

## SAFETY DATA SHEET

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# Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)

## 2328100 Citric Acid

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Revised edition: 11.01.2021

Version: 6

Printed: 31.03.2021

### 1. Identification of the Substance/Mixture and of the Company/Undertaking

#### 1.1. Product Identifier

*Product Name:* Citric Acid

*Article No.:* 2328100

#### 1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

*Identified uses:*

*Industrial application  
Food additive  
Treatment of metal surfaces  
Industrial application in the printing industry*

*Uses advised against:*

#### 1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

*Company:* Deffner & Johann GmbH

*Address:* Mühlackerstraße 13, D-97520 Röhlein, Germany

*Tel./Fax.:* +49 9723 9350-0 / +49 9723 9350-25

*Internet:*

*EMail:* info@deffner-johann.de

*Importer:*

#### 1.4. Emergency No. +49 9723 9350-0 (Mo. - Fr.: 8:00 - 15:00 Uhr)

*Emergency No.:*

#### 1.4.2 Poison Center:

### 2. Hazards Identification

#### 2.1. Classification of the Substance or Mixture

*Classification according to Regulation  
(EC) No. 1272/2008 (CLP/GHS)*

H319

Cat.: 2

*Eye irritation, hazard category 2  
Causes serious eye irritation.*

*Possible Environmental Effects:*

#### 2.2. Label Elements

*Classification according to Regulation  
(EC) No. 1272/2008 (CLP/GHS)*

*Hazard designation:*



GHS07-1

*Signal word:*

Warning

*Hazard designation:*

H319

Causes serious eye irritation.

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### Safety designation:

P264	Wash thoroughly after handling.
P280	Wear protective gloves/ clothing/ eye/ face protection.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/ attention.

### Hazardous components for labelling:

#### 2.3. Other Hazards

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### 3. Composition/Information on Ingredients

#### 3.1. Substance

#### 3.2. Mixture

##### Chemical Characterization:

##### Information on Components / Hazardous Ingredients:

Citric acid monohydrate (H319); REACH Reg. No. 01-2119457026-42	100 %	CAS-Nr: 5949-29-1 EINECS-Nr: 201-069-1 EC-Nr:
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##### Additional information:

*Citric acid is an approved food additive (E 330).*

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### 4. First Aid Measures

#### 4.1. Description of the First Aid Measures

##### General information:

*No special measures required.*

##### After inhalation:

*Supply fresh air.  
Consult physician if symptoms persist.*

##### After skin contact:

*Wash off immediately with soap and plenty of water and rinse thoroughly.  
If symptoms persist, consult a physician.*

##### After eye contact:

*Rinse open eye for several minutes under running water. Should irritation continue, seek medical advice.*

##### After ingestion:

*Rinse mouth thoroughly with plenty of water and drink plenty of water. Consult a physician.*

#### 4.2. Most important Symptoms and Effects, both Acute and Delayed

##### Symptoms:

*No further information available.*

##### Effects:

#### 4.3. Indication of any Immediate Medical Attention and special Treatment needed

##### Treatment:

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*No further information available.*

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### 5. Fire-Fighting Measures

#### 5.1. Extinguishing Media

*Suitable extinguishing media:*

*Use extinguishing media for surrounding fire.*

*Unsuitable extinguishing media:*

*Water with full jet.*

#### 5.2. Special Hazards arising from the Substance or Mixture

*Special hazards:*

*In case of fire: formation of carbon monoxide and dioxide.*

#### 5.3. Advice for Firefighters

*Protective equipment:*

*Wear self-contained respiratory protective device and full protective gear.*

*Further information:*

*Cool exposed containers with water spray.*

*Collect contaminated extinguishing water and debris separately; avoid contamination of sewage system.*

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### 6. Accidental Release Measures

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

*Personal precautions:*

*Wear appropriate protective equipment. Keep spectators away.*

*Avoid contact with eyes and skin.*

*Do not inhale dust. Avoid formation of dust.*

#### 6.2. Environmental Precautions

*Environmental precautions:*

*Use water spray when very dusty.*

*Do not discharge into drains, surface or ground water in concentrated form.*

*Contact local authorities if product pollutes soil or vegetation.*

#### 6.3. Methods and Material for Containment and Cleaning Up

*Methods and material:*

*Clean up mechanically. Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.*

*Rinse with lots of water.*

#### 6.4. Reference to other Sections

*Protective clothing, see Section 8.*

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### 7. Handling and Storage

#### 7.1. Precautions for Safe Handling

*Instructions on safe handling:*

*Provide adequate ventilation.*

*Avoid formation of dust. Do not inhale dust.*

*Avoid contact with eyes and skin.*

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### Hygienic measures:

*Do not eat or drink during work. Do not smoke.*

### 7.2. Conditions for Safe Storage, including any Incompatibilities

#### Storage conditions:

*Store in tightly sealed containers in a dry room.  
Protect against humidity and water.*

#### Requirements for storage areas and containers:

*Observe official regulations on storage and handling of water hazardous substances.*

#### Information on fire and explosion protection:

*Product is not combustible.  
Do not store together with: oxidants.  
Do not store together with alkalis.  
The risk of dust explosion is generally given in the case of organic powder substances.  
Dust explosion class 1 (Kst-value > 0 - 200 bar m/s).  
Precautionary measures in reference to the general rules concerning fire prevention.*

#### Storage class:

*11; Combustible solids (TRGS 510)*

#### Further Information:

### 7.3. Specific End Use(s)

#### Further information:

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## 8. Exposure Controls/Personal Protection

### 8.1. Parameters to be Controlled

#### Parameters to be controlled (DE):

*Citric acid (CAS 77-92-9): TLV: 2 E mg/m<sup>3</sup> (long-term value), 2(I); DFG, Y*

#### Parameters to be controlled:

#### Derived No-Effect Level (DNEL):

#### Predicted No-Effect Concentration (PNEC):

*Fresh water: 440 mg/l  
Fresh water sediment: 3.46 mg/kg  
Sea water sediment: 34.6 mg/kg  
Sewage treatment system (STP): 33.1 mg/l  
Sewage treatment system (STP): > 1 mg/kg*

#### Additional Information:

### 8.2. Exposure Controls

#### Technical protective measures:

*No further measures, see Section 7.*

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### Personal Protection

#### General protective measures:

Do not inhale vapor/dust.  
Avoid contact with eyes and skin.  
Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

#### Respiratory protection:

Dust mask recommended when very dusty: with particle filter P2.

#### Hand protection:

Protective gloves (EN 374)

#### Protective glove material:

Nitrile rubber (> 480 min, 0.11 mm).  
Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers.

#### Eye protection:

Tightly fitting safety goggles (EN 166).

#### Body protection:

Protective clothing, acid-resistant.

#### Environmental precautions:

Do not allow entering sewerage system.

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## 9. Physical and Chemical Properties

### 9.1. Information on Basic Physical and Chemical Properties

Form:	powder
Color:	white
Odor:	odorless
Odor threshold:	No information available.
pH-Value:	1.8 (60 g/l; 20°C)
Melting temperature:	151 - 157°C
Boiling temperature:	135 - 153°C
Flash point:	345°C
Evaporation rate:	No information available.
Flammability (solid, gas):	not flammable
Upper explosion limit:	no information available
Lower explosion limit:	no information available

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*Vapor pressure:*

*Vapor density:*

*No information available.*

*Density:*

*1.5 g/cm<sup>3</sup> (20°C)*

*Solubility in water:*

*600 g/l*

*Coefficient of variation (n-Octanol/Water):*

*not determined*

*Auto-ignition temperature:*

*not determined*

*Decomposition temperature:*

*> 170°C*

*Viscosity, dynamic:*

*not applicable*

*Explosive properties:*

*Dust can form explosive mixtures with air.*

*Oxidizing properties:*

*No information available.*

*Bulk density:*

*900 kg/m<sup>3</sup> (20°C)*

### 9.2. Further Information

*Solubility in solvents:*

*Viscosity, kinematic:*

*Burning class:*

*Solvent content:*

*Solid content:*

*Particle size:*

*Other information:*

*Ignition temperature: 345°C*

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## 10. Stability and Reactivity

### 10.1. Reactivity

*Stable if used according to specifications.*

### 10.2. Chemical Stability

*Stable if used according to specifications.*

### 10.3. Possibility of Hazardous Reactions

*Corrosive to metals.*

### 10.4. Conditions to Avoid

*Conditions to avoid:*

*No decomposition if used according to specifications.*

*Thermal decomposition:*

### 10.5. Incompatible Materials

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*Strong alkalis.*  
*Strong oxidizing agents.*

### 10.6. Hazardous Decomposition Products

*In case of fire: formation of carbon monoxide and carbon dioxide.*

### 10.7. Further Information

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## 11. Toxicological Information

### 11.1. Information on Toxicological Effects

*Acute Toxicity*

*LD50, oral:* > 3000 mg/kg (rat)

*LD50, dermal:*

*No information available.*

*LC50, inhalation:*

*No information available.*

*Primary effects*

*Irritant effect on skin:*

*Slight irritant effect.*

*Irritant effect on eyes:*

*Causes serious eye irritation.*

*Inhalation:*

*No information available.*

*Ingestion:*

*No information available*

*Sensitization:*

*No sensitizing effects known.*

*Mutagenicity:*

*Not mutagenic (Ames Test)*

*Reproductive toxicity:*

*No relevant data found.*

*Carcinogenicity:*

*No relevant data found.*

*Teratogenicity:*

*No information available.*

*Specific target organ toxicity (STOT):*

*Repeated exposure: Subacute toxicity (oral): NOAEL: 1200 mg/kg (rat)*

*Additional toxicological information:*

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## 12. Ecological Information

### 12.1. Aquatic Toxicity

*Fish toxicity:*

*LC50: 440 - 760 mg/l (96h, *Leuciscus idus*; OECD 203)*

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*Daphnia toxicity:*

*EC50: 120 mg/l (72h, Daphnia magna)*

*Bacteria toxicity:*

*no information available*

*Algae toxicity:*

*No information available.*

### 12.2. Persistency and Degradability

*97 % (28d; OECD 301B)*

*98 % (OECD 302B)*

### 12.3. Bioaccumulation

*No bioaccumulation expected due to the distribution coefficient n-Octanol/water (logPOW).*

### 12.4. Mobility

*No information available.*

### 12.5. Results of PBT- und vPvP Assessment

*Not applicable.*

### 12.6. Other Adverse Effects

*Water hazard class:*

*1 (German Regulation) (Assessment by list): slightly hazardous.  
Do not let product contaminate ground water, waterways or sewage system.*

*Behaviour in sewage systems:*

*Further ecological effects:*

*Rinse off of bigger amounts into drains or aquatic environment may lead to low pH-values. A low pH-value harms aquatic organisms.*

*The pH-value is reduced significantly when the used product is diluted, so that the waste water which might enter the sewage system is only slightly hazardous to water.*

*AOX Value:*

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## 13. Disposal Considerations

### 13.1. Waste Treatment Methods

*Product:*

*Dispose of according to official national and local regulations.*

*European Waste Code (EWC):*

*Uncleaned packaging:*

*Uncontaminated packaging may be recycled. Completely empty packaging can be disposed of with the regular waste.*

*Suggested cleaning agent: water.*

*Waste Code No.:*

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## 14. Transport Information

### 14.1. UN Number

*ADR, IMDG, IATA*

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### 14.2. UN Proper Shipping Name

ADR/RID:

*No hazardous goods according to ADR (land transportation).*

IMDG/IATA:

*No hazardous goods according to IMDG.*

### 14.3. Transport Hazard Classes

ADR Class:

*not applicable*

Hazard no.:

Classification code:

Tunnel restriction code:

IMDG Class (sea):

*not applicable*

Hazard no.:

EmS No.:

IATA Class:

*not applicable*

Hazard no.:

### 14.4. Packaging Group

ADR/RID:

*not applicable*

IMDG:

IATA:

### 14.5. Environmental Hazards

*None*

### 14.6. Special Precautions for User

*Not classified as a dangerous good under transport regulations.*

### 14.7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code

### 14.8. Further Information

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## 15. Regulatory Information

### 15.1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

*1, slightly hazardous for water (German Regulation)*

Local regulations on chemical accidents:

*Seveso III Directive: not applicable under Directive 2012/18/EC.*

Employment restrictions:

*The employment restrictions for young workers in accordance with the Youth Employment Protection Law are to be observed.*

Restriction and prohibition of application:

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*Technical instructions on air quality:*

**15. 2. Chemical Safety Assessment**

*A Chemical Safety Assessment has not been carried out for this product.*

**15. 3. Further Information**

*RoHS Directive 2011/65/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS 2): not listed.*

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**16. Other Information**

*This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.*