SECTION 1: Identification

1.1. Identification

Product form: Substance
Substance name: Citric Acid, Anhydrous
CAS-No.: 77-92-9
Product code: LC13140

1.2. Recommended use and restrictions on use

Use of the substance/mixture: For laboratory and manufacturing use only.
Recommended use: Laboratory chemicals
Restrictions on use: Not for food, drug or household use

1.3. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Serious eye damage/eye irritation Category 2A - H319 Causes serious eye irritation
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US): ![Warning]

Signal word (GHS US): Warning
Hazard statements (GHS US): H319 - Causes serious eye irritation
Precautionary statements (GHS US): P264 - Wash exposed skin thoroughly after handling.
P280 - Wear eye 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.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification: None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid, Anhydrous</td>
<td>(CAS-No.) 77-92-9</td>
<td>100</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

(CAS-No.) 77-92-9

07/14/2020 EN (English US)
3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation: May cause respiratory irritation.

Symptoms/effects after skin contact: Slight irritation.

Symptoms/effects after eye contact: Causes serious eye irritation.

Symptoms/effects after ingestion: Nausea.

Chronic symptoms: Affection/discholoration of the teeth.

4.3. Immediate medical attention and special treatment, if necessary
None.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical
Fire hazard: Not flammable.

Explosion hazard: Not applicable.

Reactivity in case of fire: None.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.
**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

- **Precautions for safe handling**: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

- **Hygiene measures**: Wash exposed skin thoroughly after handling.

**7.2. Conditions for safe storage, including any incompatibilities**

- **Storage conditions**: Keep only in the original container in a cool, well ventilated place away from incompatible materials. Keep container closed when not in use.

- **Incompatible products**: Strong bases. Strong oxidizers.

- **Incompatible materials**: Sources of ignition. Direct sunlight.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

- **Citric Acid, Anhydrous (77-92-9)**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White powder or lumps.</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>1.7 10% solution</td>
</tr>
<tr>
<td>Melting point</td>
<td>153 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>175 °C</td>
</tr>
</tbody>
</table>

**8.2. Appropriate engineering controls**

- **Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.**

**8.3. Individual protection measures/Personal protective equipment**

- **Personal protective equipment:**
  - **Gloves. Safety glasses.**
  - **Hand protection:**
    - Wear protective gloves.
  - **Eye protection:**
    - Chemical goggles or safety glasses
  - **Respiratory protection:**
    - Respiratory protection not required in normal conditions

**Personal protective equipment symbol(s):**

- [Glove icon]
- [Safety glasses icon]

**Other information:**

- Do not eat, drink or smoke during use.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White powder or lumps.</td>
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<tr>
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</tr>
<tr>
<td>Melting point</td>
<td>153 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>175 °C</td>
</tr>
</tbody>
</table>
Flash point: No data available
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Non flammable.
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: No data available
Specific gravity / density: 1.665 g/cm³
Molecular mass: 192.12 g/mol
Solubility: Soluble in water. Soluble in ethanol. Soluble in ether.
Water: 59.2 %
Log Pow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: 175 °C
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: None.
Oxidizing properties: None.

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
None.

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

| Citric Acid, Anhydrous (77-92-9) |
|-------------------------------|------------------|
| LD50 oral rat                  | 5400 mg/kg       |
| ATE US (oral)                  | 5400 mg/kg body weight |

Skin corrosion/irritation: Not classified
pH: 1.7 10% solution

Serious eye damage/irritation: Causes serious eye irritation.
pH: 1.7 10% solution

Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
**Citric Acid, Anhydrous**

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Property/Effect</th>
<th>Classification/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Likely routes of exposure</td>
<td>Inhalation. Skin and eye contact. Ingestion.</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Slight irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>Nausea.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>Affection/discolouration of the teeth.</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

12.1. Toxicity

**Citric Acid, Anhydrous (77-92-9)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>440 mg/l</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>1534 mg/l</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Citric Acid, Anhydrous (77-92-9)**

Persistence and degradability: Not established.

12.3. Bioaccumulative potential

**Citric Acid, Anhydrous (77-92-9)**

Bioaccumulative potential: Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information: Avoid release to the environment.

**SECTION 13: Disposal considerations**

13.1. Disposal methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

Department of Transportation (DOT)

In accordance with DOT

Not regulated

**SECTION 15: Regulatory information**

15.1. US Federal regulations

**Citric Acid, Anhydrous (77-92-9)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes: Health hazard - Serious eye damage or eye irritation

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
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15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 07/14/2020
Other information : None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H319</th>
<th>Causes serious eye irritation</th>
</tr>
</thead>
</table>

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : B

B - Safety glasses, Gloves

SDS US LabChem

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