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

1.1 Product identifier

Trade name: Thermoplan Milk System Cleaning Tablet

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

Application of the substance / the preparation: Milk system Cleaner

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Urnex Brands, Inc.
700 Executive Blvd.
Elmsford, NY 10523 USA
Phone: +1-914-963-2042
Fax: +1-914-963-2145
Email: info@urnex.com

Further information obtainable from:
Urnex Brands, Inc.
700 Executive Blvd.
Elmsford, NY 10523 USA
Phone: +1-914-963-2042
Fax: +1-914-963-2145
Email: info@urnex.com

1.4 Emergency telephone number:
Tel.: 800-424-9300 (USA)
Tel.: 001-703-527-3887 (INTERNATIONAL COLLECT ACCEPTED)

* SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xi: Irritant
R36/37/38: Irritating to eyes, respiratory system and skin.
Xi: Sensitising
R43: May cause sensitisation by skin contact.

Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS07

Signal word Warning

Hazard-determining components of labelling:
maleic acid

Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face 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.
P362 Take off contaminated clothing and wash before reuse.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not determined
vPvB: Not determined

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 77-92-9</td>
<td>citric acid</td>
</tr>
<tr>
<td>EINECS: 201-069-1</td>
<td>Xi R36</td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>CAS: 110-16-7</td>
<td>maleic acid</td>
</tr>
<tr>
<td>EINECS: 203-742-5</td>
<td>Xi R22, Xi R36/37/38, Xi R43</td>
</tr>
<tr>
<td>Index number: 607-095-00-3</td>
<td>Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H317; Skin Sens. 1, H317; STOT SE 3, H335</td>
</tr>
<tr>
<td>CAS: 5329-14-6</td>
<td>sulphamidic acid</td>
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<tr>
<td>EINECS: 226-218-8</td>
<td>Xi R36/38</td>
</tr>
<tr>
<td>Index number: 016-026-00-0</td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412</td>
</tr>
<tr>
<td>CAS: 139-08-2</td>
<td>miristalkonium chloride</td>
</tr>
<tr>
<td>EINECS: 205-352-0</td>
<td>C R34; Xi R21/22; Xi R36; N R50</td>
</tr>
<tr>
<td></td>
<td>Skin Corr. 1B, H314; Aquatic Acute 1, H400; Acute Tox. 4, H302; Acute Tox. 4, H312</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Take affected persons out of danger area and lay down.
Immediately remove any clothing soiled by the product.

After inhalation:
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.

After eye contact:
Rinse opened eye for several minutes under running water. Then consult a doctor.
Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing:
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide (CO)

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Wear protective clothing.
Avoid formation of dust.

6.2 Environmental precautions:

Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.
Ensure adequate ventilation.
Dispose of the material collected according to regulations.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Any unavoidable deposit of dust must be regularly removed.

Information about fire and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store under lock and key and out of the reach of children.
Protect from humidity and water.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Do not inhale dust / smoke / mist.
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
The usual precautionary measures are to be adhered to when handling chemicals.
Respiratory protection: Not necessary if room is well-ventilated.

Protection of hands:

Protective gloves
Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.
To avoid skin problems reduce the wearing of gloves to the required minimum.
Check protective gloves prior to each use for their proper condition.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
≥ 480 min
**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th>9.1 Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Solid</td>
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<tr>
<td>Colour: White</td>
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<tr>
<td>Odour: Characteristic</td>
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<tr>
<td>pH-value (10 g/l) at 20 °C:</td>
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<tr>
<td>2 - 2.5</td>
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<tr>
<td>Change in condition</td>
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<tr>
<td>Melting point/Melting range:</td>
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<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Flash point:</td>
</tr>
<tr>
<td>Not determined.</td>
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<tr>
<td>Flammability (solid, gaseous):</td>
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<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Self-igniting:</td>
</tr>
<tr>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion:</td>
</tr>
<tr>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
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<tr>
<td>Oxidizing properties:</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Vapour pressure:</td>
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<tr>
<td>Not applicable.</td>
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<tr>
<td>Density:</td>
</tr>
<tr>
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<tr>
<td>Relative density</td>
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<tr>
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<tr>
<td>Vapour density</td>
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<tr>
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</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
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<tr>
<td>Solubility in / Miscibility with water:</td>
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<tr>
<td>Soluble.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
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<tr>
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<td>Viscosity:</td>
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<td>Dynamic: Not applicable.</td>
</tr>
<tr>
<td>Kinematic: Not applicable.</td>
</tr>
<tr>
<td>9.2 Other information</td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
  - Reacts with strong oxidizing agents.
  - Reducing agent
  - Reacts with strong acids and alkali.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
  - **Acute toxicity:**
    - **LD/LC50 values relevant for classification:**
      - **77-92-9 citric acid**
        - Oral LD50 5040 mg/kg (Mouse)
        - 11700 mg/kg (Rat)
      - **110-16-7 maleic acid**
        - Oral LD50 708 mg/kg (Rat)
        - Dermal LD50 1560 mg/kg (Rabbit)
      - **5329-14-6 sulphamidic acid**
        - Oral LD50 3160 mg/kg (Rat)
  - **Primary irritant effect:**
    - on the skin: Irritant to skin and mucous membranes.
    - on the eye: Irritating effect.
    - **Sensitization:** Sensitization possible through skin contact.
  - **Additional toxicological information:**
    - The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
      - Irritant
    - **Toxicokinetics, metabolism and distribution** No further relevant information available.
    - **Acute effects (acute toxicity, irritation and corrosivity)** No further relevant information available.
    - **Repeated dose toxicity** No further relevant information available.
    - **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** No further relevant information available.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
  - **Aquatic toxicity:**
    - **77-92-9 citric acid**
      - EC0 (48h) 10000 mg/L (Bacteria)
      - LC50 (96h) 440-706 mg/L (Fish)
  - **12.2 Persistence and degradability** No further relevant information available.
  - **12.3 Bioaccumulative potential** No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes:
  Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
· 12.5 Results of PBT and vPvB assessment
· PBT: Not determined
· vPvB: Not determined
· 12.6 Other adverse effects No further relevant information available.

*SECTION 13: Disposal considerations*

· 13.1 Waste treatment methods
  · Recommendation: Must be specially treated adhering to official regulations.
· Uncleaned packaging
  · Recommendation: Disposal must be made according to official regulations.
· Recommended cleansing agents: Water, if necessary together with cleansing agents.

*SECTION 14: Transport information*

| · 14.1 UN-Number | ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | ADR, IMDG, IATA | Void |
| · Class | Void |
| · 14.4 Packing group | ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

*SECTION 15: Regulatory information*

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· Labelling according to Regulation (EC) No 1272/2008
· Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 8)
SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases
- 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.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H412 Harmful to aquatic life with long lasting effects.
- R21/22 Harmful in contact with skin and if swallowed.
- R22 Harmful if swallowed.
- R34 Causes burns.
- R36 Irritating to eyes.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R50 Very toxic to aquatic organisms.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Abbreviations and acronyms:
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

* Data compared to the previous version altered.