

Printing date 08/05/2014

Reviewed on 04/18/2014

## 1 Identification

- **Product identifier**
- **Trade name:** Citric Acid 25%
- **Product Use:** Irrigation Water Treatment Program
- **Article number:** CITAC-4
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Meras Engineering, Inc.  
601 Van Ness Ave. E3-725  
San Francisco, CA 94102  
USA
- **Information department:**  
SDS Coordinator  
(415) 240-4918 or (866) 899-9762  
orders@meras.com
- **Emergency telephone number:** ChemTrec (800) 424-9300 (14228)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Irritant

Irritating to eyes.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Irritant

- **Hazard-determining components of labeling:**

Citric Acid

- **Risk phrases:**

Irritating to eyes.

- **Safety phrases:**

Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

(Contd. on page 2)

USA

Printing date 08/05/2014

Reviewed on 04/18/2014

**Trade name: Citric Acid 25%**

(Contd. of page 1)

This material and its container must be disposed of as hazardous waste.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**


 Health = 1  
 Fire = 0  
 Reactivity = 0

- **HMS-ratings (scale 0 - 4)**


 Health = 1  
 Fire = 0  
 Reactivity = 0

- **Personal Protection B**
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

77-92-9	Citric Acid	25.0%
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### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

USA

(Contd. on page 3)

Printing date 08/05/2014

Reviewed on 04/18/2014

**Trade name: Citric Acid 25%**

(Contd. of page 2)

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **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.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
The recommended storage temperature is above 32F, preferably at room temperature (70F)  
Store closed containers in a cool, dry, well-ventilated area with acid-resistant floors. Keep out of direct sunlight and away from water, heat and incompatible materials.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components 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.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 4)

**Trade name: Citric Acid 25%**

(Contd. of page 3)

 · **Protection of hands:**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

 · **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**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

 · **Eye protection:**


Tightly sealed goggles

## 9 Physical and chemical properties

 · **Information on basic physical and chemical properties**

 · **General Information**

 · **Appearance:**

**Form:** Fluid  
**Color:** According to product specification

· **Odor:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

 · **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 1010 °C (1850 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

 · **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

(Contd. on page 5)

Printing date 08/05/2014

Reviewed on 04/18/2014

**Trade name: Citric Acid 25%**

(Contd. of page 4)

- |   |  |
|---|--|
| · <b>Vapor pressure:</b>                          | Not determined.                            |
| · <b>Density:</b>                                 | Not determined.                            |
| · <b>Relative density</b>                         | Not determined.                            |
| · <b>Vapor density</b>                            | Not determined.                            |
| · <b>Evaporation rate</b>                         | Not determined.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.          |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| · <b>Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 0.0 %                                      |
| · <b>Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 6)

USA

Printing date 08/05/2014

Reviewed on 04/18/2014

**Trade name: Citric Acid 25%**

(Contd. of page 5)

- **OSHA-Ca (Occupational Safety & Health Administration)**
- None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | Void            |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | Void            |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | Void            |
| · <b>Packing group</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | Void            |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

(Contd. on page 7)



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(Contd. of page 7)

- **Risk phrases:**  
Irritating to eyes.
- **Safety phrases:**  
Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).  
Avoid contact with skin and eyes.  
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
This material and its container must be disposed of as hazardous waste.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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.

- **Department issuing MSDS:** Environment protection department.
- **Contact:**  
SDS Coordinator  
Merax Engineering, Inc.  
(415) 240-4918 or (866) 899-9762  
orders@meras.com
- **Date of preparation / last revision** 08/05/2014 / -
- **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  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

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