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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 17528-2009

Replacing GB/T 17528-1998

Determination of pipeline content -- Method using HPLC

胡椒碱含量的测定 高效液相色谱法

(English Translation)

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Foreword

This revised standard adopts ISO 11027:1993 "pepper and pepper oleoresin pepper alkali content by HPLC" this standard and ISO 11027:1993 main differences are as follows.

- The ISO 11027:1993 the name changed to
Determination of piperine content-Method using high-per-
- Increasing the detection limit;
- The ISO 11027:1993 in a concentration range of 6.2 piperine standard solution "0.05g/L ~ 0.2g/L" changed to "0.4mg/L ~ 2.0mg/L";
- The ISO 11027:1993 in 4.3 mobile phase "of acetonitrile and 1% acetic acid (48 + 52)" to "methanol - water (77 + 23)";
- Cancellation ISO 11027:1993 10.1 10.2 formulas and calculations factor, because no formula to calculate the revised factor.

This standard replaces GB/T 17528-1998 "Determination pepper alkali content spectrophotometry." this standard and GB/T 17528-1998 compared to major differences are.

- The spectrophotometric method to the High Performance Liquid Chromatography.

Appendix A of this standard is an informative annex.

The standard proposed by the People's Republic of China Ministry of Agriculture.

This standard by the national spice Standardization Technical Committee.

This standard was drafted. the Ministry of Agriculture Food Quality Supervision and Testing Center (Zhanjiang).

1 Scope

This standard specifies the method for determining pepper alkali content by high performance liquid chromatography.

This standard applies to black, white and black pepper, white pepper and pepper oleoresin extraction product Content Determination.

The standard method detection limit of 0.008g/100g.

Principle 2

The sample was extracted with ethanol piperine detected by HPLC UV detector, external standard.

3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.1

Ethanol ($\text{CH}_3\text{CH}_2\text{OH}$). 95% (mass fraction).

3.2

methanol (CH_3OH). chromatography.

3.3

piperine standard substance. purity $\geq 98\%$.

Piperine 3.4 Standard solution. Accurately weigh (10 ± 0.1) mg piperine standard brown substance in 10mL beaker, ethanol (3.1) was dissolved Solution, transferred to a 10mL brown volumetric flask with ethanol (3.1) to the mark, the concentration of the solution was 1000mg/L (when used with temporary system).

3.5

piperine standard working solution. lessons 50 μL piperine standard solution (3.4) with a micropipette placed in 25mL brown volumetric flask, Ethanol (3.1) diluted to the mark, the concentration of the solution is 2.00mg/L.

4 Instrument

4.1

High performance liquid chromatograph. equipped with a UV detector.

4.2

Organization mashed machines.

4.3

Sample screens. a pore size of 500 μ m.

4.4

brown round bottom flask. 100mL, supporting reflux condenser apparatus.

4.5

brown volumetric flask. 10mL, 25mL, 100mL.

5.1 Whole pepper

With a stamp mill (4.2) the sample is crushed, until all the samples through the sieve (4.3), in a brown bottle storage spare.

5.2 Pepper

All samples through the sample screen (4.3), not through a screen, with the masher (4.2) pulverized until the particle size to meet the requirements so far, in the storage Brown bottle aside.

5.3 Pepper oleoresin

The sample was sufficiently uniform.

6 Step, Analysis

Note: Because piperine solution is unstable, easily decomposed in light, dark operation is necessary. Operation with black paper or aluminum foil and the flask flask wrapped up, and Determination as soon as possible.