours

Yes

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Skin irritation, hazard category 2

Skin sensitisation, hazard category 1

Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

Eye irritation, hazard category 2

Hazard statements

H315, H317, H319, H335

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P102 Keep out of reach of children.

P260 Do not breathe dust.

P264 Wash hands thoroughly after handling.

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

P312 Call a POISON CENTER/doctor if you feel unwell.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional regulations.

More information

Hazard components for labeling: maleic acid, citric acid

2.3. Other hazards

This mixture does not contain any substances that are classified as PBT or vPvB according to Article 57 / Annex XIII of the REACH regulation.

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

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	77-92-9 201-069-1 01-2119457026-42-xxxx 607-750-00-3	30 - 50%	Eye Irrit. 2, STOT SE 3 - resp. tract irrit.	H319, H335 - -	-
maleic acid	110-16-7 203-742-5 01-2119488705-25-xxxx 607-095-00-3	20 - 30%	Acute Tox. 4 - oral, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, STOT SE 3 - resp. tract irrit.	H302, H315, H317, H319, H335 - -	Skin Sens. 1; H317: C ≥ 0,1 %;
sulphamidic acid	5329-14-6 226-218-8 01-2119488633-28-xxxx 016-026-00-0	10 - 20%	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3	H315, H319, H412 - -	-
sodium carbonate	497-19-8 207-838-8 01-2119485498-19-xxxx 011-005-00-2	1 - 5%	Eye Irrit. 2	H319 - -	-

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Description of first aid measures

First responders: Pay attention to self-protection. Consult a physician if necessary.

Inhalation

Not applicable.

Skin contact

Wash off with soap and water.

Eye contact

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

Ingestion

Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting.

Information for doctors

Show this safety data sheet to the doctor in attendance.

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

Immediate effects can be expected after long-term exposure.

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

Water spray, dry powder, foam, carbon dioxide (CO₂). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self contained breathing apparatus.

Measures in case of fire

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Avoid direct contact with the material / product.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Dispose of as hazardous waste in compliance with local and national regulations.

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

6.4. Reference to other sections

For information on storage and handling see section 7.
For information on exposure and personal protective equipment, see Section 8.
For information on incompatible materials, see Section 10.
For information on disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Wear personal protective equipment. Avoid direct contact with the material / product.

General hygiene

When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool place.

Storage class according to TRGS 510: 13 (non-combustible solids)

Suitable container and packaging materials for safe storage: store in original container.

Storage temperature: 10°C to 40°C

7.3. Specific end use(s)

See section 1.2: Descaler tab

PC35 - Washing and cleaning products (including solvent based products)

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
sulphamidic acid (5329-14-6/226-218-8)	DNEL	Chronic (long term) Inhalation	70.5 mg/m³	Workers	Systemic
sulphamidic acid (5329-14-6/226-218-8)	DNEL	Chronic (long term) Dermal	10 mg/kg	Workers	Systemic
sulphamidic acid (5329-14-6/226-218-8)	DNEL	Chronic (long term) Inhalation	17.4 mg/m³	Consumers	Systemic
sulphamidic acid (5329-14-6/226-218-8)	DNEL	Chronic (long term) Dermal	5 mg/kg	Consumers	Systemic
sulphamidic acid (5329-14-6/226-218-8)	DNEL	Chronic (long term) Oral	5 mg/kg	Consumers	Systemic
Maleic acid (110-16-7/203-742-5)	DNEL	Chronic (long term) Inhalation	3 mg/m³	Workers	Systemic
Maleic acid (110-16-7/203-742-5)	DNEL	Acute (short term) Inhalation	3 mg/m³	Workers	Systemic
Maleic acid (110-16-7/203-742-5)	DNEL	Chronic (long term) Inhalation	3 mg/m³	Workers	Local
Maleic acid (110-16-7/203-742-5)	DNEL	Acute (short term) Inhalation	3 mg/m³	Workers	Local
sodium carbonate (497-19-8/207-838-8)	DNEL	Chronic (long term) Inhalation	10 mg/m³	Workers	Local
sodium carbonate (497-19-8/207-838-8)	DNEL	Chronic (long term) Inhalation	5 mg/m³	Consumers	Local

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Freshwater	1.8 mg/l
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Marine water	180 µg/l
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Sewage Treatment Plant	20 mg/l
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Sediment (freshwater)	8.36 mg/kg
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Sediment (marine water)	840 mg/kg

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
sulphamidic acid (5329-14-6/226-218-8)	PNEC	Soil	5 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Freshwater	0.44 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Marine water	0.044 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Sewage Treatment Plant	1000 mg/l
citric acid (77-92-9/201-069-1)	PNEC	Sediment (freshwater)	34.6 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Sediment (marine water)	3.46 mg/kg
citric acid (77-92-9/201-069-1)	PNEC	Soil	33.1 mg/kg
Maleic acid (110-16-7/203-742-5)	PNEC	Freshwater	100 µg/l
Maleic acid (110-16-7/203-742-5)	PNEC	Intermittent releases (freshwater)	428.1 µg/l
Maleic acid (110-16-7/203-742-5)	PNEC	Marine water	10 µg/l
Maleic acid (110-16-7/203-742-5)	PNEC	Sewage Treatment Plant	44.6 mg/l
Maleic acid (110-16-7/203-742-5)	PNEC	Sediment (freshwater)	334 µg/kg sediment dw
Maleic acid (110-16-7/203-742-5)	PNEC	Sediment (marine water)	33.4 µg/kg sediment dw
Maleic acid (110-16-7/203-742-5)	PNEC	Soil	0.0415 mg/kg soil dry weight

8.2. Exposure controls
Appropriate engineering controls
Not required.

Eye / face protection
Chemical-resistant safety glasses with side protection conforming to EN166.

Hand protection
This type of personal protective equipment is not necessary under normal and foreseeable use of the product.

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

Other skin protection

This type of personal protective equipment is not necessary under normal and foreseeable use of the product.

Respiratory protection

This type of personal protective equipment is not necessary under normal and foreseeable use of the product.

Thermal hazards

Not applicable.

Environmental exposure controls

No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Tablet

Colour

white

Odour

neutral

Melting point / freezing point

Not applicable.

Boiling point or initial boiling point and boiling range

Not applicable.

Flammability

Not applicable.

Lower and upper explosion limit

The product / mixture has no explosive properties.

Flash point

No data available

Auto-ignition temperature

Not applicable.

Decomposition temperature

No data available

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

pH

2.2

Method

1 % aqueous solution

Kinematic viscosity

Not applicable.

Viscosity, dynamic

Not applicable.

Solubility

Water soluble

Water solubility

completely soluble

Partition coefficient n-octanol/water

No information available

Vapour pressure

Not applicable.

Density and/or relative density

1.05 kg/dm³

Method

Bulk density

Relative density

No information available

Relative vapour density

Not applicable.

Evaporation Rate

Not applicable.

Explosive properties

The product / mixture has no explosive properties.

Oxidising properties

The product / mixture has no oxidizing properties.

VOC %

0 %

Particle characteristics

This product / mixture does not contain any nanomaterials or nanoforms as defined in Regulation (EC) 1907/2006.

9.2. Other information

No data available

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

SECTION 10: Stability and reactivity

- 10.1. Reactivity**
None under normal use.
- 10.2. Chemical stability**
Stable at normal conditions
- 10.3. Possibility of hazardous reactions**
None under normal use.
- 10.4. Conditions to avoid**
Protect from moisture. Protect from frost, heat and sunlight.
- 10.5. Incompatible materials**
Oxidizing agent , Strong bases
- 10.6. Hazardous decomposition products**
For information on combustion products, see Section 5.
Hazardous decomposition products formed under fire conditions.

SECTION 11: Toxicological information

- 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**
Toxicology data for the components.

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

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals	Method / Guideline	Remarks
sulphamidic acid 5329-14-6 / 226-218-8	LD50	2.140 mg/kg	Oral	-	rat	-	ECHA
citric acid 77-92-9 / 201-069-1	LD50	5.400 mg/kg	Oral	-	mouse	OECD 401	ECHA
citric acid 77-92-9 / 201-069-1	LD50	>2.000 mg/kg	Dermal	-	rat	OECD 402	ECHA
Maleic acid 110-16-7 / 203-742-5	LD50	1.560 mg/kg bw	Dermal	-	rabbit	-	-
Maleic acid	LD50	708 mg/kg bw	Oral	-	rat	-	-

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals	Method / Guideline	Remarks
110-16-7 / 203-742-5							
Maleic acid 110-16-7 / 203-742-5	LC50	> 0,72 mg/l	Inhalative	1 h	rat	-	-
sodium car- bonate 497-19-8 / 207-838-8	LD50	2.800 mg/kg	Oral	-	rat	-	-
sodium car- bonate 497-19-8 / 207-838-8	LD50	>2.000mg/kg	Dermal	-	rabbit	-	-
sodium car- bonate 497-19-8 / 207-838-8	LC50	2.300 mg/m³	Inhalativ	2h	rat	-	-

Skin corrosion/irritation

Skin irritation, hazard category 2

Serious eye damage/irritation

Eye irritation, hazard category 2

Respiratory or skin sensitisation

Skin sensitisation, hazard category 1

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.

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

11.2. Information on other hazards

Endocrine disrupting properties

The mixture / product does not contain any ingredients with endocrine disrupting properties in terms of regulations (EC) 1907/2006 and (EU) 2018/605 and the delegated regulation (EU) 2017/2100.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity

Toxicology data for the components.

Acute fish toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
Maleic acid 110-16-7 / 203-742-5	LC50	75 mg/l	96 h	-	EPA-660/3-75- 009	-
sodium carbonate 497-19-8 / 207-838-8	LC50	300 mg/l	96h	Lepomis mac- rochirus	-	-
sulphamidic acid 5329-14-6 / 226-218-8	LC50	70,3 mg/l	96 h	Pimephales pro- melas	OECD 203	ECHA
citric acid 77-92-9 / 201-069-1	LC50	440 mg/l	48 h	Leuciscus idus	OECD 203	ECHA

Acute algae toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
sulphamidic acid 5329-14-6 / 226-218-8	ErC50	48 mg/l	72 h	Desmodesmus subspicatus	OECD 201	ECHA
Maleic acid 110-16-7 / 203-742-5	EC50	74,35 mg/l	72 h	-	OECD 201	-

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

Acute crustacean toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
sulphamidic acid 5329-14-6 / 226-218-8	EC50	71,6 mg/l	48 h	Daphnia magna	OECD 202	ECHA
citric acid 77-92-9 / 201-069-1	LC50	1.535 mg/l	24 h	Daphnia magna	-	ECHA
Maleic acid 110-16-7 / 203-742-5	EC50	42,81 mg/l	48 h	Daphnia magna (Water flea)	OECD 202	-
sodium carbonate 497-19-8 / 207-838-8	EC50	200-227 mg/l	48h	Ceriodaphnia dubia	-	-

12.2. Persistence and degradability

Persistence and degradability

The surfactants contained in this mixture / product meet the requirements for biodegradability in accordance with Regulation (EC) No. 648/2004 on detergents.

12.3. Bioaccumulative potential

Bioaccumulative potential

No information available

12.4. Mobility in soil

Mobility

No information available

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are classified as PBT or vPvB according to Article 57 / Annex XIII of the REACH regulation.

12.6. Endocrine disrupting properties

The mixture / product does not contain any ingredients with endocrine disrupting properties in terms of regulations (EC) 1907/2006 and (EU) 2018/605 and the delegated regulation (EU) 2017/2100.

12.7. Other adverse effects

Other adverse effects

This product / mixture does not contain any substances within the meaning of Regulation (EC) No. 1005/2009 that deplete the ozone layer.

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of as hazardous waste in compliance with local and national regulations.

Packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packaging / sheets: Dispose of as unused product.

Waste code	Waste description
20 01 29*	detergents containing hazardous substances

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

SECTION 14: Transport information

14.1. UN number

No dangerous goods in the sense of the transport regulations

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

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

Other

Not applicable

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006
Descaling Tablets

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations**

Regulation (EC) No. 648/2004 (detergents)

Ingredients according to Annex VII: < 5 % polycarboxylates

Regulation (EC) No. 1907/2006 (REACH)

Substances subject to authorization according to Annex XIV: Not applicable.

Substance restrictions according to Annex XVII: Not applicable.

Substances on the REACH candidate list (SVHC): Not applicable.

Regulation (EC) No. 1272/2008 (CLP)

Regulation (EU) No. 528/2012 (BPR)

Active ingredients: Not applicable.

Regulation (EU) 2019/1148 (explosives)

Restricted raw material according to Annex I: Not applicable.

Notifiable raw materials according to Annex II: Not applicable.

Directive 2011/65 / EU (ROHS 2)

Substance restrictions according to Annex II: Not applicable.

Regulation (EU) 2019/1021 (POP)

Persistent organic pollutants: Not applicable.

Directive 2012/18/EU (Seveso III)

Seveso hazard category: Not applicable.

National regulations

In addition, comply with all national and local regulations for the handling of chemicals.

15.2. Chemical safety assessment

The mixture has not been subjected to a safety assessment.

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Descaling Tablets

SECTION 16: Other information

Abbreviations

ADN - Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADR - Accord relatif au transport international des marchandises Dangereuses par Route
CAS - Chemical Abstract Service
CLP - Classification, Labelling and Packaging
DMEL - Derived Minimum Effect Level
DNEL - Derived no effect level
EC50 - Half maximal effective concentration 50%
GHS - Globally Harmonised System
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
LC50 - Lethal concentration 50%
LD50 - Lethal dosis 50 %
MARPOL - International Convention for the Prevention of Pollution from Ships
PBT - Persistent, bioaccumulative and toxic substance
PEC - Predicted Environmental Concentration
PNEC - predicted no effect concentration
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals
RID - Reglement concernant le transport international ferroviaire de marchandises Dangereuses
SVHC - Substance of very high concern
vPvB - Very persistent, very bioaccumulative substance

References to key literature and data sources

REACH registration dossiers
ECHA C&L - Inventory
Safety data sheets from raw material suppliers

Evaluation methods for classification

Classification for mixtures and used evaluation method according to Article 9 of regulation (EC) 1272/2008 [CLP]:
Health hazards: calculation method

Phrase meaning

Skin Irrit. 2 - Skin irritation, hazard category 2
Skin Sens. 1 - Skin sensitisation, hazard category 1
STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Eye Irrit. 2 - Eye irritation, hazard category 2
Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

*According to Regulation (EC) No 1907/2006***Descaling Tablets****Additional information**

This safety data sheet is prepared in accordance with Commission Regulation (EU) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878.

Manufacturer's notes

Legal disclaimer: The above information is believed to be correct. This company shall not be held liable for any damage resulting from handling or from contact with the above product.