

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2  
Creation Date: July 15, 2019  
Revision Date: August 08, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Quercetin

### 1.2 Other means of identification

Product number CCPE900039

Other names -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 3, Oral

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

Hazard statement(s) H301 Toxic if swallowed

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name | Common names and synonyms       | CAS number | EC number | Concentration |
|---------------|---------------------------------|------------|-----------|---------------|
| Quercetin     | 3,3',4',5,7-pentahydroxyflavone | 117-39-5   | 204-187-1 | 100%          |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### **If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### **Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### **Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### **4.2 Most important symptoms/effects, acute and delayed**

ACUTE/CHRONIC HAZARDS: When heated to decomposition this compound emits acrid smoke and irritating fumes. (NTP, 1992)

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

### **5.2 Specific hazards arising from the chemical**

Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)

### **5.3 Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### **6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **7.2 Conditions for safe storage, including any incompatibilities**

Quercetin tablets and capsules should be stored at room temp, away from heat, moisture, and direct light.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

### **8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                          |                                                                                                                                                    |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                                           | PHYSICAL DESCRIPTION: Yellow needles or yellow powder. Converts to anhydrous form at 203-207°F. Alcoholic solutions taste very bitter. (NTP, 1992) |
| Colour                                                   | Yellow needles (dilute alcohol, +2 water)                                                                                                          |
| Odour                                                    | no data available                                                                                                                                  |
| Melting point/freezing point                             | 314-317°C                                                                                                                                          |
| Boiling point or initial boiling point and boiling range | 642.4°C at 760 mmHg                                                                                                                                |
| Flammability                                             | no data available                                                                                                                                  |
| Lower and upper explosion limit/flammability limit       | no data available                                                                                                                                  |
| Flash point                                              | 248.1°C                                                                                                                                            |
| Auto-ignition temperature                                | no data available                                                                                                                                  |
| Decomposition temperature                                | no data available                                                                                                                                  |
| pH                                                       | no data available                                                                                                                                  |
| Kinematic viscosity                                      | no data available                                                                                                                                  |
| Solubility                                               | less than 1 mg/mL at 70° F (NTP, 1992)                                                                                                             |
| Partition coefficient n-octanol/water                    | log Kow = 1.48 (est)                                                                                                                               |
| Vapour pressure                                          | 9.03E-16 mmHg at 25°C                                                                                                                              |
| Density and/or relative density                          | 1.799 g/cm <sup>3</sup>                                                                                                                            |
| Relative vapour density                                  | no data available                                                                                                                                  |
| Particle characteristics                                 | no data available                                                                                                                                  |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Sensitive to exposure to air and light. Insoluble in water.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

QUERCETIN is a strong antioxidant and a metal chelator. Promotes the formation of nitrosamines (NTP, 1992).

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

## SECTION 11: Toxicological information

#### Acute toxicity

- Oral: LD50 Rat oral 161 mg/kg
- Inhalation: no data available
- Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

Evaluation: There is inadequate evidence in humans for the carcinogenicity of quercetin. There is limited evidence in experimental animals for the carcinogenicity of quercetin. Overall evaluation: Quercetin is not classifiable as to its carcinogenicity to humans (Group 3).

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

AEROBIC: Quercetin, along with rutin and two of their decomposition products phloroglucinol and protocatechuic acid, were rapidly degraded in soil as indicated by less than 10% of their phenolic nuclei being detected in soil and 27-57% of their structural carbons remaining in soil after 9 weeks incubation(1).

### 12.3 Bioaccumulative potential

An estimated BCF of 61 was calculated in fish for quercetin(SRC), using a water solubility of 60 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC), provided the compound is not metabolized by the organism(SRC).

### 12.4 Mobility in soil

The Koc of quercetin is estimated as 460(SRC), using a water solubility of 60 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that quercetin is expected to have moderate mobility in soil. The estimated pKas of quercetin are 7.17, 8.26, 10.13, 12.30, and 13.11(4), indicating that this compound will partially exist in the anion form in the environment at neutral pH and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5).

### 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2811 (For reference only, please check.) IMDG: UN2811 (For reference only, please check.) IATA: UN2811 (For reference only, please check.)

#### 14.2 UN Proper Shipping Name

ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.) IMDG: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.) IATA: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)

#### 14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.) IMDG: 6.1 (For reference only, please check.) IATA: 6.1 (For reference only, please check.)

#### 14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.) IMDG: I (For reference only, please check.) IATA: I (For reference only, please check.)

#### 14.5 Environmental hazards

ADR/RID: No IMDG: No IATA: No

#### 14.6 Special precautions for user

no data available

#### 14.7 Transport in bulk according to IMO instruments

no data available

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name                                                            | Common names and synonyms       | CAS number | EC number   |
|--------------------------------------------------------------------------|---------------------------------|------------|-------------|
| 3,3',4',5,7-pentahydroxyflavone                                          | 3,3',4',5,7-pentahydroxyflavone | 117-39-5   | 204-187-1   |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                                 |            | Listed.     |
| EC Inventory                                                             |                                 |            | Listed.     |
| United States Toxic Substances Control Act (TSCA) Inventory              |                                 |            | Listed.     |
| China Catalog of Hazardous chemicals 2015                                |                                 |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               |                                 |            | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                                 |            | Listed.     |
| Vietnam National Chemical Inventory                                      |                                 |            | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                                 |            | Listed.     |
| Korea Existing Chemicals List (KECL)                                     |                                 |            | Not Listed. |

### SECTION 16: Other information

#### Information on revision

Creation Date July 15, 2019  
Revision Date August 08, 2025

#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>



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- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)**

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