

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Citric Acid  
12480
- **Article number:** 12480
- **CAS Number:**  
77-92-9
- **EC number:**  
201-069-1
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
 Acute Tox. 4 H312 Harmful in contact with skin.  
 Acute Tox. 4 H332 Harmful if inhaled.  
 Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**  
Harmful if swallowed, in contact with skin or if inhaled.  
Causes serious eye irritation.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wear protective gloves / protective clothing.  
Wear eye protection / face protection.

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 1)

Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see on this label).  
If swallowed: Call a poison center/doctor if you feel unwell.  
**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If eye irritation persists: Get medical advice/attention.  
Rinse mouth.  
If on skin: Wash with plenty of water.  
Take off contaminated clothing and wash it before reuse.  
Store away from flammable substances.  
Store away from oxidizing agents.  
Store away from reducing agents.  
Store away from metals.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

77-92-9 Citric Acid

12480

· **Identification number(s)**

· **EC number:** 201-069-1

### 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.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 2)

- **Information for 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.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **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:** No special requirements.
- **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:** Not required.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 3)

- Avoid contact with the eyes.  
Avoid contact with the eyes and skin.  
· **Breathing equipment:** Not required.  
· **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.

· **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:**

<b>Form:</b>	Solid
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odour threshold:</b>	Not determined.

· **pH-value (100 g/l) at 20 °C (68 °F):** 1.6

· **Change in condition**

<b>Melting point/Melting range:</b>	153 °C (307 °F)
<b>Boiling point/Boiling range:</b>	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

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

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

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

· **Explosion limits:**

**Lower:** Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 4)

<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C (68 °F):</b>	1.542 g/cm <sup>3</sup> (12.868 lbs/gal)
· <b>Bulk density at 20 °C (68 °F):</b>	900 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	600 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <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:**

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	5040 mg/kg (mouse)
------	------	--------------------

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

(Contd. on page 6)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 5)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Assessment by list): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*  
*Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*
- **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.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

### 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Void
· <b>UN proper shipping name</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>DOT, ADR, 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.
· <b>UN "Model Regulation":</b>	-

US  
(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 6)

## 15 Regulatory information

- *Safety, health and environmental regulations/legislation specific for the substance or mixture*
- *Sara*
- *Section 355 (extremely hazardous substances): Substance is not listed.*
- *Section 313 (Specific toxic chemical listings): Substance is not listed.*
- *TSCA (Toxic Substances Control Act): Substance is listed.*
- *Proposition 65*
- *Chemicals known to cause cancer: Substance is not listed.*
- *Chemicals known to cause reproductive toxicity for females: Substance is not listed.*
- *Chemicals known to cause reproductive toxicity for males: Substance is not listed.*
- *Chemicals known to cause developmental toxicity: Substance is not listed.*
- *Carcinogenic categories*
- *EPA (Environmental Protection Agency) Substance is not listed.*
- *TLV (Threshold Limit Value established by ACGIH) Substance is not listed.*
- *NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.*
- *GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).*
- *Hazard pictograms*



GHS07

- *Signal word Warning*
- *Hazard statements*  
*Harmful if swallowed, in contact with skin or if inhaled.*  
*Causes serious eye irritation.*
- *Precautionary statements*  
*Avoid breathing dust/fume/gas/mist/vapors/spray*  
*Wear protective gloves / protective clothing.*  
*Wear eye protection / face protection.*  
*Wash thoroughly after handling.*  
*Do not eat, drink or smoke when using this product.*  
*Use only outdoors or in a well-ventilated area.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*  
*Continue rinsing.*  
*Specific treatment (see on this label).*  
*If swallowed: Call a poison center/doctor if you feel unwell.*  
*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*  
*If eye irritation persists: Get medical advice/attention.*  
*Rinse mouth.*  
*If on skin: Wash with plenty of water.*  
*Take off contaminated clothing and wash it before reuse.*  
*Store away from flammable substances.*  
*Store away from oxidizing agents.*  
*Store away from reducing agents.*  
*Store away from metals.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- *Chemical safety assessment: A Chemical Safety Assessment has not been carried out.*

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 7)

## 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.*

· **Date of preparation / last revision** 06/12/2015 / -

· **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)*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A*

US



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Citric Acid  
12480
- **Article number:** 12480
- **CAS Number:**  
77-92-9
- **EC number:**  
201-069-1
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazards identification

- **Classification of the substance or mixture**



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.
- Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 2)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 1)

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

*Harmful if swallowed, in contact with skin or if inhaled.*

*Causes serious eye irritation.*

- **Precautionary statements**

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

*Wear protective gloves / protective clothing.*

*Wear eye protection / face protection.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Use only outdoors or in a well-ventilated area.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

*If eye irritation persists: Get medical advice/attention.*

*Rinse mouth.*

*IF ON SKIN: Wash with plenty of water.*

*Take off contaminated clothing and wash it before reuse.*

*Store away from flammable substances.*

*Store away from oxidizing agents.*

*Store away from reducing agents.*

*Store away from metals.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterisation: Substances**

- **CAS No. Description**

77-92-9 Citric Acid

12480

- **Identification number(s)**

- **EC number:** 201-069-1

### 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.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 2)

- **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.
- **Information for 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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.

(Contd. on page 4)

AU

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 3)

- **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.
- **Respiratory protection:** Not required.
- **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.
- **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:**

<b>Form:</b>	Solid
<b>Colour:</b>	White
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	Not determined.

- **pH-value (100 g/l) at 20 °C:** 1.6

- **Change in condition**

<b>Melting point/Melting range:</b>	153 °C
<b>Boiling point/Boiling range:</b>	Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:** 1010 °C

(Contd. on page 5)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 4)

· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density at 20 °C:</b>	1.542 g/cm <sup>3</sup>
· <b>Bulk density at 20 °C:</b>	900 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with water at 20 °C:</b>	600 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <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**

· **LD/LC50 values relevant for classification:**

Oral	LD50	5040 mg/kg (mouse)
------	------	--------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.

AU

(Contd. on page 6)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 5)

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **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 together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

· <b>UN-Number</b>	
· <b>ADG, ADN, IMDG, IATA</b>	Void
· <b>UN proper shipping name</b>	
· <b>ADG, ADN, IMDG, IATA</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>ADG, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>ADG, 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)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 6)

· **UN "Model Regulation":** -

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances** Substance is listed.
- **Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.
- **GHS label elements**  
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**  
Harmful if swallowed, in contact with skin or if inhaled.  
Causes serious eye irritation.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wear protective gloves / protective clothing.  
Wear eye protection / face protection.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see on this label).  
**IF SWALLOWED:** Call a POISON CENTER/doctor if you feel unwell.  
**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If eye irritation persists: Get medical advice/attention.  
Rinse mouth.  
**IF ON SKIN:** Wash with plenty of water.  
Take off contaminated clothing and wash it before reuse.  
Store away from flammable substances.  
Store away from oxidizing agents.  
Store away from reducing agents.  
Store away from metals.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **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.

(Contd. on page 8)

AU

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 7)

**· 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*

*EINECS: European Inventory of Existing Commercial 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*

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

AU



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Citric Acid  
12480
- **Article number:** 12480
- **CAS Number:**  
77-92-9
- **EC number:**  
201-069-1
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
 Acute Tox. 4 H312 Harmful in contact with skin.  
 Acute Tox. 4 H332 Harmful if inhaled.  
 Eye Irrit. 2A H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
Not applicable.



Irritant

Irritating to eyes.

- **Information concerning particular hazards for human and environment:** Not applicable.

- **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

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 1)

- **Risk phrases:**

*Irritating to eyes.*

- **Safety phrases:**

*Keep container in a well-ventilated place.*

*Avoid contact with eyes.*

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

*Wear suitable protective clothing and gloves.*

- **Hazard description:**

- **WHMIS-symbols:**

*D2B - Toxic material causing other toxic effects*



- **Classification system:**

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



*Health = 1*

*Fire = 0*

*Reactivity = 0*

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



*Health = 1*

*Fire = 0*

*Reactivity = 0*

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

*77-92-9 Citric Acid*

*12480*

- **Identification number(s)**

· **EC number:** 201-069-1

### 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.

- **Information for doctor:**

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

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
12480

(Contd. of page 2)

- **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.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **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:** No special requirements.
- **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:** Not required.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 3)

- **Breathing equipment:** Not required.
- **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.

- **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:**

<b>Form:</b>	Solid
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odour threshold:</b>	Not determined.

- **pH-value (100 g/l) at 20 °C:** 1.6

- **Change in condition**

<b>Melting point/Melting range:</b>	153 °C
<b>Boiling point/Boiling range:</b>	Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:** 1010 °C

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

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

- **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

- **Vapor pressure:** Not applicable.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 4)

· <b>Density at 20 °C:</b>	1.542 g/cm <sup>3</sup>
· <b>Bulk density at 20 °C:</b>	900 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water at 20 °C:</b>	600 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not applicable.
· <b>Kinematic:</b>	Not applicable.
· <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:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	5040 mg/kg (mouse)
------	------	--------------------

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.

(Contd. on page 6)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 5)

- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, TDG, ADN, IMDG, IATA</b>	Void
· <b>UN proper shipping name</b>	
· <b>DOT, TDG, ADN, IMDG, IATA</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>DOT, TDG, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>DOT, TDG, 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.
· <b>UN "Model Regulation":</b>	-

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.

(Contd. on page 7)

# Safety Data Sheet


acc. to OSHA HCS

Printing date 06/12/2015

Reviewed on 06/12/2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 6)

- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
  - **TSCA (Toxic Substances Control Act):** Substance is listed.
  - **Proposition 65**
  - **Chemicals known to cause cancer:** Substance is not listed.
  - **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
  - **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
  - **Chemicals known to cause developmental toxicity:** Substance is not listed.
  
  - **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)** Substance is not listed.
  - **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
  - **Canadian substance listings:**
  - **Canadian Domestic Substances List (DSL)** Substance is listed.
  - **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
  - **Canadian Ingredient Disclosure list (limit 1%)** Substance is listed.
  
  - **Product related hazard informations:**  
The product has been classified and marked in accordance with directives on hazardous materials.
  - **Hazard symbols:**
- 

Irritant
- **Risk phrases:**  
Irritating to eyes.
  - **Safety phrases:**  
Keep container in a well-ventilated place.  
Avoid contact with eyes.  
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Wear suitable protective clothing and gloves.
  - **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.

- **Date of preparation / last revision** 06/12/2015 / -
- **Abbreviations and acronyms:**  
 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  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

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

- **1.1 Product identifier**
- **Trade name:** Citric Acid  
12480
- **Article number:** 12480
- **CAS Number:**  
77-92-9
- **EC number:**  
201-069-1
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H312 Harmful in contact with skin.  
Acute Tox. 4 H332 Harmful if inhaled.  
Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**  
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.  
H319 Causes serious eye irritation.
- **Precautionary statements**  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

(Contd. on page 2)



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 1)

- 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.*  
 P322 *Specific measures (see on this label).*  
 P420 *Store away from flammable substances.*  
 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 applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**  
77-92-9 Citric Acid  
12480
- **Identification number(s)**
- **EC number:** 201-069-1

### SECTION 4: First aid measures

- **4.1 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.
- **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:**  
*CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- **6.4 Reference to other sections**  
*See Section 7 for information on safe handling.*  
*See Section 8 for information on personal protection equipment.*

(Contd. on page 3)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

See Section 13 for disposal information.

(Contd. of page 2)

### **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

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

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 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.
- **Respiratory protection:** Not required.
- **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.
  - **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.

(Contd. on page 4)

GB

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 3)

· **Eye protection:**

Tightly sealed goggles

### SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	<i>Solid</i>
· <b>Colour:</b>	<i>White</i>
· <b>Odour:</b>	<i>Odourless</i>
· <b>Odour threshold:</b>	<i>Not determined.</i>

· **pH-value (100 g/l) at 20 °C:** *1.6*· **Change in condition**

· <b>Melting point/Melting range:</b>	<i>153 °C</i>
· <b>Boiling point/Boiling range:</b>	<i>Undetermined.</i>

· **Flash point:** *Not applicable.*· **Flammability (solid, gaseous):** *Product is not flammable.*· **Ignition temperature:** *1010 °C*· **Decomposition temperature:** *Not determined.*· **Self-igniting:** *Not determined.*· **Danger of explosion:** *Product does not present an explosion hazard.*· **Explosion limits:**

· <b>Lower:</b>	<i>Not determined.</i>
· <b>Upper:</b>	<i>Not determined.</i>

· **Vapour pressure:** *Not applicable.*· **Density at 20 °C:** *1.542 g/cm<sup>3</sup>*

· <b>Bulk density at 20 °C:</b>	<i>900 kg/m<sup>3</sup></i>
· <b>Relative density</b>	<i>Not determined.</i>
· <b>Vapour density</b>	<i>Not applicable.</i>
· <b>Evaporation rate</b>	<i>Not applicable.</i>

· **Solubility in / Miscibility with water at 20 °C:** *600 g/l*· **Partition coefficient (n-octanol/water):** *Not determined.*· **Viscosity:**

· <b>Dynamic:</b>	<i>Not applicable.</i>
· <b>Kinematic:</b>	<i>Not applicable.</i>

· **9.2 Other information** *No further relevant information available.*

GB

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 4)

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used 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:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity**
- |  |      |                    |
|--|------|--------------------|
| · <b>LD/LC50 values relevant for classification:</b> |      |                    |
| Oral   | LD50 | 5040 mg/kg (mouse) |
- **Primary irritant effect:**
  - **Skin corrosion/irritation** No irritant effect.
  - **Serious eye damage/irritation** Irritating effect.
  - **Respiratory or skin sensitisation** No sensitising effects known.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

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

(Contd. on page 6)

GB

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 12.06.2015

**Trade name: Citric Acid**  
**12480**

(Contd. of page 5)

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

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

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

### 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.*

· **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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial 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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** citroenzuur
- **Artikelnummer:** 12480
- **CAS-nummer:**  
77-92-9
- **EC-nummer:**  
201-069-1
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS07

- Acute Tox. 4 H302 Schadelijk bij inslikken.
- Acute Tox. 4 H312 Schadelijk bij contact met de huid.
- Acute Tox. 4 H332 Schadelijk bij inademing.
- Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**  
De stof product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam: citroenzuur**

(Vervolg van blz. 1)

### · Gevarenpictogrammen



GHS07

### · Signaalwoord Waarschuwing

### · Gevarenaanduidingen

H302+H312+H332 *Schadelijk bij inslikken, bij contact met de huid en bij inademing.*

H319 *Veroorzaakt ernstige oogirritatie.*

### · Veiligheidsaanbevelingen

P261 *Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.*

P280 *Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.*

P305+P351+P338 *BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.*

P322 *Specifieke maatregelen (zie op dit etiket).*

P420 *Gescheiden brandbare stoffen bewaren.*

P501 *De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.*

### · 2.3 Andere gevaren

### · Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

### · 3.1 Chemische karakterisering: Stoffen

#### · CAS-Nr. omschrijving

77-92-9 citroenzuur

#### · Identificatienummer(s)

· **EC-nummer:** 201-069-1

## RUBRIEK 4: Eerstehulpmaatregelen

### · 4.1 Beschrijving van de eerstehulpmaatregelen

· **Na het inademen:** Frisse lucht toedienen; bij klachten arts ontbieden.

· **Na huidcontact:** Over het algemeen is het produkt niet prikkelend voor de huid

#### · Na oogcontact:

*De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.*

· **Na inslikken:** Als de klachten niet minderen, een arts raadplegen

· **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

### · 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling

*Geen verdere relevante informatie verkrijgbaar.*

NL

(Vervolg op blz. 3)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam:** citroenzuur

(Vervolg van blz. 2)

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:**  
CO<sub>2</sub>, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**  
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures** Niet nodig.
- **6.2 Milieuvorzorgsmaatregelen:** Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 InsluTINGS- en reinigingsmethoden en -materiaal:** Mechanisch opnemen.
- **6.4 Verwijzing naar andere rubrieken**  
Informatie inzake veilig gebruik - zie hoofdstuk 7.  
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.  
Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**  
Bij een deskundig gebruik zijn geen bijzondere maatregelen vereist.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:** Vervalt.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**  
Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Aanraking met de ogen vermijden.  
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:** Niet noodzakelijk.

(Vervolg op blz. 4)



# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam: citroenzuur**

(Vervolg van blz. 3)

**· Handbescherming:**

Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.  
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

**· Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.

**· Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

**· Oogbescherming:**

Nauw aansluitende veiligheidsbril

### RUBRIEK 9: Fysische en chemische eigenschappen

**· 9.1 Informatie over fysische en chemische basiseigenschappen****· Algemene gegevens****· Voorkomen:**

<b>Vorm:</b>	Vast
<b>Kleur:</b>	Wit
<b>Reuk:</b>	Reukloos
<b>Geurdrempelwaarde:</b>	Niet bepaald.

**· pH-waarde (100 g/l) bij 20 °C:** 1,6

**· Toestandsverandering**

<b>Smeltpunt/smeltbereik:</b>	153 °C
<b>Kookpunt/kookpuntbereik:</b>	Niet bepaald.

**· Vlampunt:** Niet bruikbaar.

**· Ontvlambaarheid (vast, gasvormig):** De stof is niet ontvlambaar.

**· Ontstekingstemperatuur:** 1010 °C

**· Ontbindingstemperatuur:** Niet bepaald.

**· Zelfonsteking:** Niet bepaald.

**· Ontploffingsgevaar:** Het produkt is niet ontploffingsgevaarlijk.

**· Ontploffingsgrenzen:**

<b>Onderste:</b>	Niet bepaald.
<b>Bovenste:</b>	Niet bepaald.

**· Dampspanning:** Niet bruikbaar.

**Dichtheid bij 20 °C:** 1,542 g/cm<sup>3</sup>

**· Stortgewicht bij 20 °C:** 900 kg/m<sup>3</sup>

(Vervolg op blz. 5)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam:** citroenzuur

(Vervolg van blz. 4)

- |   |   |
|---|---|
| · <b>Relatieve dichtheid</b>                                | Niet bepaald.                                   |
| · <b>Dampdichtheid</b>                                      | Niet bruikbaar.                                 |
| · <b>Verdampingssnelheid</b>                                | Niet bruikbaar.                                 |
| · <b>Oplosbaarheid in/mengbaarheid met Water bij 20 °C:</b> | 600 g/l   |
| · <b>Verdelingscoëfficiënt (n-octanol/water):</b>           | Niet bepaald.                                   |
| · <b>Viscositeit</b>  |   |
| <b>Dynamisch:</b>   | Niet bruikbaar.                                 |
| <b>Kinematisch:</b>   | Niet bruikbaar.                                 |
| · <b>9.2 Overige informatie</b>                             | Geen verdere relevante informatie verkrijgbaar. |

### RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit**
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**

· **Indelingsrelevantie LD/LC50-waarden:**

Oraal	LD50	5040 mg/kg (mouse)
-------	------	--------------------

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Geen prikkelend effect.
- **Ernstig oogletsel/oogirritatie** Prikkeling
- **Sensibilisatie van de luchtwegen/de huid** Geen effect van overgevoeligheid bekend.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
 Waterbezwaarlijkheid (NL) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.  
 Gevaar voor water klasse 1 (D) (Lijstclassificatie): gevaar voor water klein  
 Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.  
 Wegspoelen van grotere hoeveelheden in rioleringen of waterlopen kan tot een verlaging van de pH-waarde leiden. Een lage pH-waarde beschadigt in het water levende organismen. In de verdunning van de toepassingsconcentratie verhoogt de pH-waarde aanzienlijk, zodat na het gebruik van het product het afvalwater dat in de riolering geraakt maar een gering gevaar vormt voor het water.

(Vervolg op blz. 6)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam:** citroenzuur

(Vervolg van blz. 5)

- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

### RUBRIEK 14: Informatie met betrekking tot het vervoer

- |   |                     |
|---|---------------------|
| · <b>14.1 VN-nummer</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>            |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.3 Transportgevarenklasse(n)</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   |                     |
| · <b>klasse</b>   | Niet van toepassing |
| · <b>14.4 Verpakkingsgroep:</b>   |                     |
| · <b>ADR, IMDG, IATA</b>  | Niet van toepassing |
| · <b>14.5 Milieugevaren:</b>  |                     |
| · <b>Marine pollutant:</b>  | Neen                |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>                                   | Niet bruikbaar.     |
| · <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code</b> | Niet bruikbaar.     |
| · <b>VN "Model Regulation":</b>   | -                   |

### RUBRIEK 15: Regelgeving

- **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**
- **SZW-lijst van kankerverwekkende stoffen** De stof is niet aanwezig.
- **SZW-lijst van mutagene stoffen** De stof is niet aanwezig.
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid** De stof is niet aanwezig.
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling** De stof is niet aanwezig.
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding** De stof is niet aanwezig.
- **Richtlijn 2012/18/EU**
- **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.
- **Nationale voorschriften:**
- **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 10: Saneringsinspanning A

(Vervolg op blz. 7)

**Veiligheidsinformatieblad**  
volgens 1907/2006/EG, Artikel 31

datum van de druk: 12.06.2015

Herziening van: 12.06.2015

**Handelsnaam: citroenzuur**

(Vervolg van blz. 6)

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.**RUBRIEK 16: Overige informatie**

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· **Afkortingen en acroniemen:**

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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial 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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

NL

**Fiche de données de sécurité**  
selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

### SECTION 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** acide citrique
- **Code du produit:** 12480
- **No CAS:**  
77-92-9
- **Numéro CE:**  
201-069-1
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
*Pas d'autres informations importantes disponibles.*
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.  
Acute Tox. 4 H312 Nocif par contact cutané.  
Acute Tox. 4 H332 Nocif par inhalation.  
Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** La substance est classifiée et étiquetée selon le règlement CLP.
- **Pictogrammes de danger**



GHS07

- **Mention d'avertissement** Attention
- **Mentions de danger**  
H302+H312+H332 Nocif en cas d'ingestion, de contact cutané ou d'inhalation.  
H319 Provoque une sévère irritation des yeux.
- **Conseils de prudence**  
P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.

(suite page 2)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

**Nom du produit: acide citrique**

(suite de la page 1)

- P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
- P305+P351+P338 **EN CAS DE CONTACT AVEC LES YEUX:** rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
- P322 Mesures spécifiques (voir sur cette étiquette).
- P420 Stocker à l'écart des matières inflammables.
- P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

- **2.3 Autres dangers**
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

### SECTION 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
- **No CAS Désignation**  
77-92-9 acide citrique
- **Code(s) d'identification**
- **Numéro CE:** 201-069-1

### SECTION 4: Premiers secours

- **4.1 Description des premiers secours**
- **Après inhalation:** Donner de l'air frais, consulter un médecin en cas de troubles.
- **Après contact avec la peau:** En règle générale, le produit n'irrite pas la peau.
- **Après contact avec les yeux:**  
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.
- **Après ingestion:** Si les troubles persistent, consulter un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

### SECTION 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**  
CO<sub>2</sub>, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

### SECTION 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.

(suite page 3)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

**Nom du produit: acide citrique**

(suite de la page 2)

- **6.3 Méthodes et matériel de confinement et de nettoyage:** Recueillir par moyen mécanique.
- **6.4 Référence à d'autres sections**  
*Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.*  
*Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.*  
*Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.*

### SECTION 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
*Aucune mesure particulière n'est nécessaire en cas de bonne utilisation.*
- **Préventions des incendies et des explosions:** *Aucune mesure particulière n'est requise.*
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** *Aucune exigence particulière.*
- **Indications concernant le stockage commun:** *Pas nécessaire.*
- **Autres indications sur les conditions de stockage:** *Tenir les emballages hermétiquement fermés.*
- **7.3 Utilisation(s) finale(s) particulière(s)** *Pas d'autres informations importantes disponibles.*

### SECTION 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**  
*Sans autre indication, voir point 7.*
- **8.1 Paramètres de contrôle**
- **Composants présentant des valeurs-seuil à surveiller par poste de travail:** *Néant*
- **Remarques supplémentaires:**  
*Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.*
- **8.2 Contrôles de l'exposition**
- **Équipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**  
*Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.*  
*Retirer immédiatement les vêtements souillés ou humectés.*  
*Se laver les mains avant les pauses et en fin de travail.*  
*Éviter tout contact avec les yeux.*  
*Éviter tout contact avec les yeux et avec la peau.*
- **Protection respiratoire:** *N'est pas nécessaire.*
- **Protection des mains:**



Gants de protection

- Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.*  
*À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.*  
*Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.*
- **Matériau des gants**  
*Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.*
  - **Temps de pénétration du matériau des gants**  
*Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.*

(suite page 4)

**Fiche de données de sécurité**  
selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

Nom du produit: acide citrique

(suite de la page 3)

## · Protection des yeux:



Lunettes de protection hermétiques

### SECTION 9: Propriétés physiques et chimiques

## · 9.1 Informations sur les propriétés physiques et chimiques essentielles

## · Indications générales

## · Aspect:

Forme:	Solide
Couleur:	Blanc
Odeur:	Inodore
Seuil olfactif:	Non déterminé.

· valeur du pH (100 g/l) à 20 °C: 1,6

## · Changement d'état

Point de fusion:	153 °C
Point d'ébullition:	Non déterminé.

· Point d'éclair Non applicable.

· Inflammabilité (solide, gazeux): La substance n'est pas inflammable.

· Température d'inflammation: 1010 °C

· Température de décomposition: Non déterminé.

· Auto-inflammation: Non déterminé.

· Danger d'explosion: Le produit n'est pas explosif.

## · Limites d'explosion:

Inférieure:	Non déterminé.
Supérieure:	Non déterminé.

· Pression de vapeur: Non applicable.

· Densité à 20 °C: 1,542 g/cm<sup>3</sup>· Masse volumique à 20 °C: 900 kg/m<sup>3</sup>

· Densité relative Non déterminé.

· Densité de vapeur. Non applicable.

· Vitesse d'évaporation Non applicable.

· Solubilité dans/miscibilité avec l'eau à 20 °C: 600 g/l

· Coefficient de partage (n-octanol/eau): Non déterminé.

## · Viscosité:

Dynamique: Non applicable.

Cinématique: Non applicable.

· 9.2 Autres informations Pas d'autres informations importantes disponibles.

FR

(suite page 5)



# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

Nom du produit: acide citrique

(suite de la page 4)

### SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**

· **Valeurs LD/LC50 déterminantes pour la classification:**

Oral	LD50	5040 mg/kg (souris)
------	------	---------------------

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée** Pas d'effet d'irritation.
- **Lésions oculaires graves/irritation oculaire** Effet d'irritation.
- **Sensibilisation respiratoire ou cutanée** Aucun effet de sensibilisation connu.

### SECTION 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**  
 Catégorie de pollution des eaux 1 (D) (classification selon liste): peu polluant  
 Ne pas laisser le produit, non dilué ou en grande quantité, pénétrer la nappe phréatique, les eaux ou les canalisations.  
 Jeter de plus grandes quantités dans la canalisation ou les eaux peut mener à une baisse de la valeur du pH. Une valeur du pH basse est nocive pour les organismes aquatiques. Dans la dilution de la concentration utilisée, la valeur du pH augmente considérablement: après l'utilisation du produit, les eaux résiduaires arrivant dans la canalisation ne sont que faiblement polluantes pour l'eau.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### SECTION 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.

(suite page 6)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 12.06.2015

Révision: 12.06.2015

Nom du produit: acide citrique

(suite de la page 5)

· **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

### SECTION 14: Informations relatives au transport

- |   |                 |
|---|-----------------|
| · 14.1 No ONU<br>· ADR, ADN, IMDG, IATA   | néant           |
| · 14.2 Nom d'expédition des Nations unies<br>· ADR, ADN, IMDG, IATA                                 | néant           |
| · 14.3 Classe(s) de danger pour le transport<br>· ADR, ADN, IMDG, IATA<br>· Classe                  | néant           |
| · 14.4 Groupe d'emballage<br>· ADR, IMDG, IATA  | néant           |
| · 14.5 Dangers pour l'environnement:<br>· Marine Pollutant:   | Non             |
| · 14.6 Précautions particulières à prendre par l'utilisateur  | Non applicable. |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC | Non applicable. |
| · "Règlement type" de l'ONU:  | -               |

### SECTION 15: Informations réglementaires

- 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement
- Directive 2012/18/UE
- Substances dangereuses désignées - ANNEXE I la substance n'est pas comprise
- 15.2 Évaluation de la sécurité chimique: Une évaluation de la sécurité chimique n'a pas été réalisée.

### SECTION 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

#### · Acronymes et abréviations:

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial 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  
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

### ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** Zitronensäure
- **Artikelnummer:** 12480
- **CAS-Nummer:**  
77-92-9
- **EG-Nummer:**  
201-069-1
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de
- 24h Giftnotruf Munchen: +49 (0)89 19240  
Toxikologische Abteilung der II. Medizinischen Klinik  
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS07

- Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.
- Acute Tox. 4 H312 Gesundheitsschädlich bei Hautkontakt.
- Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.
- Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**  
Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

**Handelsname: Zitronensäure**

(Fortsetzung von Seite 1)

**· Gefahrenpiktogramme**

GHS07

**· Signalwort Achtung****· Gefahrenhinweise**H302+H312+H332 *Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.*H319 *Verursacht schwere Augenreizung.***· Sicherheitshinweise**P261 *Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.*P280 *Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.*P305+P351+P338 *BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.*P322 *Gezielte Maßnahmen (siehe auf diesem Kennzeichnungsetikett).*P420 *Von brennbaren Stoffen getrennt lagern.*P501 *Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen/ internationalen Vorschriften.***· 2.3 Sonstige Gefahren****· Ergebnisse der PBT- und vPvB-Beurteilung****· PBT:** Nicht anwendbar.**· vPvB:** Nicht anwendbar.

### ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

**· 3.1 Chemische Charakterisierung: Stoffe****· CAS-Nr. Bezeichnung**

77-92-9 Zitronensäure

**· Identifikationsnummer(n)****· EG-Nummer:** 201-069-1

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

**· 4.1 Beschreibung der Erste-Hilfe-Maßnahmen****· Nach Einatmen:** Frischluftzufuhr, bei Beschwerden Arzt aufsuchen.**· Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.**· Nach Augenkontakt:***Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.***· Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.**· 4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen***Keine weiteren relevanten Informationen verfügbar.***· 4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung***Keine weiteren relevanten Informationen verfügbar.*

DE

(Fortsetzung auf Seite 3)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

Handelsname: Zitronensäure

(Fortsetzung von Seite 2)

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**  
CO<sub>2</sub>, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**  
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:** Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:** Mechanisch aufnehmen.
- **6.4 Verweis auf andere Abschnitte**  
Informationen zur sicheren Handhabung siehe Abschnitt 7.  
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.  
Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**  
Bei sachgemäßer Verwendung keine besonderen Maßnahmen erforderlich.
- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

- **8.1 Zu überwachende Parameter**

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

77-92-9 Zitronensäure

MAK | vgl. Abschn. IIb

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

(Fortsetzung auf Seite 4)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

**Handelsname: Zitronensäure**

(Fortsetzung von Seite 3)

- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**  
*Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.  
 Beschmutzte, getränkte Kleidung sofort ausziehen.  
 Vor den Pausen und bei Arbeitsende Hände waschen.  
 Berührung mit den Augen vermeiden.  
 Berührung mit den Augen und der Haut vermeiden.*
- **Atenschutz:** Nicht erforderlich.
- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

- **Handschuhmaterial**  
*Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.*
- **Durchdringungszeit des Handschuhmaterials**  
*Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.*
- **Augenschutz:**



Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

#### · 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

##### · Allgemeine Angaben

##### · Aussehen:

<b>Form:</b>	Fest
<b>Farbe:</b>	Weiß
<b>Geruch:</b>	Geruchlos
<b>Geruchsschwelle:</b>	Nicht bestimmt.

<b>· pH-Wert (100 g/l) bei 20 °C:</b>	1,6
---------------------------------------	-----

##### · Zustandsänderung

<b>· Schmelzpunkt/Schmelzbereich:</b>	153 °C
<b>· Siedepunkt/Siedebereich:</b>	Nicht bestimmt.

<b>· Flammpunkt:</b>	Nicht anwendbar.
----------------------	------------------

<b>· Entzündlichkeit (fest, gasförmig):</b>	Der Stoff ist nicht entzündlich.
---	----------------------------------

<b>· Zündtemperatur:</b>	1010 °C
--------------------------	---------

<b>· Zersetzungstemperatur:</b>	Nicht bestimmt.
---------------------------------	-----------------

(Fortsetzung auf Seite 5)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

**Handelsname:** Zitronensäure

(Fortsetzung von Seite 4)

· <b>Selbstentzündlichkeit:</b>	Nicht bestimmt.
· <b>Explosionsgefahr:</b>	Das Produkt ist nicht explosionsgefährlich.
· <b>Explosionsgrenzen:</b>	
<b>Untere:</b>	Nicht bestimmt.
<b>Obere:</b>	Nicht bestimmt.
· <b>Dampfdruck:</b>	Nicht anwendbar.
· <b>Dichte bei 20 °C:</b>	1,542 g/cm <sup>3</sup>
· <b>Schüttdichte bei 20 °C:</b>	900 kg/m <sup>3</sup>
· <b>Relative Dichte</b>	Nicht bestimmt.
· <b>Dampfdichte</b>	Nicht anwendbar.
· <b>Verdampfungsgeschwindigkeit</b>	Nicht anwendbar.
· <b>Löslichkeit in / Mischbarkeit mit Wasser bei 20 °C:</b>	600 g/l
· <b>Verteilungskoeffizient (n-Octanol/Wasser):</b>	Nicht bestimmt.
· <b>Viskosität:</b>	
<b>Dynamisch:</b>	Nicht anwendbar.
<b>Kinematisch:</b>	Nicht anwendbar.
· <b>9.2 Sonstige Angaben</b>	Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**

#### · Einstufungsrelevante LD/LC50-Werte:

Oral	LD50	5040 mg/kg (mouse)
------	------	--------------------

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Keine Reizwirkung.
- **Schwere Augenschädigung/-reizung** Reizwirkung.
- **Sensibilisierung der Atemwege/Haut** Keine sensibilisierende Wirkung bekannt.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.

(Fortsetzung auf Seite 6)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

**Handelsname: Zitronensäure**

(Fortsetzung von Seite 5)

- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.

· **Weitere ökologische Hinweise:**

· **Allgemeine Hinweise:**

Wassergefährdungsklasse 1 (Listeneinstufung): schwach wassergefährdend

Nicht unverdünnt bzw. in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.

Wegspülen größerer Mengen in Kanalisation oder Gewässer kann zur pH-Wert-Erniedrigung führen. Ein niedriger pH-Wert schädigt Wasserorganismen. In der Verdünnung der Anwendungskonzentration erhöht sich der pH-Wert erheblich, so dass nach dem Gebrauch des Produktes die in die Kanalisation gelangenden Abwässer nur schwach wassergefährdend wirken.

· **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

· **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

<ul style="list-style-type: none"> <li>· <b>14.1 UN-Nummer</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	entfällt
<ul style="list-style-type: none"> <li>· <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	entfällt
<ul style="list-style-type: none"> <li>· <b>14.3 Transportgefahrenklassen</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> <li>· <b>Klasse</b></li> </ul>	entfällt
<ul style="list-style-type: none"> <li>· <b>14.4 Verpackungsgruppe</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	entfällt
<ul style="list-style-type: none"> <li>· <b>14.5 Umweltgefahren:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	Nein
<ul style="list-style-type: none"> <li>· <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b></li> </ul>	Nicht anwendbar.
<ul style="list-style-type: none"> <li>· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code</b></li> </ul>	Nicht anwendbar.
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	-

DE

(Fortsetzung auf Seite 7)



# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 12.06.2015

überarbeitet am: 12.06.2015

**Handelsname: Zitronensäure**

(Fortsetzung von Seite 6)

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Der Stoff ist nicht enthalten.
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 1 (Listeneinstufung):** schwach wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

· **Abkürzungen und Akronyme:**

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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial 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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

DE

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 12.06.2015

Revisione: 12.06.2015

### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** acido citrico

· **Articolo numero:** 12480

· **Numero CAS:**

77-92-9

· **Numeri CE:**

201-069-1

· **1.2 Usi pertinenti identificati della sostanza o miscela e usi sconsigliati** Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

Acute Tox. 4 H312 Nocivo per contatto con la pelle.

Acute Tox. 4 H332 Nocivo se inalato.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

La sostanza è classificata ed etichettata conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS07

· **Avvertenza** Attenzione

(continua a pagina 2)

**Scheda di dati di sicurezza**  
**ai sensi del regolamento 1907/2006/CE, Articolo 31**

Stampato il: 12.06.2015

Revisione: 12.06.2015

**Denominazione commerciale: acido citrico**

(Segue da pagina 1)

**· Indicazioni di pericolo***H302+H312+H332 Nocivo se ingerito, a contatto con la pelle o se inalato.**H319 Provoca grave irritazione oculare.***· Consigli di prudenza***P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.**P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.**P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.**P322 Misure specifiche (vedere su questa etichetta).**P420 Conservare lontano da sostanze infiammabili.**P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.***· 2.3 Altri pericoli****· Risultati della valutazione PBT e vPvB****· PBT:** Non applicabile.**· vPvB:** Non applicabile.**SEZIONE 3: Composizione/informazioni sugli ingredienti****· 3.1 Caratteristiche chimiche: Sostanze****· Numero CAS***77-92-9 acido citrico***· Numeroli di identificazione****· Numeri CE:** 201-069-1**SEZIONE 4: Misure di primo soccorso****· 4.1 Descrizione delle misure di primo soccorso****· Inalazione:** Portare in zona ben areata, in caso di disturbi consultare il medico.**· Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.**· Contatto con gli occhi:***Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.***· Ingestione:** Se il dolore persiste consultare il medico.**· 4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.**· 4.3 Indicazione della eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
*Non sono disponibili altre informazioni.***SEZIONE 5: Misure antincendio****· 5.1 Mezzi di estinzione****· Mezzi di estinzione idonei:***CO<sub>2</sub>, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.***· 5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.**· 5.3 Raccomandazioni per gli addetti all'estinzione degli incendi****· Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.**SEZIONE 6: Misure in caso di rilascio accidentale****· 6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza** Non necessario.

(continua a pagina 3)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 12.06.2015

Revisione: 12.06.2015

**Denominazione commerciale: acido citrico**

(Segue da pagina 2)

- **6.2 Precauzioni ambientali:** Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:** Raccogliere con mezzi meccanici.
- **6.4 Riferimento ad altre sezioni**  
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
Per informazioni relative allo smaltimento vedere Capitolo 13.

### **SEZIONE 7: Manipolazione e immagazzinamento**

- **7.1 Precauzioni per la manipolazione sicura** Per un uso corretto non sono necessari provvedimenti particolari.
- **Indicazioni in caso di incendio ed esplosione:** Non sono richiesti provvedimenti particolari.
- **7.2 Condizioni per l'immagazzinamento sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **7.3 Usi finali specifici** Non sono disponibili altre informazioni.

### **SEZIONE 8: Controllo dell'esposizione/protezione individuale**

- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.
- **8.1 Parametri di controllo**
- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:** Non Necessario.
- **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.
- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**  
Tenere lontano da cibo, bevande e foraggi.  
Togliere immediatamente gli abiti contaminati.  
Lavarsi le mani prima dell'intervallo o a lavoro terminato.  
Evitare il contatto con gli occhi.  
Evitare il contatto con gli occhi e la pelle.
- **Maschera protettiva:** Non necessario.
- **Guanti protettivi:**



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.  
A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

- **Materiale dei guanti**

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro.

- **Tempo di permeazione del materiale dei guanti**

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

(continua a pagina 4)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 12.06.2015

Revisione: 12.06.2015

Denominazione commerciale: acido citrico

(Segue da pagina 3)

· Occhiali protettivi:



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

#### · 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

##### · Indicazioni generali

##### · Aspetto:

**Forma:** Solido

**Colore:** Bianco

· **Odore:** Inodore

· **Soglia olfattiva:** Non definito.

· **valori di pH (100 g/l) a 20 °C:** 1,6

##### · Cambiamento di stato

**Temperatura di fusione/ambito di fusione:** 153 °C

**Temperatura di ebollizione/ambito di ebollizione:** Non definito.

· **Punto di infiammabilità:** Non applicabile.

· **Infiammabilità (solido, gassoso):** Sostanza non infiammabile.

· **Temperatura di accensione:** 1010 °C

· **Temperatura di decomposizione:** Non definito.

· **Autoaccensione:** Non definito.

· **Pericolo di esplosione:** Prodotto non esplosivo.

##### · Limiti di infiammabilità:

**Inferiore:** Non definito.

**Superiore:** Non definito.

· **Tensione di vapore:** Non applicabile.

· **Densità a 20 °C:** 1,542 g/cm<sup>3</sup>

· **Densità apparente a 20 °C:** 900 kg/m<sup>3</sup>

· **Densità relativa** Non definito.

· **Densità del vapore** Non applicabile.

· **Velocità di evaporazione** Non applicabile.

· **Solubilità in/Miscibilità con  
acqua a 20 °C:**

600 g/l

· **Coefficiente di distribuzione (n-Octanol/acqua):** Non definito.

##### · Viscosità:

**Dinamica:** Non applicabile.

**Cinematica:** Non applicabile.

· **9.2 Altre informazioni** Non sono disponibili altre informazioni.

IT  
(continua a pagina 5)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 12.06.2015

Revisione: 12.06.2015

Denominazione commerciale: acido citrico

(Segue da pagina 4)

**SEZIONE 10: Stabilità e reattività**

- **10.1 Reattività**
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

**SEZIONE 11: Informazioni tossicologiche**

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta**

· <b>Valori LD/LC50 rilevanti per la classificazione:</b>
---

Orale	LD50	5040 mg/kg (mouse)
-------	------	--------------------

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Non ha effetti irritanti.
- **Lesioni oculari gravi/irritazioni oculari gravi** Irritante.
- **Sensibilizzazione respiratoria o cutanea** Non si conoscono effetti sensibilizzanti.

**SEZIONE 12: Informazioni ecologiche**

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 1 (D) (Classif. secondo le liste): poco pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.  
Dilavare grandi quantità nella fognatura o in corpi d'acqua può risultare in un abbassamento del valore pH. Un basso valore pH danneggia gli organismi acquatici. Nella diluizione della concentrazione d'uso si alza il valore pH notevolmente, cosicché dopo l'uso del prodotto le acque di scarico che raggiungono la fognatura sono soltanto poco pericolose per l'acqua.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

**SEZIONE 13: Considerazioni sullo smaltimento**

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

(continua a pagina 6)

IT

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 12.06.2015

Revisione: 12.06.2015

**Denominazione commerciale: acido citrico**

(Segue da pagina 5)

· **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

### SEZIONE 14: Informazioni sul trasporto

· <b>14.1 Numero ONU</b> · <b>ADR, ADN, IMDG, IATA</b>	<i>non applicabile</i>
· <b>14.2 Nome di spedizione dell'ONU</b> · <b>ADR, ADN, IMDG, IATA</b>	<i>non applicabile</i>
· <b>14.3 Classi di pericolo connesso al trasporto</b> · <b>ADR, ADN, IMDG, IATA</b> · <b>Classe</b>	<i>non applicabile</i>
· <b>14.4 Gruppo di imballaggio</b> · <b>ADR, IMDG, IATA</b>	<i>non applicabile</i>
· <b>14.5 Pericoli per l'ambiente:</b> · <b>Marine pollutant:</b>	<i>No</i>
· <b>14.6 Precauzioni speciali per gli utilizzatori</b>	<i>Non applicabile.</i>
· <b>14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL 73/78 ed il codice IBC</b>	<i>Non applicabile.</i>
· <b>UN "Model Regulation":</b>	<i>-</i>

### SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Norme e legislazione su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** La sostanza non è contenuta
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

### SEZIONE 16: Altre informazioni

*I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.*

· **Abbreviazioni e acronimi:**

*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 Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial 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*

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

### 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: Citric Acid  
12480
- 상품번호: 12480
- CAS-번호  
77-92-9
- EC 의번호:  
201-069-1
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- Samchang Commercial Co., Ltd.  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 유해성.위험성

- 순물질 또는 혼합물의 분류



심한 눈 손상/자극성 구분2 H319 눈에 심한 자극을 일으킴

- 라벨표기 요소
- GHS 라벨 요소
- 본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.
- 그림문자



GHS07

- 신호어 경고
- 유해.위험 문구  
눈에 심한 자극을 일으킴
- 예방조치 문구  
(보호장갑·보호의·보안경·안면보호구)를(을) 착용 하시오.

(2 쪽에 계속)



# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명: Citric Acid**  
12480

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오. (1 쪽부터계속)

화염성 물질과 떨어진 곳에 보관.

산화제와 떨어진 곳에 보관

환원제와 떨어진 곳에 보관

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

- 기타 유해성
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

- 화학적 특성: 화학물질
- CAS-번호표시  
77-92-9 Citric Acid  
12480
- 식별 번호
- EC 의번호: 201-069-1

### 4 응급조치 요령

- 응급조치요령 내용
- 흡입했을 때: 신선한 공기를 쐬고, 통증이 있을 때는 의료진의 도움을 구한다.
- 피부에 접촉했을 때: 일반적으로 이제품은 피부에 자극적이지 않다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다
- 먹었을 때: 증상이 지속될 경우에는 의사와 상담한다.
- 기타 의사의 주의사항:
- 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
- 즉각적인 의료처리 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

### 5 폭발.화재시 대처방법

- 소화제
- 적절한 소화제:  
이산화탄소, 진화용석회가루 또는 물방사를 사용하고, 더큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

### 6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처리 절차 필요없음.
- 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재: 기계를 사용해서 집어 올린다.
- 타 섹션 참조
- 안전 관리에 대한 정보는 제7 장 을 참고하십시오.
- 개인 보호 장비에 대한 정보는 제8 장 을 참고하십시오.

(3 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명:** Citric Acid  
12480

(2 쪽부터계속)

쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

### 7 취급 및 저장방법

- 취급:
- 안전 취급을 위한 예방조치 올바르게 사용할 경우에는 특별한 주의가 필요없다.
- 화재 및 폭발 사고 예방대책에 관한 정보: 특별한 조치가 필요없음.
- 혼합위험성 등 안전 저장 조건
- 보관:
- 안전한 저장 방법: 특별한 요구사항이 없음.
- 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
- 보관 조건에 관한 추가적인 정보: 용기를 새지않게 밀폐한채보관한다.
- 구체적인 최종 사용자 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항목 7 을 참고하십시오.
- 통제 변수
- 화학물질의 노출기준, 생물학적 노출기준 등: 생략
- 추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.
- 노출 통제
- 개인 보호구
- 일반적보호조치및위생조치:
  - 식료품, 음료수와 사료로부터 멀리떨어뜨려놓는다.
  - 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
  - 휴식전이나 작업이 끝날때마다 손을 씻는다.
  - 눈과의 접촉을 피한다.
  - 눈과 피부와의 접촉은 피한다.
- 호흡기 보호: 필요없음.
- 손 보호:



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.  
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.  
투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

#### · 장갑의재료

적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업자에따라서도다르게선정되어야한다.

- 장갑 재료의 투과 시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

(4 쪽에계속)

KR

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명:** Citric Acid  
12480

· **눈 보호:**

(3 쪽부터계속)



· **팍조이는보안경**

### 9 물리화학적 특성

· <b>기본 물리 및 화학적 특성에 대한 정보</b>	
· 일반정보	
· 외형	
· 물리적 상태:	고체
· 색:	하얀
· 냄새:	무취의
· 후각역치	알맞지않다.
· pH (100 g/l) 의경우 20 °C:	1.6
· 상태변화	
· 녹는점/어는점:	153 °C
· 초기 끓는점과 끓는점 범위:	맞지않는
· 인화점:	해당사항 없음.
· 인화성(고체, 기체):	이 제품은 가연 성 이 없다.
· 점화온도:	1010 °C
· 분해 온도:	알맞지않다.
· 자기점화:	알맞지않다.
· 폭발위험:	이제품은폭발위험성이없다
· 인화 또는 폭발 범위의 상한/하한	
· 아래로:	알맞지않다.
· 위로:	알맞지않다.
· 증기압:	해당사항 없음.
· 밀도 의경우 20 °C:	1.542 g/cm <sup>3</sup>
· 용 적 밀도 의경우 20 °C:	900 kg/m <sup>3</sup>
· 비중:	알맞지않다.
· 증기밀도:	해당사항 없음.
· 증발 속도:	해당사항 없음.
· 용해도:	
· 물 의경우 20 °C:	600 g/l
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학성:	해당사항 없음.
· 동점성:	해당사항 없음.
· 기타 정보	추가적인 정보가 존재하지 않습니다.

KR

(5 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명:** Citric Acid  
12480

(4 쪽부터계속)

### 10 안정성 및 반응성

- 반응성
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:
 

· LD/LC50-수치에 따른 분류:		
구강의	LD50	5040 mg/kg (mouse)
- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 무자극
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 민감한영향이없는것으로알려져있다.

### 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
  - 수질오염등급 1 (목록분류): 약하게수질오염이된
  - 희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
  - 많은양을하수도관이나하천으로방류하게되면, pH-수치는낮아집니다. 낮아진 pH-수치는물속의유기체를 손상시킵니다. 사용농축액을희석시키면 pH-수치는현저하게높아지게됩니다. 그래서제품을사용한후에하수도관에도달되는폐수는물에끼치는위험성이약해지게됩니다.
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.

(6 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명:** Citric Acid  
12480

· **추천 세정제:** 경우에따라서세제가첨가된물

(5 쪽부터계속)

### 14 운송에 필요한 정보

· 유엔 번호 · ADR, ADN, IMDG, IATA	누락되다
· UN 적정 선적명 · ADR, ADN, IMDG, IATA	누락되다
· 교통 위험 클래스 · ADR, ADN, IMDG, IATA · 등급	누락되다
· 용기등급 · ADR, IMDG, IATA	누락되다
· 환경적 유해물질: · 해양오염물질:	아니오
· 이용자 특별 예방조치	해당사항 없음.
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· UN "모범 규제":	-

### 15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
77-92-9	Citric Acid 12480	KE-20831

· **GHS 라벨 요소**  
본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· **위험 도표**



GHS07

· **표지어 경고**

· **위험 문구**

눈에 심한 자극을 일으킴

· **주의 문구**

(보호장갑·보호의·보안경·안면보호구)를(을) 착용 하시오.

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거 하시오. 계속 씻으시오.

화염성 물질과 떨어진 곳에 보관.

산화제와 떨어진 곳에 보관

환원제와 떨어진 곳에 보관

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

(7 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.12

개정: 2015.06.12

**제품명: Citric Acid**  
12480

· **화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

(6 쪽부터계속)

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은  
기술하지않았으며계약적인법률관계에기반을두고있지도않다

- **최초 작성일자:** 2015.06.12
- **개정 횟수 및 최종 개정일자:** 1 / 2015.06.12
- **약어와 두문자어:**

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

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

심한 눈 손상/자극성 구분2: Serious eye damage/eye irritation, Hazard Category 2

KR

**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

### 1 Наименование вещества / препарата и фирмы / предприятия

- Идентификатор продукта
- Торговое наименование: Citric Acid  
12480
- Артикульный номер: 12480
- Номер CAS:  
77-92-9
- Номер ЕС:  
201-069-1
- Соответствующие установленные применения вещества или смеси и не рекомендуемые области использования  
Отсутствует какая-либо соответствующая информация.
- Применение вещества / препарата Лабораторные химикаты
- Подробная информация поставщика паспорта безопасности
- Производитель / Поставщик:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- Отдел, предоставляющий информацию: Product safety department
- Номер телефона экстренной связи:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Возможные виды опасности

- Классификация вещества или смеси



Раздражение кожи 2A H319 Вызывает серьезное раздражение глаз.

Острая токсичность 5 H303 Может нанести вред при проглатывании.

Острая токсичность 5 H313 Может нанести вред при контакте с кожей.

Острая токсичность 5 H333 Может нанести вред при вдыхании.

- Элементы маркировки
- Элементы маркировки в соответствии с СГС

Данное вещество классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).

- Пиктограммы, обозначающие опасности



GHS07

- Сигнальное слово Осторожно
- Предупреждения об опасности  
Может нанести вред при проглатывании.  
Может нанести вред при контакте с кожей.

(Продолжение на странице 2)

# Паспорт безопасности.

## в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 1)

*Может нанести вред при вдыхании.*

*Вызывает серьезное раздражение глаз.*

**· Меры предосторожности**

*Надеть защитные перчатки (рукавицы) / защитную одежду / защитные очки / защитную маску.*

*ПРИ ПОПАДАНИИ В ГЛАЗА: Осторожно промыть глаза водой в течение нескольких минут. Снять контактные линзы, если вы ими пользуетесь и если это легко сделать. Продолжить промывание глаз.*

*Хранить отдельно от горючих веществ.*

*Хранить отдельно от окислителей.*

*Хранить отдельно от восстановителей.*

*Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.*

**· Другие опасные факторы**

**· Результаты оценки PBT (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**

**· PBT:** Неприменимо.

**· vPvB:** Неприменимо.

### 3 Состав / Данные по составляющим компонентам

**· Химическая характеристика: Вещества**

**· Обозначение номера CAS**

77-92-9 Citric Acid

12480

**· Идентификационный (-ые) номер (-а)**

**· Номер ЕС:** 201-069-1

### 4 Меры по оказанию первой помощи

**· Описание мер первой медицинской помощи**

**· После вдыхания:** Обеспечить доступ свежего воздуха, при недомоганиях обратиться к врачу.

**· После контакта с кожей:** Как правило, продукт не оказывает раздражающего воздействия на кожу.

**· После контакта с глазами:**

*Промойте открытый глаз под проточной водой в течение нескольких минут. При сохранении симптомов обратитесь к врачу.*

**· После проглатывания:** При сохранении симптомов обратиться к врачу за консультацией.

**· Указания для врача:**

**· Наиболее важные симптомы и эффекты, как немедленные, так и проявляющиеся впоследствии**

*Отсутствует какая-либо соответствующая информация.*

**· Указание на необходимость оперативной медицинской помощи и специального режима**

*Отсутствует какая-либо соответствующая информация.*

### 5 Меры по борьбе с пожаром

**· Средства пожаротушения**

**· Надлежащие средства тушения:**

*CO<sub>2</sub>, порошковое средство для тушения или водяная струя мелкого разбрызгивания. При борьбе с крупными пожарами следует применять водяную струю мелкого разбрызгивания или спиртоустойчивую пену.*

**· Особые опасности, создаваемые веществом или смесью**

*Отсутствует какая-либо соответствующая информация.*

(Продолжение на странице 3)



**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 2)

- **Рекомендации для пожарных**
- **Защитное оснащение:** Нет необходимости в каких-либо специальных мерах.

### 6 Меры при непреднамеренном выделении (утечке)

- **Меры по обеспечению личной безопасности, защитное снаряжение и порядок действий в чрезвычайной ситуации**  
Не требуется.
- **Меры по защите окружающей среды:**  
Не допускать попадания в канализационную систему / поверхностные или грунтовые воды.
- **Методы и материалы для локализации и очистки:** Собрать механическим образом.
- **Ссылки на другие разделы**  
Информация по безопасному обращению - в Главе 7.  
Информация по индивидуальному защитному снаряжению - в Главе 8.  
Информация по утилизации - в Главе 13.

### 7 Обращение с веществом и его хранение

- **Обращение с веществом:**
- **Меры предосторожности по безопасному обращению**  
При надлежащем применении нет необходимости в каких-либо специальных мерах предосторожности.
- **Указания по защите от пожаров и взрывов:** Нет необходимости в каких-либо специальных мерах.
- **Условия безопасного хранения, включая несовместимости**
- **Хранение:**
- **Требования, предъявляемые к складским помещениям и таре:**  
Никаких особых требований не предъявляется.
- **Указания по совместимости с другими веществами при хранении:** Не требуется.
- **Дальнейшие данные по условиям хранения:** Держать ёмкости плотно закрытыми.
- **Характерное конечное применение (или применения)**  
Отсутствует какая-либо соответствующая информация.

### 8 Ограничение воздействия вещества и контроль / индивидуальные средства защиты

- **Дополнительные указания по структуре технических устройств:**  
Никаких дополнительных данных; см. Пункт 7.

- **Параметры контроля**

- **Составляющие компоненты с предельными значениями, требующие мониторинга на рабочих местах:**

77-92-9 Citric Acid  
12480

PDK	Краткосрочное значение: 1 мг/м <sup>3</sup> аэрозоль
-----	---

- **Дополнительные указания:**  
В качестве основы послужили списки, являвшиеся на момент составления актуальными.
- **Требования по охране труда и меры по обеспечению безопасности персонала**
- **Средства индивидуальной защиты:**
- **Общие меры по защите от воздействия и гигиене:**  
Держать подальше от продуктов питания, напитков и корма для животных.

(Продолжение на странице 4)

**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 3)

Немедленно снять всю загрязнённую и пропитанную вредными веществами одежду.

Мыть руки перед перерывами и по окончании работы.

Избегать контакта с глазами.

Избегать контакта с глазами и с кожей.

· **Защита органов дыхания:** Не требуется.

· **Защита рук:**



Защитные перчатки (рукавицы).

Материал перчаток / рукавиц должен быть устойчивым к воздействию продукта / вещества / препарата и не пропускать их.

Никаких рекомендаций в отношении материала перчаток / рукавиц, пригодных для применения в ходе работы с продуктом / препаратом / смесью химикатов дать нельзя, так как никаких испытаний в этом отношении не проводилось.

Выбор материала перчаток / рукавиц производится с учётом времени прорыва, степени проницаемости и эрозии.

· **Материал перчаток / рукавиц**

Выбор подходящих перчаток / рукавиц определяется не только материалом, но также и другими качественными особенностями, причём между различными производителями существует большая разница.

· **Период проницаемости материала перчаток / рукавиц.**

Необходимо осведомиться у производителя защитных перчаток / рукавиц о точном времени прорыва и придерживаться его.

· **Защита глаз:**



Плотно прилегающие защитные очки

## 9 Физические и химические свойства

· **Информация по основным физическим и химическим свойствам**

· **Общая информация**

· **Внешний вид:**

· **Форма:**

Твёрдое

· **Цвет:**

Белое

· **Запах:**

Без запаха

· **Порог запаха:**

Не определено.

· **Значение pH (100 г/л) при 20 °C:**

1,6

· **Изменение состояния**

· **Точка плавления / интервал температур плавления:**

153 °C

· **Точка кипения / интервал температур кипения:** Не определено.

· **Температурная точка вспышки:**

Неприменимо.

· **Воспламеняемость (твёрдое, газообразное вещество):**

Вещество является невоспламеняемым.

(Продолжение на странице 5)

**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

Торговое наименование: Citric Acid  
12480

(Продолжение страницы 4)

· Температура воспламенения:	1010 °C
· Температура распада:	Не определено.
· Самовоспламеняемость:	Не определено.
· Взрывоопасность:	Продукт не является взрывоопасным.
· Границы взрываемости: Нижняя:	Не определено.
Верхняя:	Не определено.
· Давление пара:	Неприменимо.
· Плотность при 20 °C:	1,542 г/см <sup>3</sup>
· Насыпная плотность при 20 °C:	900 кг/м <sup>3</sup>
· Относительная плотность	Не определено.
· Плотность пара	Неприменимо.
· Скорость испарения	Неприменимо.
· Растворимость в / Смешиваемость с водой при 20 °C:	600 г/л
· Коэффициент распределения (n-октанол / вода):	Не определено.
· Вязкость: Динамическая:	Неприменимо.
Кинематическая:	Неприменимо.
· Другая информация	Отсутствует какая-либо соответствующая информация.

### 10 Стабильность и реакционная способность

- Реакционная способность
- Химическая стабильность
- Термический распад / условия, которых следует избегать:  
При использовании в соответствии с предписаниями не происходит никакого распада.
- Возможность опасных реакций Неизвестно ни о каких опасных реакциях.
- Условия, вызывающие опасные изменения Отсутствует какая-либо соответствующая информация.
- Несовместимые материалы: Отсутствует какая-либо соответствующая информация.
- Опасные продукты распада: Неизвестно ни о каких опасных продуктах распада.

### 11 Данные по токсикологии

- Информация по токсикологическому воздействию
- Острая токсичность:

· Значения LD/LC50 (летальной дозы/концентрации), необходимые для классифицирования:

Орально (через рот)	LD50	5040 мг/кг (mouse)
---------------------	------	--------------------

- Первичное раздражающее воздействие:
- на кожу: Нет раздражающего воздействия.
- на глаза: Раздражающее воздействие.

(Продолжение на странице 6)

**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 5)

- **Сенсибилизация:** *Неизвестно о наличии сенсибилизирующего воздействия.*

## 12 Экологическая информация

- **Токсичность**
- **Акватоксичность:** *Отсутствует какая-либо соответствующая информация.*
- **Стойкость и склонность к деградации** *Отсутствует какая-либо соответствующая информация.*
- **Поведение в экологических системах:**
- **Биоаккумулятивный потенциал** *Отсутствует какая-либо соответствующая информация.*
- **Подвижность в грунте** *Отсутствует какая-либо соответствующая информация.*
- **Дополнительные экологические указания:**
- **Общие указания:**  
*Класс вредности для воды 1 (Списочная классификация): немного вредно для воды*  
*Не допускать попадания продукта в грунтовые воды, водоёмы или в канализационную систему в неразбавленном виде или в больших количествах.*  
*Смыв более существенных объёмов в канализацию или в водоёмы может привести к уменьшению значения рН. Низкое значение рН наносит вред водным организмам. В разведённом состоянии применяемой концентрации значение рН существенно увеличивается, поэтому сточные воды, попавшие в канализацию после использования продукта, обладают лишь слабым вредным для воды воздействием.*
- **Результаты оценки РВТ (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**
- **РВТ:** *Неприменимо.*
- **vPvB:** *Неприменимо.*
- **Другие вредные эффекты** *Отсутствует какая-либо соответствующая информация.*

## 13 Указания по утилизации

- **Методы обработки отходов**
- **Рекомендация:**  
*Утилизация совместно с бытовыми отходами недопустима. Не допускать попадания в канализацию.*
- **Неочищенные упаковки:**
- **Рекомендация:**  
*Утилизация должна быть осуществлена в соответствии с предписаниями компетентных служб.*
- **Рекомендуемые чистящие средства:** *Вода - если необходимо, с добавлением чистящих средств.*

## 14 Информация по транспорту

- |  |                 |
|--|-----------------|
| · <b>Номер UN</b>                                  |                 |
| · <b>ADR, ADN, IMDG, IATA</b>                      | <i>отпадает</i> |
| · <b>Собственное транспортное наименование ООН</b> |                 |
| · <b>ADR, ADN, IMDG, IATA</b>                      | <i>отпадает</i> |
| · <b>классов опасности транспорта</b>              |                 |
| · <b>ADR, ADN, IMDG, IATA</b>                      |                 |
| · <b>Класс</b>                                     | <i>отпадает</i> |
| · <b>Группа упаковки</b>                           |                 |
| · <b>ADR, IMDG, IATA</b>                           | <i>отпадает</i> |

(Продолжение на странице 7)

**Паспорт безопасности.**  
в соответствии с 1907/2006/ЕС, Статья 31

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 6)

- |  |              |
|--|--------------|
| · <b>Экологические риски:</b>  |              |
| · <b>Загрязнитель морской среды:</b>   | Нет          |
| · <b>Особые меры предосторожности для пользователей</b>  | Неприменимо. |
| · <b>Транспортировка навалом в соответствии с Приложением II MARPOL73/78 (Международная конвенция по предотвращению загрязнения вод с судов) и IBC Code (Международный кодекс перевозок опасных химических грузов наливом)</b> | Неприменимо. |
| · <b>UN "Model Regulation":</b>  | -            |

### 15 Предписания

- **Нормы безопасности, правила охраны труда и экологические нормативы или стандарты, действующие для вещества или смеси**
- **Элементы маркировки в соответствии с СГС**  
Данное вещество классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).
- **Пиктограммы, обозначающие опасности**



GHS07

- **Сигнальное слово** *Осторожно*
- **Предупреждения об опасности**  
*Может нанести вред при проглатывании.*  
*Может нанести вред при контакте с кожей.*  
*Может нанести вред при вдыхании.*  
*Вызывает серьезное раздражение глаз.*
- **Меры предосторожности**  
*Надеть защитные перчатки (рукавицы) / защитную одежду / защитные очки / защитную маску.*  
**ПРИ ПОПАДАНИИ В ГЛАЗА:** *Осторожно промыть глаза водой в течение нескольких минут. Снять контактные линзы, если вы ими пользуетесь и если это легко сделать. Продолжить промывание глаз.*  
*Хранить отдельно от горючих веществ.*  
*Хранить отдельно от окислителей.*  
*Хранить отдельно от восстановителей.*  
*Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.*
- **Оценка химической безопасности:** *Оценка химической безопасности не проведена.*

### 16 Прочая информация:

Данные опираются на актуальные знания, однако они не являются гарантией каких-либо конкретных свойств продукта и не устанавливают никаких действующих с юридической точки зрения договорных отношений.

(Продолжение на странице 8)

RU

**Паспорт безопасности.**  
**в соответствии с 1907/2006/ЕС, Статья 31**

Дата печати: 12.06.2015

Дата редактирования: 12.06.2015

**Торговое наименование: Citric Acid**  
**12480**

(Продолжение страницы 7)

**· Аббревиатуры и акронимы:**

*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*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Острая токсичность 5: Acute toxicity, Hazard Category 5*

*Раздражение кожи 2A: Serious eye damage/eye irritation, Hazard Category 2A*

RU

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** ácido cítrico

· **Número del artículo:** 12480

· **Número CAS:**

77-92-9

· **Número CE:**

201-069-1

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**

No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

#### · 1.3 Datos del proveedor de la ficha de datos de seguridad

· **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

· **1.4 Teléfono de emergencia:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

#### · 2.1 Clasificación de la sustancia o de la mezcla

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Acute Tox. 4 H312 Nocivo en contacto con la piel.

Acute Tox. 4 H332 Nocivo en caso de inhalación.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

#### · 2.2 Elementos de la etiqueta

· **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**

La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

Nombre comercial: ácido cítrico

( se continua en página 1 )

· **Pictogramas de peligro**

GHS07

· **Palabra de advertencia** Atención· **Indicaciones de peligro**

H302+H312+H332 Nocivo en caso de ingestión, contacto con la piel o inhalación.

H319 Provoca irritación ocular grave.

· **Consejos de prudencia**

P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.

P280 Llevar guantes/prendas/gafas/máscara de protección.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

P322 Se necesitan medidas específicas (ver en esta etiqueta).

P420 Almacenar alejado de materiales inflamables.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

### SECCIÓN 3: Composición/información sobre los componentes

· **3.1 Caracterización química: Sustancias**· **Denominación N° CAS**

77-92-9 ácido cítrico

· **Número(s) de identificación**· **Número CE:** 201-069-1

### SECCIÓN 4: Primeros auxilios

· **4.1 Descripción de los primeros auxilios**· **En caso de inhalación del producto:** Suministrar aire fresco. En caso de trastornos, consultar al médico.· **En caso de contacto con la piel:** Por regla general, el producto no irrita la piel.· **En caso de con los ojos:**

Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

· **En caso de ingestión:** Consultar un médico si los trastornos persisten.· **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.· **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

No existen más datos relevantes disponibles.

ES

( se continua en página 3 )



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

Nombre comercial: ácido cítrico

( se continua en página 2 )

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**  
CO<sub>2</sub>, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** No se requieren medidas especiales.

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
- **6.2 Precauciones relativas al medio ambiente:**  
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:** Recoger mecánicamente.
- **6.4 Referencia a otras secciones**  
Ver capítulo 7 para mayor información sobre una manipulación segura.  
Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
Si se manipulan correctamente, no se requieren medidas especiales.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

### SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**  
Sin datos adicionales, ver punto 7.
- **8.1 Parámetros de control**
- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:** Nulo.
- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.
- **8.2 Controles de la exposición**
- **Equipo de protección individual:**
- **Medidas generales de protección e higiene:**  
Mantener alejado de alimentos, bebidas y alimentos para animales.  
Quitarse de inmediato la ropa ensuciada o impregnada.  
Lavarse las manos antes de las pausas y al final del trabajo.  
Evitar el contacto con los ojos.  
Evitar el contacto con los ojos y la piel.
- **Protección respiratoria:** No es necesario.

( se continua en página 4 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

Nombre comercial: ácido cítrico

( se continua en página 3 )

### · Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

### · Material de los guantes

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro.

### · Tiempo de penetración del material de los guantes

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

### · Protección de ojos:



Gafas de protección herméticas

## SECCIÓN 9: Propiedades físicas y químicas

### · 9.1 Información sobre propiedades físicas y químicas básicas

#### · Datos generales

#### · Aspecto:

Forma: Sólido

Color: Blanco

· Olor: Inodoro

· Umbral olfativo: No determinado.

· valor pH (100 g/l) a 20 °C: 1,6

#### · Cambio de estado

Punto de fusión /campo de fusión: 153 °C

Punto de ebullición /campo de ebullición: Indeterminado.

· Punto de inflamación: No aplicable.

· Inflamabilidad (sólido, gaseiforme): La sustancia no es inflamable.

· Temperatura de ignición: 1010 °C

· Temperatura de descomposición: No determinado.

· Autoinflamabilidad: No determinado.

· Peligro de explosión: El producto no es explosivo.

#### · Límites de explosión:

Inferior: No determinado.

Superior: No determinado.

· Presión de vapor: No aplicable.

· Densidad a 20 °C: 1,542 g/cm<sup>3</sup>

( se continua en página 5 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

Nombre comercial: ácido cítrico

( se continua en página 4 )

· <b>Densidad a granel a 20 °C:</b>	900 kg/m <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No aplicable.
· <b>Velocidad de evaporación</b>	No aplicable.
· <b>Solubilidad en / miscibilidad con agua a 20 °C:</b>	600 g/l
· <b>Coeficiente de reparto (n-octanol/agua):</b>	No determinado.
· <b>Viscosidad:</b>	
<b>Dinámica:</b>	No aplicable.
<b>Cinemática:</b>	No aplicable.
· <b>9.2 Información adicional</b>	No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
  - **Toxicidad aguda**
- |   |      |                    |
|---|------|--------------------|
| · <b>Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:</b> |      |                    |
| Oral  | LD50 | 5040 mg/kg (mouse) |
- **Efecto estimulante primario:**
  - **Corrosión o irritación cutáneas** No produce irritaciones.
  - **Lesiones o irritación ocular graves** Produce irritaciones.
  - **Sensibilización respiratoria o cutánea** No se conoce ningún efecto sensibilizante.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
 Nivel de riesgo para el agua 1 (clasificación de listas): escasamente peligroso para el agua  
 En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.

( se continua en página 6 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

Nombre comercial: ácido cítrico

( se continua en página 5 )

El vertido de grandes cantidades en la canalización o en las aguas puede causar un aumento del valor pH. Un valor de pH alto es nocivo para los organismos acuáticos. En la dilución de la concentración de la aplicación, el valor pH se reduce considerablemente, de modo que después de utilizar el producto, las aguas residuales vertidas en la canalización son mínimamente dañinas para el agua.

- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

- |  |               |
|--|---------------|
| · <b>14.1 Número UN</b>  |               |
| · <b>ADR, ADN, IMDG, IATA</b>  | suprimido     |
| · <b>14.2 Designación oficial de transporte de las Naciones Unidas</b>                               |               |
| · <b>ADR, ADN, IMDG, IATA</b>  | suprimido     |
| · <b>14.3 Clase(s) de peligro para el transporte</b>   |               |
| · <b>ADR, ADN, IMDG, IATA</b>  |               |
| · <b>Clase</b>   | suprimido     |
| · <b>14.4 Grupo de embalaje</b>  |               |
| · <b>ADR, IMDG, IATA</b>   | suprimido     |
| · <b>14.5 Peligros para el medio ambiente:</b>   |               |
| · <b>Contaminante marino:</b>  | No            |
| · <b>14.6 Precauciones particulares para los usuarios</b>  | No aplicable. |
| · <b>14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC</b> | No aplicable. |
| · <b>"Reglamentación Modelo" de la UNECE:</b>  | -             |

### SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

ES

( se continua en página 7 )

**Ficha de datos de seguridad**  
según 1907/2006/CE, Artículo 31

fecha de impresión 12.06.2015

Revisión: 12.06.2015

**Nombre comercial: ácido cítrico**

( se continua en página 6 )

**SECCIÓN 16: Otra información**

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

**· Abreviaturas y acrónimos:**

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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial 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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

ES