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SECTION: 1. Product and company identification

1.1.Product identifier

Trade name/designation : Citric Acid Anhydrous Fine Granular 51N
Citric Acid Anhydrous Fine Granular 16/40
Citric Acid Anhydrous Fine Granular 700
Citric Acid Anhydrous Medium Granular 1200
Citric Acid Anhydrous Powder

CAS-No. : 77-92-9

Product code : 0432938, 0432962, 0483087, 0482951, 0432717

Synonyms : Citric acid anhydrous; 1,2,3-Propanetricarboxylic acid, 2-hydroxy-; 2-Hydroxy-1,2, / 3-propanetricarboxylic acid; 2-Hydroxypropane-1,2,3-tricarboxylic acid

1.2.Relevant identified uses of the substance or mixture and uses advised against

Main use category : Industrial uses, Professional uses, Consumer use

Specific end use(s) : Food additive
Pharmaceutical industry
Cosmetics, personal care products

1.3.Details of the supplier of the safety data sheet

Company : Citribel nv
Pastorijstraat 249
3300 -Tienen , Belgium
Telephone +32 16 806600
E-mail: compliance@citribel.com

1.4.Emergency telephone number

Emergency telephone : 09.00-17.00 h: +32 16-806600
17.00-09.00 h: +32-16-806669
In case of poisoning, call your poison control center at 1-800-222-1222

SECTION: 2. Hazards identification

2.1.Classification of the substance or mixture

OSHA Regulatory Status : This material is classified as hazardous under OSHA regulations.

GHS-US classification : Serious eye damage/eye irritation Category 2A

GHS-US classification : Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

2.2.Label elements

Hazard pictograms (GHS US) :



Signal word (GHS US) :

GHS07
Warning

Hazard statements (GHS US) :

Causes serious eye irritation.
May cause respiratory irritation.

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Precautionary statements (GHS US) :

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Avoid breathing dust.
- Wash hands thoroughly after handling.
- Wear eye protection, face protection.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Other hazards which do not result in classification : Dust may form flammable and explosive mixture with air

SECTION: 3. Composition/information on ingredients

Substance name	CAS-No.	%
Citric acid	77-92-9	≥ 99,8

SECTION: 4. First aid measures

4.1. Description of first aid measures

Inhalation :

- Remove casualty to fresh air and keep warm and at rest
- Give oxygen or artificial respiration if necessary
- In case of doubt or persistent symptoms, consult always a physician
- In case of inhalation of high concentrations :
- Get immediate medical advice/attention.

Skin contact :

- Remove contaminated clothing and shoes
- Gently wash with plenty of soap and water.
- In case of doubt or persistent symptoms, consult always a physician

Eyes contact :

- Rinse immediately carefully and thoroughly with eye-bath or water.
- Remove contact lenses, if present and easy to do. Continue rinsing.
- Get medical advice/attention.

Ingestion :

- Rinse mouth thoroughly with water
- Give small amounts of water to drink.
- Do not induce vomiting without medical advice
- In case of loss of conscience place the victim in the recovery position
- Get medical advice/attention.
- On ingestion in large quantities:
- Get immediate medical advice/attention.

Additional advice :

- First aider: Pay attention to self-protection!
- Concerning personal protective equipment to use, see section 8
- Never give anything by mouth to an unconscious person
- In case of doubt or persistent symptoms, consult always a physician
- Show this safety data sheet to the doctor in attendance.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation :

- May cause respiratory irritation. The following symptoms may occur: Cough, Shortness of breath, Sore throat.

Skin contact :

- The following symptoms may occur: Contact with dust may cause mechanical irritation or drying of the skin.

Eyes contact :

- Causes serious eye irritation. The following symptoms may occur: Pain, Irritation, Redness, Tears.

Ingestion :

- May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically

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SECTION: 5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, alcohol resistant foam, Dry extinguishing powder, Carbon dioxide

For safety reasons unsuitable extinguishing agents : Strong water jet

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non flammable

Specific hazards : Dust may form explosive mixture in air
Hazardous decomposition products in case of fire
Carbon oxides (CO, CO₂)

5.3. Advice for firefighters

Advice for firefighters : Do not attempt to take action without suitable protective equipment
Special protective equipment for firefighters.
In case of fire: Wear self-contained breathing apparatus.
Use water spray or fog for cooling exposed containers
Do not allow run-off from fire-fighting to enter drains or water courses.
Dispose of waste in accordance with environmental legislation
Evacuate personnel to a safe area

SECTION: 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Evacuate personnel to a safe area
Stay upwind/keep distance from source.
Provide adequate ventilation
Use personal protective equipment as required.
Concerning personal protective equipment to use, see section 8
Do not breathe dust
Avoid contact with skin, eyes and clothing
Do not allow to enter into surface water or drains
Notify authorities if product enters sewers or public waters

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place
Concerning personal protective equipment to use, see section 8.

6.2. Methods and material for containment and cleaning up

Spill or leak statements by chemical : Stop leak if safe to do so.
Avoid generating dust.
Carefully shovel or sweep up spilled material and place in suitable container.
Use non-sparking tools.
Use explosion-proof equipment
Use appropriate personal protection equipment (PPE).
For further information refer to section 8
Contain and dispose of waste according to local regulations.

SECTION: 7. Handling and storage

7.1. Precautions for safe handling

Handling : Provide adequate ventilation
Use personal protective equipment as required.
Concerning personal protective equipment to use, see section 8
Do not breathe dust

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- Advices on general occupational hygiene :
 - Avoid contact with skin, eyes and clothing
 - Take any precaution to avoid mixing with incompatible materials.
 - See also section 10
 - Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time).
 - Do not allow contact with soil, surface or ground water.
 - Keep good industrial hygiene
 - Wash hands before breaks and immediately after using the product.
 - When using do not eat, drink or smoke.
 - Keep away from food, drink and animal feedingstuffs
 - Keep work clothes separately.
 - Remove contaminated clothing and shoes
 - Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage :
 - Keep in a dry, cool and well-ventilated place.
 - Do not store near or with any of the incompatible materials listed in section 10.
 - Recommended storage temperature : 10 - 30 °C
 - Containers which are opened should be properly resealed and kept upright to prevent leakage
- Packaging materials :
 - Keep/Store only in original container.

SECTION: 8. Exposure controls/personal protection

8.1. Exposure guidelines

Citric Acid Anhydrous (77-92-9)		
ACGIH	ACGIH OEL TWA	No data available

8.2. Engineering controls

- Engineering measure(s) :
 - Provide adequate ventilation
 - Organisational measures to prevent /limit releases, dispersion and exposure
 - Apply measures to prevent dust explosions.
 - See Section 7 for information on safe handling .
- Environmental exposure controls :
 - Do not allow contact with soil, surface or ground water.
 - Comply with applicable Community environmental protection legislation.

8.3. Personal protective equipment (PPE)

- Personal protective equipment :
 - The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Respiratory protection :
 - Not required for normal conditions of use
 - In case of insufficient ventilation, wear suitable respiratory equipment
 - Effective dust mask
 - Half face Air-Purifying
 - Full face mask
 - Filter type: P
 - The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
- Hand protection :
 - Wear chemically resistant protective gloves. Suitable material: Nitrile rubber .
 - Thickness > 0,3mm. Breakthrough time : >8h . The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
- Eye protection :
 - Use suitable eye protection Safety glasses with side shields tightly fitting safety goggles

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Body protection : Wear suitable protective clothing
Impervious clothing
Wear suitable coveralls to prevent exposure to the skin

Thermal hazard protection : Not required for normal conditions of use
Use dedicated equipment

SECTION: 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance : Powder, Granulate

Colour : White, Colourless

Odour : odourless

Odour threshold : No data available

pH : at 20°C
2.2 at g/l: 10
1.7 at g/l: 100
at 25°C
1.8 at g/l: 50

Melting / freezing point : 153 °C

Initial boiling point and boiling range : Not applicable - Decomposes before boiling
(Decomposition temperature >175°C)

Flash point : Not applicable

Evaporation rate : No data available

Upper / lower flammability or explosive limits : 0,28 – 2,29 kg/m³ (dust)

Vapour pressure : 1.7 x 10⁻⁸ mm Hg (25°C / 77°F) (estimated)

Vapour density : No data available

Relative density : 1,665 (20°C)

Water solubility : 592 g/l (20°C)

Solubility in different media : No data available

Partition coefficient n-octanol/water : -1,72

Auto-ignition temperature : 1010 °C

Decomposition temperature : > 175 °C

Viscosity : No data available

Explosive properties : Not applicable, The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.

Oxidising properties : Not applicable
The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.

SECTION: 10. Stability and reactivity

10.1. Reactivity

Reactivity : None under normal conditions
Reference to other sections 10.4 & 10.5

10.2. Chemical stability

Chemical stability : The product is stable under storage at normal ambient temperatures.

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10.3.Possibility of hazardous reactions

Possibility of hazardous reactions : None under normal processing.

10.4.Conditions to avoid

Conditions to avoid : Avoid dust formation
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
See Section 7 for information on safe handling

10.5.Incompatible materials

Incompatible materials : Oxidising agents Reducing agent Strong bases metals See Section 7 for information on safe handling

10.6.Hazardous decomposition products

Hazardous decomposition products : Reference to other sections 5.2

SECTION: 11. Toxicological information

11.1.Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Citric acid (77-92-9)	
LD50/oral/rat	3 g/kg
LD50/dermal/rat	> 2000 mg/kg (OECD 402)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)
mild skin irritation
rabbit (72h)
pH: at 20°C
2.2 at g/l: 10
1.7 at g/l: 100
at 25°C
1.8 at g/l: 50

Serious eye damage/irritation : Causes serious eye irritation.
rabbit (72h)
pH: at 20°C
2.2 at g/l: 10
1.7 at g/l: 100
at 25°C
1.8 at g/l: 50

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met.)
No sensitizing reaction was observed for guinea pigs

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met.)
Rat
Oral

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met.)

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met.)

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Other information : Symptoms related to the physical, chemical and toxicological characteristics.
For further information see section 4.

SECTION 12: Ecological information

12.1.Toxicity

Toxicity : Ecological injuries are not known or expected under normal use.

Citric acid (77-92-9)	
LC50 - Fish [1]	1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 - Crustacea [1]	120 mg/l Daphnia magna (72h)
EC50 - Other aquatic organisms [1]	> 10000 mg/l Pseudomonas putida (16h)
LC50 - Fish [2]	440 – 460 mg/l (96h, Leuciscus idus)

12.2.Persistence and degradability

Persistence and degradability : No data available

12.3.Bioaccumulative potential

Bioaccumulative potential : No data available

Partition coefficient n-octanol/water : -1,72

12.4.Mobility in soil

Mobility in soil : No data available

12.5.Other adverse effects

Other information : No data available

SECTION 13: Disposal considerations

13.1.Waste treatment methods

Product waste: : Do not allow contact with soil, surface or ground water.
Dispose of empty containers and wastes safely
See Section 7 for information on safe handling
Refer to manufacturer/supplier for information on recovery/recycling
Recycling is preferred to disposal or incineration
If recycling is not possible, eliminate in accordance with local valid waste disposal regulations

Contaminated packaging : Handle contaminated packages in the same way as the substance itself.
Dispose of contaminated materials in accordance with current regulations

SECTION 14: Transport information

14.1. Basic shipping description

DOT

UN-No.(DOT) : NA
Proper Shipping Name (DOT) : NA
Class (DOT) : Not applicable
Packing group (DOT) : Not applicable
Special provisions : Not applicable

14.2 Additional information

IMDG

IMDG : Not classified for this transport way.
Packing group : NA

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ICAO/IATA

ICAO/IATA : Not classified for this transport way.
Packing group : NA

SECTION: 15. Regulatory information

15.1. US Federal regulations

15.2. International regulations

15.2.1. CANADA

Citric acid (77-92-9)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification : Class E - Corrosive Material

15.2.2. National regulations

No additional information available

15.3. US State regulations

Citric acid (77-92-9)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Citric acid (77-92-9)

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

SECTION: 16. Other information

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Key literature references and sources for data : Information supplier, Loli, INCHEM 2.

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Abbreviations and acronyms

: BTT = Breakthrough time (maximum wearing time)
 DOT= Department of Transport
 EC50 = Median Effective Concentration
 EL50 = Median effective level
 ErC50 = EC50 in terms of reduction of growth rate
 ErL50 = EL50 in terms of reduction of growth rate
 LC50 = Median lethal concentration
 LD50 = Median lethal dose
 LL50 = Median lethal level
 NA = Not applicable
 NOEC = No observed effect concentration
 NOEL: no-observed-effect level
 NOELR = No observed effect loading rate
 NOAEC = No observed adverse effect concentration
 NOAEL = No observed adverse effect level
 N.O.S. = Not Otherwise Specified
 OEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
 STOT = Specific Target Organ Toxicity
 TWA = time weighted average
 VOC = Volatile organic compounds

Training advice

: Training staff on good practice. Manipulations are to be done only by qualified and authorised persons.

NFPA-code

NFPA health hazard

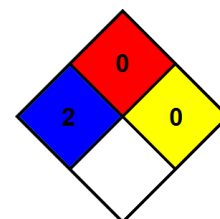
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

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

NFPA reactivity

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



Hazard Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 0 Minimal Hazard

Physical

: 0 Minimal Hazard

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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