

CITRIC ACID (Mono), EXTRA PURE

SECTION 1: PRODUCT IDENTIFICATION

Product Name: Citric Acid (Mono), Extra Pure

Product Code: 309

CAS#: 5949-29-1

Chemical Formula: $C_6H_{10}O_8 \cdot H_2O$

Molecular Weight: 210.14

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Composition:

Synonyms: Citric Acid

Formula: $C_6H_{10}O_8 \cdot H_2O$

Molecular Weight: 210.14

SECTION 3: HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008: Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Other hazards: This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher

SECTION 4: FIRST AID MEASURES

Description of first-aid measures:

If inhaled: After inhalation: fresh air.

In case of skin contact: In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact: After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed: After swallowing: make victim drink water. Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labeling and/or in section

Indication of any immediate medical attention and special treatment needed: Not available

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Water Foam Carbon dioxide (CO_2) Dry powder

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture: Carbon oxides, Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters: In the event of fire, wear self-contained breathing apparatus.

Further information: Prevent fire extinguishing water from contaminating surface water or the ground water system

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, and consult an expert.



Environmental precautions: Do not let product enter drains.

Methods and materials for containment and cleaning up: Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions. Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: HANDLING AND STORAGE

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents.

Conditions for safe storage, including any incompatibilities:

Storage Conditions: Tightly closed. Dry.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls:

Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Respiratory protection: Respiratory protection is not required. If protection from nuisance levels of dusts are desired, use type N95 or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|-------------------------------|---|---------------------|
| Physical state and appearance | : | Colourless Crystals |
| Odor | : | Not available |
| Color | : | Not available |
| Molecular Weight | : | Not available |
| pH | : | Not available |
| Boiling Point | : | Not available |
| Melting Point | : | Not available |
| Critical Temperature | : | Not available |
| Specific Gravity | : | Not available |
| Vapor Pressure | : | Not available |
| Vapor Density | : | Not available |
| Volatility | : | Not available |
| Odor Threshold | : | Not available |
| Water/Oil Dist. Coeff. | : | Not available |
| Iconicity (in Water) | : | Not available |
| Dispersion Properties | : | Not available |
| Solubility | : | Soluble in water |

SECTION 10: STABILITY AND REACTIVITY DATA

Reactivity: The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

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Chemical stability: The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reaction: Violent reactions possible with:

Metals, Oxidizing agents, Bases, Reducing agents

Conditions to avoid: Not available

Incompatible materials: Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:

LD50 Oral - Mouse - male and female - 5.400 mg/kg (OECD Test Guideline 401)

Remarks: (anhydrous substance)

LD50 Oral - Rat - male - 11.700 mg/kg (OECD Test Guideline 401)

Remarks: (anhydrous substance)

Symptoms: In high doses:, Irritation of mucous membranes, Pain, Bloody vomiting Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Remarks: (anhydrous substance)

Skin corrosion/irritation Skin: Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404) Remarks: (anhydrous substance)

Serious eye damage/eye irritation Eyes: Rabbit Result: Severe irritations (OECD Test Guideline 405) Remarks: (anhydrous substance)

Respiratory or skin sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 440 - 760 mg/l - 96 h

Remarks: (anhydrous substance) (IUCLID)

Toxicity to algae IC5 - M.aeruginosa - 80 mg/l - 8 d Remarks: (anhydrous substance) (maximum permissible toxic concentration)

Toxicity to bacteria EC5 - Pseudomonas putida - > 10.000 mg/l - 16 h Remarks: (anhydrous substance)

Persistence and degradability:

Biodegradability Result: 98 % - Readily eliminated from water (OECD Test Guideline 302B) Remarks: (anhydrous substance)

Biochemical Oxygen Demand (BOD) 481 mg/g Remarks: (External MSDS)

Chemical Oxygen Demand (COD) 685 mg/g Remarks: (External MSDS)

Theoretical oxygen demand 686 mg/g Remarks: (Lit.)

Bio accumulative potential: Not available

Mobility in soil: Not available

Results of PBT and vPvB assessment: This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

UN number:

ADR/RID:

IMDG:

IATA:

UN proper shipping name

ADR/RID: Not dangerous goods



IMDG: Not dangerous goods

IATA: Not dangerous goods

Transport hazard class (es):

ADR/RID:

IMDG:

IATA:

Packaging group:

ADR/RID:

IMDG:

IATA:

Environmental hazards:

ADR/RID:

IMDG:

IATA:

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture: This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations: Take note of Dir 94/33/EC on the protection of young people at work .

SECTION 16: OTHER INFORMATION

References: Full text of H-Statements: Not available

Other Special Considerations: Not available

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