1. Identification

**Product identifier**
Oven Delimer Tablets for RATIONAL SelfCookingCenter®, Art. Nr. 56.00.560, 56.00.562

**Recommended use of the chemical and restrictions on use**
Use of the substance/mixture
Preservative agent

**Details of the supplier of the safety data sheet**
Company name: Rational AG
Street: Iglinger Strasse 62
Place: D-86899 Landsberg
Telephone: +49 (0)8191-3270
Telefax: +49 (0)8191-21735
Responsible Department: Responsible for the safety data sheet: reinigung@rational-online.de
Emergency phone number: In North America contact Info Trac at 1-800-535-5053
outside USA/CA contact +49 89 19240

2. Hazard(s) identification

**Classification of the chemical**
Regulation (EC) No. 1272/2008
Hazard categories:
- Skin corrosion/irritation: Skin Irrit. 2
- Serious eye damage/eye irritation: Eye Irrit. 2
Hazard Statements:
- Causes skin irritation
- Causes serious eye irritation

**Label elements**
Regulation (EC) No. 1272/2008
Signal word: Warning
Pictograms:

**Hazard statements**
Causes skin irritation
Causes serious eye irritation

**Precautionary statements**
Keep out of reach of children.
If medical advice is needed, have product container or label at hand.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If exposed or concerned: Get medical advice/attention.

3. Composition/information on ingredients

**Mixtures**
### Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-92-9</td>
<td>Citric acid</td>
<td>&gt; 20 %</td>
</tr>
<tr>
<td>617-48-1</td>
<td>Malic acid</td>
<td>&gt; 20 %</td>
</tr>
<tr>
<td>124-04-9</td>
<td>Adipic acid</td>
<td>1 - 5 %</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

#### Description of first aid measures

**General information**
- If you feel unwell, seek medical advice.

**After inhalation**
- Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.

**After contact with skin**
- In case of contact with skin wash off immediately with soap and water.
- Consult a doctor if skin irritation persists.

**After contact with eyes**
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Seek medical treatment by eye specialist.

**After ingestion**
- Rinse out mouth thoroughly with water.
- Do not induce vomiting.
- Never give anything by mouth to an unconscious person.
- Summon a doctor immediately.

#### Most important symptoms and effects, both acute and delayed

**WARNING**
- Causes serious eye irritation.
- Causes skin irritation.

OSHA Hazard Communication: This material is considered hazardous by the OSHA Hazard Communication Standard 29CFR 1910.1200.

**Indication of any immediate medical attention and special treatment needed**
- Treat symptoms.

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media**
- Product does not burn, fire-extinguishing activities according to surrounding.

**Unsuitable extinguishing media**
- Full water jet.

#### Specific hazards arising from the chemical

Fire may produce:
- Irritant/corrosive, flammable as well as toxic distillation gases (carbonization gases).

#### Special protective equipment and precautions for fire-fighters

- Use breathing apparatus with independent air supply.
- Protective suit.

#### Additional information

- Cool containers at risk with water spray jet.
- Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
No special precautions required.

Environmental precautions
Do not discharge into the drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Pick up mechanically, avoiding dust, and provide disposal in suitable recipients.
Flush rests with sufficient amount of water.

Reference to other sections
Observe protective instructions (see Sections 7 and 8).
Information for disposal look up chapter 13.

7. Handling and storage

Precautions for safe handling

Advice on safe handling
Avoid the formation of dust.
Avoid contact with eyes, skin or mucous membrane.

Advice on protection against fire and explosion
No special protective measures against fire required.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep in the original sealed container.
Keep containers tightly closed in a dry, well-ventilated place.

Further information on storage conditions
Keep away from food, drink and animal feeding stuffs.

8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

Protective and hygiene measures
Avoid contact with eyes and skin.
Wash hands before breaks and at the end of workday.
When using do not eat, drink or smoke.
Remove and wash contaminated clothing before re-use.

Eye/face protection
Tightly fitting goggles.
Eye wash bottle with pure water.

Hand protection
Protective gloves resistant to chemicals made off natural-rubber latex, Minimum coat thickness 0.6 mm,
Permeation resistance (wear duration) approx. 480 minutes, i.e. protective glove <Lapren 706> made by
www.kcl.de.
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374
carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the
recommendations given by the manufacturer of protective gloves.
Respiratory protection
No personal respiratory protective equipment normally required.
Breathing apparatus (particle filter) only if dust is formed.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>White</td>
</tr>
<tr>
<td>Odor:</td>
<td>Characteristic</td>
</tr>
</tbody>
</table>

Test method

pH-Value: 2,5 (1%)%

Changes in the physical state

<table>
<thead>
<tr>
<th>Flash point:</th>
<th>n.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower explosion limits:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Upper explosion limits:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Oxidizing properties

<table>
<thead>
<tr>
<th>Vapor pressure:</th>
<th>n.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(at 20 °C)</td>
<td></td>
</tr>
<tr>
<td>Water solubility:</td>
<td>Soluble</td>
</tr>
<tr>
<td>(at 20 °C)</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>n.d.</td>
</tr>
</tbody>
</table>

Other information

Bulk density: approx. 800 g/L

10. Stability and reactivity

Reactivity
No decomposition if stored and applied as directed.

Chemical stability

Stability: Stable
Stable under normal conditions.

Possibility of hazardous reactions

Hazardous reactions: Will not occur
No hazardous reactions known.

Conditions to avoid
Protect from moisture.

Incompatible materials
No materials to be especially mentioned.

Hazardous decomposition products
No hazardous decomposition products known.

11. Toxicological information

Information on toxicological effects
Safety Data Sheet

according to 29 CFR 1910.1200(g)

Oven Delimer Tablets for RATIONAL SelfCookingCenter®, Art. Nr. 56.00.560, 56.00.562

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Route(s) of Entry
Skin and eye contact, inhalation and ingestion.

Acute toxicity
Based on available data, the classification criteria are not met.
Citric acid
LD50/oral/rat: 6730 mg/kg
Adipic acid
LD50/oral/rat: 11000 mg/kg
Malic acid
LD50/oral/rat: >3200 mg/kg

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-92-9</td>
<td>Citric acid</td>
<td>oral</td>
<td>LD50</td>
<td>11700 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 2000 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes skin irritation
Causes serious eye irritation
Skin irritation: Irritant
Eye irritation: Irritant

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

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure
Based on available data, the classification criteria are not met.
STOT - Single exposure: Not classified.
STOT - Repeated exposure: Not classified.
Aspiration hazard: Not classified.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
Carcinogenicity: Not classified.
Mutagenicity: Not classified.
Teratogenicity: Not classified.
Carcinogenicity (NTP): Not listed
Carcinogenicity (IARC): Not listed
Carcinogenicity (OSHA): Not listed

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

Practical experience

Other observations
Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.
Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

12. Ecological information

Ecotoxicity
Citric acid:
LC50/Leuciscus idus/96 h: 440 - 706 mg/l
**Safety Data Sheet**

according to 29 CFR 1910.1200(g)

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**Oven Delimer Tablets for RATIONAL SelfCookingCenter®, Art. Nr. 56.00.560, 56.00.562**

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**Persistence and degradability**

- EC50/Daphnia magna: 85 mg/l
- Adipic acid: LC50/Pimephales promelas/96 h: 97 mg/l

**Bioaccumulative potential**

- No data available.

**Mobility in soil**

- The product is soluble in water.

**Other adverse effects**

- No data available.

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**13. Disposal considerations**

**Waste treatment methods**

- **Advice on disposal**
  - Remove in accordance with local official regulations.

- **Contaminated packaging**
  - Empty containers should be taken for local recycling, recovery or waste disposal.
  - Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
  - Packaging that cannot be cleaned should be disposed of like the product.

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**14. Transport information**

**US DOT 49 CFR 172.101**

- **Proper shipping name:** Not regulated.

- **Other applicable information**
  - Non hazardous material as defined by the transport regulations.

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**15. Regulatory information**

**U.S. Regulations**

- **National Inventory TSCA**
  - All of the components are listed on the TSCA inventory.

- **National regulatory information**
  - SARA Section 304 CERCLA:
    - Adipic acid (124-04-9): Reportable quantity = 5,000 (2270) lbs. (kg)
  - SARA Section 311/312 Hazards:
    - Citric acid (77-92-9): Immediate (acute) health hazard
    - Malic acid (617-48-1): Immediate (acute) health hazard
    - Adipic acid (124-04-9): Immediate (acute) health hazard

- **SARA**
  - To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

- **State Regulations**
  - **Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**
    - This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
16. Other information

Hazardous Materials Information Label (HMIS)
- Health: 2
- Flammability: 0
- Physical Hazard: 0

NFPA Hazard Ratings
- Health: 2
- Flammability: 0
- Reactivity: 0
- Unique Hazard: 0

Changes
- Revision date: 03.02.2016
- Revision No: 6,1

Other data
- The information in this document is based on the present state of knowledge and is applicable to the product with regard to appropriate safety precautions.
- The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.
- The delivery specifications are contained in the corresponding product sheet.
- This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
- (n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)