Stability based on the Conductometric Determination Method (CDM) is a value indicating oxidation stability of oils and/or fats. In the present specification, the value obtained by the CDM stability test is referred to as “CDM stability time” and is used as an evaluation index for oxidation stability. A longer CDM stability time indicates better oxidation stability. In the present specification, the method of the CDM stability test follows the Standard Methods for the Analysis of Fats, Oils and Related Materials, 2.5.1.2-1996. Specifically, clean air is fed into a reaction vessel while an oil and/or fat is heated to 120°C in the reaction vessel; then, volatile decomposition products produced by oxidation are collected in water, and the conductivity of the water is continuously measured. The time up to the inflection point at which the value changes abruptly indicates the “CDM stability time”.

[0026]

In an embodiment of the present invention, the content of glycidol and glycidol fatty acid esters is measured by the following method.

[0027]

0.3 mL of isooctane is added to 100 mg of an oil and/or fat sample to dissolve the oil and/or fat sample. 3 mL of sodium bromide solution containing 90 U/mL lipase is added to a test tube, and the test tube is shaken on a shaker for 30 minutes. The test tube is heated at 80°C for 10 minutes, and then is allowed to be cooled or water-cooled to room temperature. 50 μL of 2.0 μg/mL internal standard mixed solution and 3 mL of hexane are added to the test tube, and the test tube is capped. The test tube is stirred with a vortex mixer. After centrifugation, the aqueous layer is transferred to a new test tube using a Pasteur pipet. 3 mL of hexane is added to the test tube to which the aqueous layer has been transferred, and the test tube is capped. The test tube is stirred with a vortex mixer. After centrifugation, the organic layer is removed. 20 μL of phenylboronic acid solution and 3 mL of hexane are added to the test tube, and the test tube is capped. The test tube is shaken on a shaker for 10 minutes. The organic layer is transferred to a new test tube using a Pasteur pipet. The organic layer in the new test tube is concentrated to 0.5 to 0.8 mL under nitrogen, and then analyzed by GC-MS.

Note that, in the GC-MS, molecular ion peaks m/z 147 and m/z 150 are used in the quantification.

Examples

[0028]

The present invention will be described in more details using examples presented below. Note that in the examples, “%” indicates weight basis.

[0029]

(1) Flavor Evaluation

The flavor was evaluated by multiple people. The best flavor (no taste and no odor) was given 5 points. The worse the flavor, the lower the score. The scores of flavor in the table are the