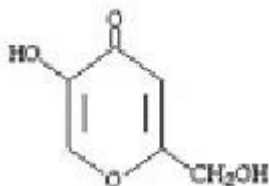


## FICHA TÉCNICA

### Section1 Identificationof product

Name: Kojic Acid  
Chemical name: 5-Hydroxy-2-hydroxymethyl-1,4-pyrone;5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one  
CAS#: 501-30-4  
EINECSnumber: 207-922-4  
Molecule structure:



Chemical formula: C<sub>6</sub>H<sub>6</sub>O<sub>4</sub>  
Molecular weight: 142.11 g/mole.

### Section2: Physicaland chemicalproperties

Appearance: Off-white powder or needle crystal.  
Melting point/Melting range: 52~156°C .  
Boiling point/Boilingrange: Decomposes.  
pH (1% soln/water): 4[Acidic].  
Flash point: Not available.  
Decomposition temperature: Not available.  
Density: Not available.  
Solubility: Kojic acid is soluble in cold water, hot water, methanol, acetone, and slightly dissolving in ether, ethyl acetate, chloroform and pyridine, but non-dissolving in benzene.

### Section3: Manufacturingdetails

*Manufacturing method:* Fermentation through enzyme.  
*Raw materials:* Glucose



*Production process:*

The first step: The glucose was dissolved into pure water in the tun, and the bacteria was added into the sterile glucose aqueous solution, and then fermented at 37 °C for 120 hours;

The second step: Fermentation broth was filtered, then the filtrate was concentrated to a certain concentration by heating. The concentrated solution was stirred continually and cooled slowly to 5 °C ;

The third step: After the cooling liquid was centrifugal separated, the crystals containing impurities were obtained. The mother liquor was recycled back to the second step;

The fourth step: The crystals containing impurities were dissolved in the crystallization kettle containing pure water by heating. The mixture was stirred for 2 hours after adding 0.5% activated carbon, then filtered;

The fifth step: The kojic acid crystals were obtained after filtrate was cooled and centrifugal separated, and the mother liquor was recycled back to the fourth step;

The sixth step: The kojic acid crystals were dried in a vacuum dryer, then packaged.

*Solvent residue:* No.

#### **Section4: Usage**

- Kojic acid is used as skin whitening and lightening agents in the cosmetics and bath lotion, and food aseptic, antioxidant of grease and food, antistaling agent of fruit and vegetable. Kojic acid can also be used in antibiotic synthetic intermediate products, agriculture plant tutelage and chemical reagent, etc.
- Reference addition of kojic acid in cosmetics: 0.5~2.0%.
- Reference addition of kojic acid in food: no more 1%.
- Kojic acid is irritant to skin and eye, please pay attention to its safety when use.
- The use of kojic acid will be dissolved in the water under 50 °C.
- pH value should be adjusted to neutral in cosmetic system containing kojic acid.

#### **Section5: Storage**

Kojic acid must store away from oxidizing agents and alkali. Kojic acid should shield from light.

Storage conditions:

Keep container tightly sealed.

Kojic acid should store in cool, dry conditions in well sealed containers.



## **Section6: Otherinformation**

Please ask GRAN VELADA S.L. if you want the specification of kojic acid, and the number is Q/ACC03-2006.

The above information involves our technology secrets about the production of kojic acid, therefor users are liable to keep it a secret, and the unauthorized disclosure of which will bear legal liability.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Users use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use of kojic acid. This information is furnished without warranty, and any use of kojic acid not in conformance with this Product Technical Data Sheet, or in combination with any other product or process, is the responsibility of the user.

