

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

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Version number 9.04 (replaces version 9.03)

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

- **1.1 Product identifier**
- **Trade name:** Citronensäure
- **Article number:** 1808
- **CAS Number:**
77-92-9
- **EC number:**
201-069-1
- **Index number:**
607-750-00-3
- **Registration number** 01-2119457026-42-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 - SU1 Agriculture, forestry, fishery
 - SU2a Mining, (without offshore industries)
 - SU2b Offshore industries
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU5 Manufacture of textiles, leather, fur
 - SU6b Manufacture of pulp, paper and paper products
 - SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
 - SU9 Manufacture of fine chemicals
 - SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
 - SU11 Manufacture of rubber products
 - SU12 Manufacture of plastics products, including compounding and conversion
 - SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement
 - SU14 Manufacture of basic metals, including alloys
 - SU15 Manufacture of fabricated metal products, except machinery and equipment
 - SU16 Manufacture of computer, electronic and optical products, electrical equipment
 - SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 - SU18 Manufacture of furniture
 - SU19 Building and construction work
 - SU20 Health services
- **Product category**
 - PC1 Adhesives, sealants
 - PC2 Adsorbents
 - PC3 Air care products
 - PC4 Anti-Freeze and de-icing products
 - PC7 Base metals and alloys
 - PC8 Biocidal products
 - PC9a Coatings and paints, thinners, paint removers

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- PC9b Fillers, putties, plasters, modelling clay
- PC9c Finger paints
- PC12 Fertilisers
- PC14 Metal surface treatment products
- PC16 Heat transfer fluids
- PC17 Hydraulic fluids
- PC18 Ink and toners
- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- PC21 Laboratory chemicals
- PC23 Leather treatment products
- PC25 Metal working fluids
- PC26 Paper and board treatment products
- PC28 Perfumes, fragrances
- PC30 Photo-chemicals
- PC31 Polishes and wax blends
- PC32 Polymer preparations and compounds
- PC34 Textile dyes, and impregnating products
- PC35 Washing and cleaning products (including solvent based products)
- PC36 Water softeners
- PC37 Water treatment chemicals
- PC39 Cosmetics, personal care products
- PC40 Extraction agents

Process category

- PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
- PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
- PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
- PROC4 Chemical production where opportunity for exposure arises
- PROC5 Mixing or blending in batch processes
- PROC7 Industrial spraying
- PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
- PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
- PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- PROC10 Roller application or brushing
- PROC11 Non industrial spraying
- PROC13 Treatment of articles by dipping and pouring
- PROC14 Tableting, compression, extrusion, pelletisation, granulation
- PROC15 Use as laboratory reagent
- PROC17 Lubrication at high energy conditions in metal working operations
- PROC18 General greasing /lubrication at high kinetic energy conditions
- PROC19 Manual activities involving hand contact
- PROC20 Use of functional fluids in small devices
- PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
- PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
- PROC23 Open processing and transfer operations at substantially elevated temperature
- PROC24 High (mechanical) energy work-up of substances bound in /on materials and/or articles

Environmental release category

- ERC1 Manufacture of the substance
- ERC2 Formulation into mixture
- ERC3 Formulation into solid matrix
- ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- ERC5 Use at industrial site leading to inclusion into/onto article
- ERC6a Use of intermediate

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Trade name: Citronensäure

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- ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
- ERC7 Use of functional fluid at industrial site
- ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
- ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
- ERC8c Widespread use leading to inclusion into/onto article (indoor)
- ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- ERC9a Widespread use of functional fluid (indoor)
- ERC9b Widespread use of functional fluid (outdoor)
- ERC10a Widespread use of articles with low release (outdoor)
- ERC10b Widespread use of articles with high or intended release (outdoor)
- ERC11a Widespread use of articles with low release (indoor)
- ERC11b Widespread use of articles with high or intended release (indoor)
- ERC12a Processing of articles at industrial sites with low release

Article category

- AC4 Stone, plaster, cement, glass and ceramic articles
- AC5 Fabrics, textiles and apparel
- AC6 Leather articles
- AC8 Paper articles
- AC11 Wood articles
- AC35 Scented paper articles

Application of the substance / the mixture

- Chemical analytics
- Molecular biology
- Pharmaceutical analysis
- Laboratory chemicals

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

PANREAC QUIMICA S.L.U.
C/Garraf 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès (Barcelona)

Tel. (+34) 937 489 400
Fax. (+34) 937 489 401
e-mail: product.safety@itwreagents.com

Further information obtainable from: email: product.safety@panreac.com

1.4 Emergency telephone number:

Single telephone number for emergency calls: 112 (EU)
Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

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

Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear 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.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

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 Substances**

· **CAS No. Description**

77-92-9 Citronensäure

· **Identification number(s)**

· **EC number:** 201-069-1

· **Index number:** 607-750-00-3

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:** Seek medical treatment.

· **After inhalation:**

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:** If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

make victim drink water (maximum of 2 drinking glasses)

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.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Avoid substance contact.
Ensure adequate ventilation
- **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.
Avoid formation of dust.
Ensure adequate ventilation.
Clean up affected area.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Any unavoidable deposit of dust must be regularly removed.
- **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:** Provide acid-resistant floor.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Open receptacle only under localised extractor facilities.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 11
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

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· **PNECs**

Aquatic compartment - freshwater	0.44 mg/L
Aquatic compartment - marine water	0.044 mg/L
Aquatic compartment - sediment in freshwater	3.46 mg/kg
Aquatic compartment - sediment in marine water	34.6 mg/kg
Terrestrial compartment - soil	33.1 mg/kg
Sewage treatment plant	>1,000 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as 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 and skin.

· **Respiratory protection:**

Filter P2

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Required when dusts are generated.

· **Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **Eye/face protection**



Tightly sealed goggles

· **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state	Solid
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not determined
· Melting point/freezing point:	153 °C
· Boiling point or initial boiling point and boiling range	>175 °C
· Flammability	Product is not flammable.
· Lower and upper explosion limit	
· Lower:	Not determined
· Upper:	Not determined
· Flash point:	>93 °C
· Auto-ignition temperature:	540 °C
· Decomposition temperature:	>175 °C
· pH	1.7
· Viscosity:	
· Kinematic viscosity	Not applicable
· Dynamic:	Not applicable
· Solubility	
· water at 20 °C:	1330 g/l
· Partition coefficient n-octanol/water (log value)	-1.72011
· Vapour pressure at 20 °C:	<0.00133322 hPa
· Density and/or relative density	
· Density at 20 °C:	1.665 g/cm ³
· Relative density	Not determined
· Bulk density:	560 kg/m ³
· Vapour density	Not applicable
· Particle characteristics	See section 3.

· 9.2 Other information

· Appearance:	
· Form:	Solid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined
· Explosive properties:	Product does not present an explosion hazard.
· Molecular weight	210.14 g/mol
· Change in condition	
· Evaporation rate	Not applicable.

· Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void

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- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heating.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
 oxidizing agent
 reducing agents
 alkali compounds
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
 Quantitative data on the toxicological effect of this product are not available.

Components		Type	Value	Species
Oral	LD50		5,400 mg/kg (mouse)	
			3,000 mg/kg (rat)	
Dermal	LD50		2,700 mg/kg (mouse)	
			5,500 mg/kg (rat)	

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **After inhalation:**
 Irritation symptoms in the respiratory tract.
 coughing
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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· **Subacute to chronic toxicity:**

Oral	NOAEL	1,200 mg/kg (rat)
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- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

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

Type of test	Effective concentration	Method	Assessment
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EC50/72 h	120 mg/l	(daphnia magna)	
LC50/24 h	1,535 mg/l	(daphnia magna)	
LC50/96 h	440-760 mg/l	(fish)	

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** -1.72 log Pow
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
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.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
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.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- | | |
|---------------------------------------|------|
| · 14.1 UN number or ID number | |
| · ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | |
| · ADR, ADN, IMDG, IATA | Void |

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· 14.3 Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable
· 14.6 Special precautions for user	Not applicable
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **PFAS** Substance is not listed.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 75
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.
- **REGULATION (EU) 2024/590 on substances that deplete the ozone layer** Substance is not listed.
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has 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.

- **Date of previous version:** 05.07.2021
- **Version number of previous version:** 9.03

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Trade name: Citronensäure

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Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ADR: Accord relatif au transport international 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)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.****Annex: Exposure scenario****Short title of the exposure scenario** Formulation and packing/repacking of substances and mixtures**Sector of Use**

SU1 Agriculture, forestry, fishery

SU2a Mining, (without offshore industries)

SU2b Offshore industries

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU5 Manufacture of textiles, leather, fur

SU6b Manufacture of pulp, paper and paper products

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU11 Manufacture of rubber products

SU12 Manufacture of plastics products, including compounding and conversion

SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement

SU14 Manufacture of basic metals, including alloys

SU15 Manufacture of fabricated metal products, except machinery and equipment

SU16 Manufacture of computer, electronic and optical products, electrical equipment

SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

SU18 Manufacture of furniture

SU19 Building and construction work

SU20 Health services

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU1 Agriculture, forestry, fishery

SU2a Mining, (without offshore industries)

SU2b Offshore industries

SU5 Manufacture of textiles, leather, fur

SU6b Manufacture of pulp, paper and paper products

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU11 Manufacture of rubber products

Product category

PC1 Adhesives, sealants

PC2 Adsorbents

PC3 Air care products

PC4 Anti-Freeze and de-icing products

PC7 Base metals and alloys

PC8 Biocidal products

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Trade name: Citronensäure

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- PC9a Coatings and paints, thinners, paint removers
- PC9b Fillers, putties, plasters, modelling clay
- PC9c Finger paints
- PC12 Fertilisers
- PC14 Metal surface treatment products
- PC16 Heat transfer fluids
- PC17 Hydraulic fluids
- PC18 Ink and toners
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- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
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- PC26 Paper and board treatment products
- PC28 Perfumes, fragrances
- PC30 Photo-chemicals
- PC31 Polishes and wax blends
- PC32 Polymer preparations and compounds
- PC34 Textile dyes, and impregnating products
- PC35 Washing and cleaning products (including solvent based products)
- PC36 Water softeners
- PC37 Water treatment chemicals
- PC39 Cosmetics, personal care products
- PC40 Extraction agents

Process category

- PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
- PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
- PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
- PROC4 Chemical production where opportunity for exposure arises
- PROC5 Mixing or blending in batch processes
- PROC7 Industrial spraying
- PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
- PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
- PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- PROC10 Roller application or brushing
- PROC11 Non industrial spraying
- PROC13 Treatment of articles by dipping and pouring
- PROC14 Tableting, compression, extrusion, pelletisation, granulation
- PROC15 Use as laboratory reagent
- PROC17 Lubrication at high energy conditions in metal working operations
- PROC18 General greasing /lubrication at high kinetic energy conditions
- PROC19 Manual activities involving hand contact
- PROC20 Use of functional fluids in small devices
- PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
- PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
- PROC23 Open processing and transfer operations at substantially elevated temperature
- PROC24 High (mechanical) energy work-up of substances bound in /on materials and/or articles

Article category

- AC4 Stone, plaster, cement, glass and ceramic articles
- AC5 Fabrics, textiles and apparel
- AC6 Leather articles
- AC8 Paper articles
- AC11 Wood articles
- AC35 Scented paper articles

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Trade name: Citronensäure

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· **Environmental release category**

- ERC1 Manufacture of the substance
- ERC2 Formulation into mixture
- ERC3 Formulation into solid matrix
- ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- ERC5 Use at industrial site leading to inclusion into/onto article
- ERC6a Use of intermediate
- ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
- ERC7 Use of functional fluid at industrial site
- ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
- ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
- ERC8c Widespread use leading to inclusion into/onto article (indoor)
- ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- ERC9a Widespread use of functional fluid (indoor)
- ERC9b Widespread use of functional fluid (outdoor)
- ERC10a Widespread use of articles with low release (outdoor)
- ERC10b Widespread use of articles with high or intended release (outdoor)
- ERC11a Widespread use of articles with low release (indoor)
- ERC11b Widespread use of articles with high or intended release (indoor)
- ERC12a Processing of articles at industrial sites with low release

· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**· **Duration and frequency** 5 workdays/week.· **Physical parameters**· **Physical state** Solid· **Concentration of the substance in the mixture** Raw material.· **Used amount per time or activity** <10 tons per day· **Other operational conditions**· **Other operational conditions affecting environmental exposure** No special measures required.· **Other operational conditions affecting worker exposure**

Avoid contact with eyes.

Indoor application.

Outdoor application.

· **Other operational conditions affecting consumer exposure** No special measures required.· **Other operational conditions affecting consumer exposure during the use of the product**

Not applicable

· **Risk management measures**· **Worker protection**· **Organisational protective measures** No special measures required.· **Technical protective measures** Ensure that suitable extractors are available on processing machines· **Personal protective measures**

Do not inhale dust / smoke / mist.

Avoid contact with the eyes.

Tightly sealed goggles

Filter P2

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Required when dusts are generated.

· **Measures for consumer protection** Ensure adequate labelling.· **Environmental protection measures**· **Water** No special measures required.· **Disposal measures** Ensure that waste is collected and contained.

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- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (dermal)** The calculated value is smaller than the DNEL.
- **Worker (inhalation)** The calculated value is smaller than the DNEL.
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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