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LGOIMA

When releasing responses to previous LGOIMA requests, names and contact details of individual requestors will be withheld to protect their privacy.

Information requested by the media, lobby groups, public sector organisations and MPs will always be published, while information specific to an individual or their property will not generally be published.

Request from:	Private Individual
Information requested:	Citric Acid added to the towns water supply
Response by:	Simon Bastion, Chief Executive

23 November 2023

Via Email: Private Individual

Dear Private Individual

Official information request for information regarding citric acid added to the towns water supply

I refer to your official information request dated 13 November 2023 for information regarding citric acid added to the towns water supply.

You have asked for the following information:

1. WDC listed Citric Acid (cleaning chemical for membranes), as being added to town water supplies.

- a. **How is the Citric Acid derived? Is it via a direct, natural source (citrus fruits), or a manufactured/synthetic source?**

Citric Acid is a weak organic acid that is found naturally in citrus fruits like lemons and oranges. It is evidently a popular ingredient in a range of products including food items, beverages, pharmaceuticals, cosmetics and cleaning agents.

- b. **When/what year was Citric Acid first added to the town supply?**

Citric Acid is NOT added to the town water supply. This is utilised as a cleaning agent only for the membrane filtration system. At predetermined times throughout each 24 hour period, an individual membrane skid (there are 4 in total at the Hokitika water treatment plant) will be shut down and a cleaning process will be initiated to remove any particles/fouling from the membranes. This material including the Citric Acid is flushed to the wastewater reticulation system on completion of the cleaning cycle.

- c. **How/from who does WDC source the Citric Acid?**

WDC sources the liquid Citric Acid from Arnold Chemicals Ltd.

- d. **Has a Health and Safety report been completed regarding the use of Citric Acid?**

- i. **If yes, when? Please provide a copy of the report.**

- ii. **By whom?**

Our utility operators from Westroads have completed chemical training and follow the Safety Data Sheet information for Citric Acid. This information includes safe handling, mixing, storage and first aid. Enclosed is a copy of MSDS is attached.

There is no charge in supplying this information to you.

Council has adopted a Proactive Release Policy and accordingly may publish LGOIMA responses on the Council Website at <https://www.westlanddc.govt.nz/lgoima-responses>.

The collection and use of personal information by the Westland District Council is regulated by the Privacy Act 2020. Westland District Council's Privacy Statement is available on our website [here](#)

If you wish to discuss this decision with us, please feel free to contact Mary-anne Bell, Business Analyst at LGOIMA@westlanddc.govt.nz, 03 756 9091.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Simon Bastion | Chief Executive

SB/MB

Chemical Safety Data Sheet MSDS / SDS

Citric acid

Revision Date:2023-11-04 Revision Number:1

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

Product identifier

Product name : Citric acid
CBnumber : CB9854361
CAS : 77-92-9
EINECS Number : 201-069-1
Synonyms : citric acid,citric acid anhydrous

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 400-158-6606

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Warning

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 P313 IF eye irritation persists: Get medical advice/attention.
P405 Store locked up.

Hazard statements

H303 May be harmful if swallowed
H315 Causes skin irritation
H318 Causes serious eye damage
H319 Causes serious eye irritation
H335 May cause respiratory irritation

SECTION 3: Composition/information on ingredients

Substance

Product name : Citric acid
Synonyms : citric acid, citric acid anhydrous
CAS : 77-92-9
EC number : 201-069-1
MF : C₆H₈O₇
MW : 192.12

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

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. Call an ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) 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. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

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 (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

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. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatril? (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatril? (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6650 87500, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our

customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

protective clothing

Respiratory protection

required when dusts are generated

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	Form: crystalline Color: white
Odour	odorless
Odour Threshold	Not applicable
pH	ca.1,7 at 100 g/l at 20 °C
Melting point/freezing point	Melting point/range: 153 - 159 °C - lit.
Initial boiling point and boiling range	200 °C at 1.013 hPa - (decomposition)
Flash point	Not applicable
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable.
Upper/lower flammability or explosive limits	8%, 65°F
Vapour pressure	< 0,1 hPa at 25 °C
Vapour density	7.26 (vs air)
Relative density	1,67 at 20 °C
Water solubility	1.330 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: -1,72 at 20 °C - Bioaccumulation: not expected.
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available / viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available
λ_{max}	λ : 260 nm A_{max} : 0.20 λ : 280 nm A_{max} : 0. 0

Other safety information

Dissociation constant 3,13 at 25 °C

SECTION 10: Stability and reactivity

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.

Chemical stability

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

Possibility of hazardous reactions

Violent reactions possible with:

Metals

Oxidizing agents Bases

Reducing agents

Conditions to avoid

no information available

Incompatible materials

Metals

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 11.700 mg/kg

(OECD Test Guideline 401)

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

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe irritations

(OECD Test Guideline 405)

Respiratory or skin sensitization Germ cell mutagenicity

Ames test

Salmonella typhimurium Result: negative

OECD Test Guideline 475 Rat - male - Bone marrow Result: negative

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Toxicity

LD50 in mice rats (mmol/kg): 5.0, 4.6 i.p. (Gruber, Halbeisen)

SECTION 12: Ecological information

Toxicity

Toxicity to fish

LC50 - Leuciscus idus (Golden orfe) - 440 - 760 mg/l - 96 h Remarks: (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC5 - E.sulcatum - 485 mg/l - 72 h Remarks: (Lit.)

EC50 - Daphnia magna (Water flea) - ca. 120 mg/l - 72 h Remarks: (IUCLID)

Toxicity to algae

IC5 - Scenedesmus quadricauda (Green algae) - 640 mg/l - 7 d Remarks: (maximum permissible toxic concentration) (Lit.)

Toxicity to bacteria

EC5 - Pseudomonas putida - > 10.000 mg/l - 16 h

Remarks: (maximum permissible toxic concentration) (Lit.)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 97 % - Readily biodegradable. (OECD Test Guideline 301B)

Biochemical Oxygen Demand (BOD)

Chemical Oxygen Demand (COD)

526 mg/g Remarks: (IUCLID)

728 mg/g Remarks: (IUCLID)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

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

Other adverse effects

Additional ecological information

No data available

SECTION 13: Disposal considerations

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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: no IMDG Marine pollutant: no IATA: no

Special precautions for user

Further information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals: 2015:Not Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Philippine Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.lguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

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