VeryBerry™ Barrier

This product is a mixture of plant extracts which extracted with hydrous ethanol from the seeds of *Litchi chinensis* Sonn. (*Sapindaceae*), the fruit of *Hippophae rhamnoides* L. (*Elaeagnaceae*), the buds and/or flowers of *Chrysanthemum morifolium* (*Compositae*), the leaves of *Camellia sinensis* (*Theaceae*), the leaves of *Ampelopsis grossedentata* (*Vitaceae*), and water, 1,3-butylene glycol, citric acid, allantoin, dipotassium glycyrrhizate were added to the extract.

Manufacturing method

Extracts are obtained by extracting from the seeds of *Litchi chinensis* Sonn. (*Sapindaceae*), the fruit of *Hippophae rhamnoides* L. (*Elaeagnaceae*), the buds and/or flowers of *Chrysanthemum morifolium* (*Compositae*), the leaves of *Camellia sinensis* (*Theaceae*), the leaves of *Ampelopsis grossedentata* (*Vitaceae*) with hydrous ethanol, respectively. The extracts are dissolved in water, mixed with 1,3-butylene glycol, citric acid, allantoin, and dipotassium glycyrrhizinate, and filtered to produce the product.

Raw material mixture : 41 g → Product: approximately :1 kg

Description

The product is a pale yellow to pale orange liquid with a slightly characteristic odor.

Identification

- Saponin (Litchi seed extract)

  Add 5 mL of acetic anhydride to 0.3 mL of this product. Add gently 1mL of sulfuric acid; reddish brown color develops in contact zone.

- Polyphenol (Seaberry fruit extract)

  Add 3.5mL of water to 100 µL of this product, add 0.2 mL of Folin-Denis TS*¹ and 0.4 mL of saturated sodium carbonate*²; blue color develops.

  *1: Folin-Denis TS: Dilute the Folin-Ciocalteu reagent 2-fold with water
  *2: Add 35 g of Sodium carbonate, anhydrous with 100 mL of water and dissolve at 70 to 80 ℃. Allow to stand for 1 night, remove the precipitate and use supernatant solution.

- Phenolic compound (Chrysanthemum morifolium flower extract)

  Add 1-2 drops of iron (III) chloride reagent to 1 mL of this product, the liquid is black to black-green in color.

- Tannin (Camellia sinensis leaf extract)

  Add 2 drops of iron (III) chloride reagent to 10 mL of an aqueous solution of this product (1 to 10), the liquid is a dark green in color.

・ Amperopsin (Ampelopsis grossedentata leaf extract)

Filter this product through a membrane filter with a pore size not exceeding 0.45 μm. Use this solution as the sample solution. Separately, weigh accurately about 5 mg of Amperopsin RS into a volumetric flask (25 mL), add 20 mL of mobile phase, and dissolve using ultrasonic waves. Then, make up the volume to 25 mL with mobile phase and filter this solution through a membrane filter with a pore size not exceeding 0.45 μm. Use this solution as the standard solution. Perform the test with 5 μL each of the sample solution and standard solution as directed under Liquid Chromatography according to the following conditions, and confirm identity of the retention time of the component and that of an authentic specimen. In addition, observe the peak shapes of the component between sample and test solutions.

Operating conditions

Detector : DAD (wavelength 290 nm)

Column : A stainless steel column 4.6 mm in inside diameter and 25 cm in length, packed with octadecylsilanized silica gel for liquid chromatography (5 μm particle in diameter).

Column temperature : A constant temperature of about 40℃.

Mobile phase : MeOH / H_2O(0.1% H_3PO_4) = 25 / 75

Flow rate : 1 mL / min

・ Allantoin

Filter this product through a membrane filter with a pore size not exceeding 0.45 μm. Use this solution as the sample solution. Separately, weigh accurately about 10 mg of Allantoin RS into a volumetric flask (10 mL), add 5 mL of water, and dissolve using ultrasonic waves. Then, make up the volume to 10 mL with water and filter this solution through a membrane filter with a pore size not exceeding 0.45 μm. Use this solution as the standard solution. Perform the test with 20 μL each of the sample solution and standard solution as directed under Liquid Chromatography according to the following conditions, and confirm identity of the retention time of the component and that of an authentic specimen. In addition, observe the peak shapes of the component between sample and test solutions.

Operating conditions

Detector : DAD (wavelength 210 nm)

Column : A stainless steel column 4.6 mm in inside diameter and 25 cm in length, packed with aminated polyvinyl alcohol porous particles for liquid chromatography (5 μm particle in diameter).

Column temperature : A constant temperature of about 40°C.

Mobile phase : 80% MeCN (isocratic)

Flow rate : 1 mL / min

- Dipotassium Glycyrrhizate
  Add 5 mL of water and 3 mL of hydrochloric acid to 2 mL of this product and distill. This distillate exhibits with 3 to 4 drops of 2,4-Dinitrophenylhydrazine TS; reddish orange color develops, and yield a reddish orange precipitate over time.

pH (1→10) 4.5 to 6.5

Purity

- Heavy metals
  Take 1.0 g of this product to determine heavy metals according to the method 2: the limit is not more than 20 ppm. Use 1.0 mL of standard lead solution as the control solution.

- Arsenic
  Take 1.0 g of this product to prepare the test solution according to method 3, and perform the test: the limit is not more than 2 ppm.

Bacterial Count

Take 5g of this solution, make 50mL test solution with diluent and perform the bacterial count test, using standard agar medium according to Hygiene Test Method; the limit is not more than 1×10^2cfu/g.

Fungus Count

Take 5g of this solution, make 50mL test solution with diluent and perform the fungus count test using potato dextrose agar medium added chloramphenicol according to Hygiene Test Method; the limit is not more than 1×10^2cfu/g.

Coliforms

Take 1mL of the solution which prepare the bacterial count test, and perform the coli form test using BGLB medium according to Hygiene Test Method; Negative / Not observe any colony.

These standards and test method are referred to General Notices and General Tests, Processes and Apparatus of The Japanese Standards of Quasi-drug Ingredients, unless otherwise specified.

Product Name	: VeryBerry™ Barrier
Expiry date	: 2 years from date of manufacturing
Storage	: Store in a cool, dry, ventilated location. Keep away from high temperature and sunlight, store in the closed containers.
Manufacturer	: ORYZA OIL & FAT CHEMICAL CO., LTD. 1 Aza Numata Kitagata Kitagata-cho Ichinomiya-city, Aichi-pref. 493-8001 JAPAN

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