

SAFETY DATA SHEET

According to Regulation (EC) N° 1907/2006 (REACH)

1. Substance/preparation and company name

Trade Name	CS Descal
Typical Applications	Descaling fluid for warm water circuits and heat interchangers.
Company	Sucesores de Carmelo Pérez Martínez Ctra. Castellón Km 3,700 Polígono la Unión, nave 3 50.013 Zaragoza (Spain) Teléfono: +34 976 42 18 50 Fax: +34 976 59 19 71 e-mail: carpemar@carpemar.com
Emergency phone no.	91 562 04 20

2. Hazard identification



Hazard statement:

H319: Causes serious eye irritation.

Precautionary statements:

P102: Keep out of reach of children.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

3. Composition/Information on ingredients

Hazardous components (1999/45/CE).

Chemical name	CAS-No	EC number	Content	Phrases
Citric Acid	77-92-9	201-069-1	<50	H319, P264, P280, P305+P351+P338

See section 16 for explanation of H and P-phrases mentioned in this section.

4. First aid measures

On contact with eyes	Wash thoroughly with water. In case of discomfort, contact an eye specialist.
On skin contact	Wash thoroughly with soap and water. Take off contaminated clothes.
If inhaled	Fresh air
On Ingestion	Give water to drink immediately, minimum 2 glasses of water. Contact a doctor.

5. Fire fighting measures

Suitable extinguishing media:	Water spray, alcohol resistant foam, dry extinguishers, carbon dioxide (CO ₂)
Specific hazards	Inflammable material. In case of fire, possible generation of hazardous gases or vapor of combustion.
Special protective equipment	In case of fire, wear a self contained breathing apparatus.
Further Information	Extinguishing water must not contaminate surface water or subterranean water

6. Accidental release measures

Personal precautions:	Avoid contact with the substance. Do not inhale vapors or aerosols. Make sure to have adequate ventilation.
Environmental precautions:	Do not discharge sewage water.
Methods for cleaning and taking up:	Take up absorbing materials. Eliminate the residual material according to the regulations. Flush.

7. Handling and storage

Don't use metal containers.
Store in tight containers not exposed to direct sun light.
Recommended storage temperature: from 5 to 30°C.

8. Exposure controls and personal protection

Does not contain substances with maximum limits for professional exposition.

Personal protective equipment:

The kind of protective equipment should be chosen specifically for the workplace depending on the concentration and the quantity of the hazardous substance. Should be checked with the provider the stability of the protecting equipment vs. the chemical products.

Respiratory protection

Required when vapors or aerosols are generated

Hands:

Required if the risk of submersion or splashing is given.

Glove material: Nitrile rubber.

Glove thickness: 0,11 mm

Perforation time: >480 min

Eyes:

Safety glasses

General safety and hygiene measures:

Substitute immediately the contaminated clothes Wash hands and face after handling.

9. Physical and Chemical properties

Physical state	Liquid
Color	Red
Odor	odorless
pH	approx. 0,6
Boiling point/range	approx. 104°C
Solidification temperature	approx. 0°C
Vapour pressure at 20°C	16 mm Hg at 20°C
Flash point	not available
Lower explosion limit	not available
Upper explosion limit	not available
Ignition temperature	not available
Density	1.20 g/cc at 20°C
Solubility in water	Soluble
Solubility in other solvents	Soluble in polar solvents
Partition coefficient octanol/water	logPow: -1,72 (20°C)

10. Stability and reactivity

Conditions to avoid	Strong heating
Substances to avoid	Possible violent reactions with alkali metals, powerful oxidizers, reducing agents and bases.
Hazardous decomposition products	Information not available
Thermal Decomposition	175°C. Anhydrous substance

11. Toxicological data

Data for pure citric acid

Acute oral toxicity:

LD50 (oral, rat): 3000 mg/Kg.

Syntoms after ingestion: irritation of the mucous membranes in the mouth, throat esophagus and stomach-intestinal tract. Pain, bloody vomit.

Acute inhalation toxicity:

Syntoms: irritations in the respiratory tract

Dermal irritation:

OCED TG 404 rabbit: without irritation.

Eye irritation:

OECD TG 405 rabbit: strong irritación.

Genotoxicity in vitro:

Ames test: negative result.

Reproductive Toxicity:

No reduction of the reproductive capacity observed in animal experiments

Teratogenicity:

No teratogenic effects in animal experiments observed.

Other data:

Substance present in the human body according to physiological conditions.

The other hazardous properties can't be excluded. Manipulate with the precautions of adequate industrial hygiene and respecting the industrial safety practice.

12. Ecological data

Data for pure citric acid

Ecotoxicity

Toxicity to fish:

CL50; *Leuciscus idus* (ide): 440-760 mg/l; 96 hours. (IUCLID)

Toxicity to Aquatic invertebrates:

EC5; *E. Sualtum*: 485 mg/l; 72 hours. (Literature)

CE50: *Daphnia Magna* (Water flea): 120 mg/l; 72 hours. (IUCLID)

Toxicity to Aquatic plants:

IC5; *Secenedesmus quadricauda* (green algae): 640 mg/l; 7 days (Literature)

IC5; *M. Aeruginosa*: 80mg/l; 8 days (Literature)

Toxicity to bacterias Microorganisms:

EC5; *Pseudomonas putida*: >10.000mg/l; 16 hours (Literature)

Persistence and Degradability

Biodegradability

OCDE TG 302B, 2 days, 98%

Result: Readily biodegradable

Biochemical oxygen demand (BOD):

526mg/g 5 days (Literature)

Chemical oxygen demand (COD):

728 mg/g (Literature)

Theoretical oxygen demand (TOD):

750 mg/g. (Calculado)

Partition coefficient n-octanol/water

Log Pow: -1,72 (20°C) (IUCLID)

No bioaccumulation expected (logPow < 1)

Ecological supplementary information

Biological effects: Damaging effect by desviation of pH.

Don't apply to soils or aquifers.

13. Disposal considerations

Waste disposal

Dispose in accordance with local regulations.

Disposal of contaminated packaging

Proceed in compliance with prevailing regulations.

14. Transport information

Not classified as hazardous under transport regulations.

(ADR / RID / ADNR / IMDG/GGVSee ICIAO/IATA)

15. Regulatory information

Regulations of the European Union (labeling):



16. Further information

Hazard statement:

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This safety data sheet is intended to provide information and recommendations as to: how to handle chemical substances and preparations in accordance with the essential requirements of safety precautions and physical, toxicological and ecological data; and how to handle, store, use and transport them safely.

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