

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Q-FLASH ret (L)

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

1.1. Product identifier

Product name Q-FLASH ret (L)

Product code -

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

Use of the Substance/Mixture Construction.
Additive for the production of concrete

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification Concretum Construction Science AG
Breitloostrasse 7
8154 Oberglatt
Switzerland
Phone: +41 44 445 13 46
info@concretum.com

1.4. Emergency telephone number 145 (Tox Info Suisse)
International: +41 44 251 51 51
Concretum Construction Science AG: +41 44 445 13 46 (08:00 - 16:00)
www.concretum.com

Revision date 15.12.2025

Version 1.1 (Previous versions: 1.0)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

according to the Globally Harmonized System Serious eye damage/eye irritation, Cat. 2, H319
Specific target organ toxicity (single exposure, inhalation), Cat. 3, H335

Additional information For the full text of the phrases mentioned in this Section, see Section 16.

2.2. Label elements



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.
P264: Wash skin thoroughly after handling.
P280: Wear protective gloves, eye protection and 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.
P337+P313: If eye irritation persists: Get medical advice/ attention.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Supplemental information None.

Product identifier citric acid, CAS-No. 77-92-9

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| Components | Weight % | | Product identifier |
|-------------|-----------|-----------------------------------|--------------------|
| citric acid | 20% - 50% | Eye Irrit. 2 H319, STOT SE 3 H335 | CAS-No.: 77-92-9 |

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities None known.

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If breathing is difficult, give oxygen. Consult a physician for severe cases. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If easy to do, remove contact lens, if worn. Protect unharmed eye. Consult an ophthalmologist. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Prevent vomiting if possible. Consult a physician for severe cases. Consult a physician if necessary. |

4.2. Most important symptoms and effects, both acute and delayed Anticipated acute effects: Superficial burning sensation. Blurred vision. Symptoms of poisoning may only appear several hours later.

4.3. Indication of any immediate medical attention and special treatment needed None known.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry extinguishing agent or carbon dioxide.

Unsuitable extinguishing media High volume water jet.

5.2. Special hazards arising from the substance or mixture During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

5.3. Advice for firefighters

Special protective equipment for firefighters Standard procedure for chemical fires. In the event of fire, wear self-contained breathing apparatus. Complete suit protecting against chemicals.

Specific methods Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
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| For non-emergency personnel | Use personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapours/dust. |
| For emergency responders | Use personal protective equipment. Do not breathe vapours/dust. Ventilate the area. Keep people away from and upwind of spill/leak. |

6.2. Environmental precautions Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up Keep in suitable and closed containers for disposal (Plastic container of HDPE). Clean up promptly by sweeping or vacuum.

6.4. Reference to other sections See chapter 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling When using, do not eat, drink or smoke. Wash hands and exposed skin before eating, drinking or smoking and after work. Plan first aid action before beginning work with this product. Wear personal protective equipment. Do not breathe vapours/dust. Avoid contact with skin and eyes. Wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities Store in a place accessible by authorized persons only. Keep container tightly closed. Store in original container. Keep in a well-ventilated place.

7.3. Specific end use(s) Additive for the production of concrete

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s) No data is available on the product itself.

8.2. Exposure controls

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Regular cleaning of equipment, work area and clothing.

Personal protection equipment

Respiratory protection Do not inhale aerosol. Do not breathe dust or spray mist. In case of insufficient ventilation wear suitable respiratory equipment. Respirator with combination filter for vapour/particulate (EN 14387).

Hand protection The selected protective gloves have to satisfy the specifications of

Regulation (EU) No. 2016/425 and the standard EN 374 derived from it. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature). Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Gloves made of Nitril.

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| <i>Eye protection</i> | Safety glasses with side-shields conforming to EN166. |
| <i>Skin and body protection</i> | Long sleeved clothing. |
| <i>Thermal hazards</i> | No special measures required. |
| Environmental exposure controls | Prevent product from entering surface water or sewage. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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| Physical state | Liquid. |
| Colour | Colourless. |
| Odour | Characteristic. |
| Melting point/ freezing point: | Not determined. |
| Boiling point or initial boiling point / range: | ca. 100 °C |
| Flammability: | Not determined. |
| Lower and upper explosion limit: | Not determined. |
| Flash point: | Not determined. |
| Auto-ignition temperature: | Not determined. |
| Decomposition temperature: | > 170 °C |
| pH: | 0.5 - 2.5 (20 °C) |
| Kinematic viscosity: | Not determined. |
| Solubility: | completely miscible (Water) |
| Partition coefficient n-octanol/water (log value): | Not determined. |
| Vapour pressure: | Not determined. |
| Density and/or relative density: | 1.23 (20 °C) |
| Relative vapour density: | Not determined. |
| Particle characteristics: | Not applicable. |

9.2. Other information

| | |
|---|---------------------------|
| 9.2.1 Information with regard to physical hazard classes | No information available. |
| 9.2.2 Other safety characteristics | No information available. |

SECTION 10: Stability and reactivity

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| 10.1. Reactivity | Attacks many metals with liberation of hydrogen which is flammable |
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| | and forms explosive mixture with air. |
| 10.2. Chemical stability | No decomposition if used as directed. Stable under recommended storage conditions. |
| 10.3. Possibility of hazardous reactions | Attacks many metals with liberation of hydrogen which is flammable and forms explosive mixture with air. |
| 10.4. Conditions to avoid | Heat, flames and sparks. Extremes of temperature and direct sunlight. See sections 10.5.. |
| 10.5. Incompatible materials | Strong oxidizing agents. Strong acids and strong bases. Can corrode base metals. |
| 10.6. Hazardous decomposition products | None under normal use. |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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|---|---|
| Acute toxicity | Based on available data, the classification criteria are not met. No data is available on the product itself. Toxicology data for the components citric acid (CAS 77-92-9) Dermal LD50 Rat > 2000 mg/kg (EU_CLH) Oral LD50 Rat = 3 g/kg (NLM_CIP) |
| Skin corrosion/irritation | Based on available data, the classification criteria are not met. May irritate skin. |
| Serious eye damage/eye irritation | Causes serious eye irritation. citric acid caused severe irritation to eyes in animal experiments. |
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity - Single exposure | May cause respiratory irritation. |
| Specific target organ toxicity - Repeated exposure | Based on available data, the classification criteria are not met. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |
| Human experience | No data available. |

11.2. Information on other hazards

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| Endocrine disrupting properties | Contains no endocrine disrupting chemicals. |
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Other information No data available.

SECTION 12: Ecological information

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|---|---|
| 12.1. Toxicity | Based on available data, the classification criteria are not met. May change pH of waters. No data is available on the product itself. Toxicology data for the components |
| citric acid (CAS 77-92-9) Ecotoxicity - Freshwater Fish - Acute Toxicity Data | LC50 96 h <i>Lepomis macrochirus</i> 1516 mg/L (OECD_SIDS) |
| 12.2. Persistence and degradability | Neutralization is normally necessary before waste water is discharged into water treatment plants. Expected to be biodegradable. |
| 12.3. Bioaccumulative potential | Bioaccumulation is unlikely. |
| 12.4. Mobility in soil | No data available. |
| 12.5. Results of PBT and vPvB assessment | This mixture does not contain any substances classified as PBT, vPvB or endocrine disruptors at a concentration above 0.1%. |
| 12.6. Endocrine disrupting properties | Contains no endocrine disrupting chemicals. |
| 12.7. Other adverse effects | No information available. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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| Waste from residues / unused products | Dispose of in accordance with local regulations. |
| Contaminated packaging | Dispose of as unused product. |

SECTION 14: Transport information

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|---|-----------------|
| 14.1. UN number or ID number | Not applicable. |
| 14.2. UN proper shipping name | Not applicable. |
| 14.3. Transport hazard class(es) | Not applicable. |
| 14.4. Packing group | Not applicable. |
| 14.5. Environmental hazards | Not applicable. |

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| 14.6. Special precautions for user | Not applicable. |
| 14.7. Maritime transport in bulk according to IMO instruments | Not applicable. |
| UN Model Regulations | |
| ADR/RID | Not regulated. |
| IMDG | Not regulated. |
| IATA | Not regulated. |
| Further Information | Not classified as dangerous in the meaning of transport regulations. |

SECTION 15: Regulatory information

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

| | |
|--|---|
| Regulatory Information citric acid (CAS 77-92-9) | None. |
| Inventory - United States - Section 8(b) Inventory (TSCA) | Present (ACTIVE) |
| UNEP (United Nations Environment Programme) - Basel Convention - Hazardous Wastes - Annex I | "Y34 (solid or solution, listed under Acidic solutions or acids in solid form)" As Acids [RR-08658-8] |
| U.S. - FIFRA - Active Ingredients Eligible for FIFRA Section 25(b) Pesticide Products | Citric acid |
| U.S. - FIFRA - Inert Ingredients Eligible for FIFRA Section 25(b) Pesticide Products | Citric acid |
| U.S. - FIFRA - Listing of Pesticide Chemicals (40 CFR 180) | Section number 180.950 |
| U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical Data Reporting Rule - Partially Exempt Substances | Chemical of low current interest |
| 15.2. Chemical safety assessment | Not required. |

SECTION 16: Other information

Key or legend to abbreviations and acronyms

CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS)
MAK: Occupational exposure limit.
OEL: Occupational Exposure Limits for Hazardous Agents in the Workplace
STEL: Short Term Exposure Limit
TLV: Threshold limit value
TWA: time weighted average
VOC: Volatile organic compounds (VOC) content
WEL: workplace exposure limit

Key literature references and sources for data

According to information supplied by the manufacturer. Sources of key data used to compile the Safety Data Sheet: REACH, ECHA.

Classification procedure

Calculation method .

Full text of phrases referred to under sections 2 and 3

H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Further information

Conversion °C=>°F: °F = (°C * 1.8) + 32

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.