

SAFETY DATA SHEET

Thermoplan Milk System Cleaning Tablets

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

1.1. Product identifier

<i>Trade name:</i>	Thermoplan Milk System Cleaning Tablets
<i>Product no.:</i>	Acid formula Thermoplan article number 120.259 / 120.593
<i>Unique formula identifier (UFI):</i>	3M10-X0T1-P007-MGKG

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

<i>▼ Relevant identified uses of the substance or mixture:</i>	Cleaning product Restricted to professional and industrial use.
<i>Uses advised against :</i>	None known.

1.3. Details of the supplier of the safety data sheet

<i>▼ Company and address:</i>	Urnex Brands, LLC 755 Tri-State Parkway Gurnee, IL 60031 United States +1 (800) 837-8140 www.urnex.com
<i>Distributor:</i>	Thermoplan AG Thermoplan-Platz 1 6353 Weggis Switzerland +41 41 392 12 00 +41 41 392 12 01 www.thermoplan.ch
<i>Contact person:</i>	Customer support
<i>E-mail:</i>	info@urnex.com
<i>Revision:</i>	01/12/2025
<i>SDS Version:</i>	2.0
<i>Date of previous version:</i>	12/09/2023 (1.0)

1.4. Emergency telephone number

The National Poisons Information Centre (NPIC)
Public: +353 (0) 1 809 2166 (7 days a week, 8am- 10pm)
Healthcare professionals: +353 (0) 1 809 2566 (24 h service)
See also section 4 "First aid measures"

SECTION 2: HAZARDS IDENTIFICATION

Classified according to Regulation (EC) No. 1272/2008 (CLP).

2.1. Classification of the substance or mixture

Skin Irrit. 2; H315, Causes skin irritation.

Skin Sens. 1; H317, May cause an allergic skin reaction.

Eye Irrit. 2; H319, Causes serious eye irritation.

STOT SE 3; H335, May cause respiratory irritation.

2.2. Label elements

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

Causes skin irritation. (H315)

May cause an allergic skin reaction. (H317)

Causes serious eye irritation. (H319)

May cause respiratory irritation. (H335)

Precautionary statement(s):

▼ *General:*

Not applicable.

▼ *Prevention:*

Avoid breathing dust. (P261)

Wear eye protection/protective gloves/protective clothing. (P280)

▼ *Response:*

If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)

Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage:

Store in a well-ventilated place. Keep container tightly closed. (P403+P233)

▼ *Disposal:*

Dispose of contents/container in accordance with local regulation. (P501)

Hazardous substances:

Citric acid
maleic acid

Additional labelling:

UFI: 3M10-X0T1-P007-MGKG

▼ *Labelling of contents according to Detergents Regulation (EC) No 648/2004 (applicable to packaging of detergents sold to the general public):*

< 5%

· Cationic surfactants

2.3. Other hazards

▼ *Additional warnings:*

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
Citric acid	CAS No.: 77-92-9 EC No.: 201-069-1 REACH: 01-2119457026-42-XXXX Index No.:	40-60%	Eye Irrit. 2, H319 STOT SE 3, H335	
maleic acid	CAS No.: 110-16-7 EC No.: 203-742-5 REACH: 01-2119488705-25-XXXX Index No.: 607-095-00-3	25-40%	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 STOT SE 3, H335	
sulfamic acid	CAS No.: 5329-14-6 EC No.: 226-218-8 REACH: 01-2119488633-28-XXXX Index No.: 016-026-00-0	5-10%	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information:

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.
Contact a doctor if in doubt about the injured person's condition or if the

<i>Inhalation:</i>	symptoms persist. Never give an unconscious person water or other drink. Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.
<i>Skin contact:</i>	IF ON SKIN: Wash with plenty of water/water and soap. Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners. If skin irritation occurs: Get medical advice/attention.
<i>Eye contact:</i>	If in eyes: Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Remove contact lenses. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.
<i>Ingestion:</i>	If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink. In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.
<i>Burns:</i>	Not applicable.

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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact. Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

If eye irritation persists: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the

fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Sulphur oxides

Nitrogen oxides (NO_x)

Carbon oxides (CO / CO₂)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the National Poisons Information Centre (NPIC) on +353 (0) 1 809 256 (24 h service) in order to obtain further advice.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.

Ensure adequate ventilation, especially in confined areas.

Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

6.3. ▼ Methods and material for containment and cleaning up

Limit spillage, sweep up and shovel into appropriate containers for disposal. Store in suitable, closed containers for disposal.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage material:

Always store in containers of the same material as the original container.

Storage conditions:

Dry, cool and well ventilated

Incompatible materials:

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No substances are listed in the "List of Chemical Agents and Occupational Exposure Limit Values" with an occupational exposure limit.

DNEL

maleic acid

Duration:	Route of exposure:	DNEL:
Long term – Local effects - Workers	Inhalation	3 mg/m ³
Long term – Systemic effects - Workers	Inhalation	3 mg/m ³
Short term – Local effects - Workers	Inhalation	3 mg/m ³
Short term – Systemic effects - Workers	Inhalation	3 mg/m ³

sulfamic acid

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - General population	Dermal	5 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	10 mg/kg bw/day
Long term – Systemic effects - General population	Inhalation	17.4 mg/m ³
Long term – Systemic effects - Workers	Inhalation	70.5 mg/m ³
Long term – Systemic effects - General population	Oral	5 mg/kg bw/day

PNEC

maleic acid

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		100 µg/L
Freshwater sediment		334 µg/kg
Intermittent release (freshwater)		428.1 µg/L
Marine water		10 µg/L
Marine water sediment		33.4 µg/kg
Sewage treatment plant		44.6 mg/L
Soil		41.5 µg/kg

sulfamic acid

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		1.8 mg/L
Freshwater sediment		8.36 mg/kg
Intermittent release (freshwater)		480 µg/L

Marine water		180 µg/L
Marine water sediment		840 µg/kg
Sewage treatment plant		20 mg/L
Soil		5 mg/kg

8.2. ▼ Exposure controls

Apply general control to prevent unnecessary exposure

General recommendations:

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios:

There are no exposure scenarios implemented for this product.

Exposure limits:

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures:

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

Hygiene measures:

Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure:

No specific requirements.

Individual protection measures, such as personal protective equipment


Generally:

Wash contaminated clothing before reuse.
Use only CE marked protective equipment.


Respiratory Equipment:

Type	Class	Colour	Standards	
Respiratory protection is not needed in the event of adequate ventilation.				


Skin protection:

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Gloves	-	-	EN374	

Eye protection:

Type	Standards	
Safety glasses	EN166	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<i>Physical state:</i>	Tablets
<i>Colour:</i>	White
▼ <i>Odour / Odour threshold:</i>	No data available.
<i>pH:</i>	-
<i>pH in solution:</i>	1.64 - 3.0 (1%)
<i>Density (g/cm³):</i>	0.5-1
<i>Kinematic viscosity:</i>	Does not apply to solids.
▼ <i>Particle characteristics:</i>	No data available.

Phase changes

▼ <i>Melting point/Freezing point (°C):</i>	No data available.
<i>Softening point/range (°C):</i>	Does not apply to solids.
<i>Boiling point (°C):</i>	Does not apply to solids.
▼ <i>Vapour pressure:</i>	No data available.
<i>Relative vapour density:</i>	Does not apply to solids.
▼ <i>Decomposition temperature (°C):</i>	No data available.

Data on fire and explosion hazards

<i>Flash point (°C):</i>	Does not apply to solids.
▼ <i>Flammability (°C):</i>	No data available.
▼ <i>Auto-ignition temperature (°C):</i>	No data available.
<i>Lower and upper explosion limit (% v/v):</i>	Does not apply to solids.

Solubility

<i>Solubility in water:</i>	Completely soluble
▼ <i>n-octanol/water coefficient (LogKow):</i>	No data available.
▼ <i>Solubility in fat (g/L):</i>	No data available.

9.2. Other information

<i>Acid/alkaline reserve:</i>	2.97 g
<i>Other physical and chemical parameters:</i>	No data available.
▼ <i>Oxidizing properties:</i>	No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. ▼ Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

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

▼ Acute toxicity

Product/substance	Citric acid
Test method:	OECD 401
Species:	Mouse
Route of exposure:	Oral
Test:	LD50
Result:	5400 mg/kg bw

Product/substance	Citric acid
Test method:	OECD 401
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	11700 mg/kg bw

Product/substance	Citric acid
Species:	Rat
Route of exposure:	Dermal
Test:	LD50
Result:	>2000 mg/kg bw

Product/substance	maleic acid
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	708 mg/kg

Product/substance	maleic acid
Species:	Rat
Route of exposure:	Inhalation
Test:	LC50 (2 hours)

According to EC-Regulation 1907/2006 (REACH), annex II, including changes implemented by EC-Regulation 2020/878

Result: >720 mg/m³

Product/substance: maleic acid
Species: Rabbit
Route of exposure: Dermal
Test: LD50
Result: 1560 mg/kg

Product/substance: sulfamic acid
Species: Rat
Route of exposure: Oral
Test: LD50
Result: 3160 mg/kg

Product/substance: sulfamic acid
Species: Mouse
Route of exposure: Oral
Test: LD50
Result: 1312 mg/kg

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

▼ Skin corrosion/irritation

Product/substance: Citric acid
Test method: OECD 404
Species: Rabbit
Result: No adverse effect observed (Not irritating)

Product/substance: maleic acid
Species: Rabbit
Duration: 24 hours
Result: Adverse effect observed (Irritating)

Causes skin irritation.

▼ Serious eye damage/irritation

Product/substance: Citric acid
Test method: OECD 405
Species: Rabbit
Result: Adverse effect observed (Irritating)

Product/substance: maleic acid
Species: Rabbit
Result: Adverse effect observed (Causes serious eye damage)

Causes serious eye irritation.

▼ Respiratory sensitisation

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

Skin sensitisation

May cause an allergic skin reaction.

▼ Germ cell mutagenicity

Product/substance: Citric acid
Test method: OECD 471

Species: S. typhimurium
Conclusion: No adverse effect observed

Product/substance Citric acid
Test method: OECD 475
Species: Rat
Conclusion: No adverse effect observed

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

▼ Carcinogenicity

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

▼ Reproductive toxicity

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

STOT-single exposure

May cause respiratory irritation.

▼ STOT-repeated exposure

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

▼ Aspiration hazard

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

▼ Symptoms related to the physical, chemical and toxicological characteristics

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

11.2. Information on other hazards

▼ Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

Other information

None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. ▼ Toxicity

Product/substance Citric acid
Test method: OECD 203
Species: Fish, Leuciscus idus
Duration: 48 hours
Test: LC50
Result: 440 mg/L

Product/substance Citric acid
Species: Daphnia magna
Duration: 24 hours
Test: LC50
Result: 1535 mg/L

Product/substance Citric acid

Species:	Algae, Scenedesmus quadricauda
Duration:	8 days
Test:	NOEC
Result:	425 mg/L

Product/substance	maleic acid
Species:	Fish, Pimephales promelas
Duration:	96 hours
Result:	5 mg/L

Product/substance	maleic acid
Species:	Fish, Lepomis macrochirus
Duration:	96 hours
Result:	> 300 mg/L

Product/substance	maleic acid
Species:	Daphnia magna
Duration:	48 hours
Test:	EC50
Result:	160-400 mg/L

Product/substance	maleic acid
Species:	Algae, Desmodesmus subspicatus
Duration:	72 hours
Test:	EC50
Result:	41 mg/L

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

12.2. ▼ Persistence and degradability

Product/substance	Citric acid
Result:	100%
Conclusion:	Readily biodegradable
Test:	OECD 301 E

12.3. ▼ Bioaccumulative potential

Product/substance	maleic acid
BCF:	< 10
Conclusion:	-

12.4. Mobility in soil

No data available.

12.5. ▼ Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. ▼ Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. ▼ Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP 6 - Acute toxicity

HP 8 – Corrosive

HP 13 – Sensitising

Dispose of contents/container to an approved waste disposal plant.

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

▼ EWC code: Not applicable.

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other informat ion:
ADR	-	Not regulated		-	No	See below for additiona l informati on.
IMDG	-	Not regulated		-	No	See below for additiona l informati on.
IATA	-	Not regulated		-	No	See below for additiona l informati on.

* Packing group

** Environmental hazards

▼ Additional information

ADR / See Table A, section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: REGULATORY INFORMATION

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

▼ *Restrictions for application:*

Restricted to professional and industrial use.

People under the age of 18 shall not be exposed to this product.

Demands for specific education:

No specific requirements.

SEVESO - Categories / dangerous substances:

Not applicable.

Labelling of contents according to Detergents Regulation (EC) No 648/2004:

< 5%

· Cationic surfactants

Additional information:

Not applicable.

Sources:

Protection of Young Persons (Employment) Act, 1996

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3

H302, Harmful if swallowed.

H312, Harmful in contact with skin.

H314, Causes severe skin burns and eye damage.

H315, Causes skin irritation.

- H317, May cause an allergic skin reaction.
- H318, Causes serious eye damage.
- H319, Causes serious eye irritation.
- H335, May cause respiratory irritation.
- H412, Harmful to aquatic life with long lasting effects.

▼ Abbreviations and acronyms

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- CAS = Chemical Abstracts Service
- CE = Conformité Européenne (European conformity)
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- CSA = Chemical Safety Assessment
- CSR = Chemical Safety Report
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EINECS = European Inventory of Existing Commercial chemical Substances
- ES = Exposure Scenario
- EUH statement = CLP-specific Hazard statement
- EuPCS = European Product Categorisation System
- EWC = European Waste Catalogue
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- GWP = Global warming potential
- IARC = International Agency for Research on Cancer (IARC)
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- OECD = Organisation for Economic Co-operation and Development
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SCL = A specific concentration limit
- SVHC = Substances of Very High Concern
- STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
- STOT-SE = Specific Target Organ Toxicity - Single Exposure
- TWA = Time weighted average
- UN = United Nations
- UVBC = Unknown or variable composition, complex reaction products or of biological materials
- VOC = Volatile Organic Compound
- vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).

The safety data sheet is validated by

PurposeBuilt Brands Regulatory Team

▼ Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

Country-language: IE-en