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

GB 28347-2012

**National food safety standards -- Food additives -- Cinnamic
acid**

(English Translation)

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Table of Contents

- 1 Scope
- 2 Chemical name, molecular formula, structural formula and relative molecular mass
 - 2.1 Chemical name
 - 2.2 Molecular formula
 - 2.3 Structural formula
 - 2.4 Relative molecular mass
- 3 Technical requirements

1 Scope

This standard applies to benzaldehyde or cinnamaldehyde as raw materials made of food additives cinnamic acid.

2.1 Chemical name

3-phenylacrylic acid

2.2 Molecular formula

C₉H₈O₂

2.4 Relative molecular mass

148.16 (according to the 2007 International Relative Atomic Quality)

3 Technical requirements

3.1

sensory requirements. should be consistent with the provisions of Table 1.

Table 1 sensory requirements

The project requires a test method Color white State of crystallization Place the sample on a clean white paper Visual observation Fragrance honey fragrance, flowers GB/T 14454.2

3.2

Physical and chemical indicators. should be consistent with the provisions of Table 2.

Table 2 Physical and chemical indicators

Item Index Test Method Cinnamic acid content, w /% ≥ 98.0 Appendix A Melting point/ $^{\circ}\text{C}$
 ≥ 132.0 GB/T 14457.3 Appendix A Determination of cinnamic acid content A.1
Instruments and equipment A.1.1 chromatograph. according to GB/T 11538-2006 in
Chapter 5 of the provisions.

A.1.2 Column. Capillary column.

A.1.3 Detector. Hydrogen flame ionization detector.

A.2 Determination method Area normalization method. according to GB/T 11538-2006 10.4
determination of content.

Sample preparation. Weigh this product 1g dissolved in 5mL anhydrous ethanol, slightly
hot, shake back standby.

A.3 repeatability and result representation According to GB/T 11538-2006 11.4
implementation of the provisions.

Food Additives Cinnamic Acid Typical Gas Chromatography (Area Normalization) See
Appendix B.

Appendix B

Food Additives Cinnamic Acid Typical Gas Chromatography (Area normalization method)

B.1 Food additive Cinnamic acid Typical gas chromatogram Food additives Cinnamic acid
Typical gas chromatograms are shown in Figure B.1.

Description.

1 --- solvent;

2 --- cinnamic acid.

Figure B.1 Food additive Cinnamic acid Typical gas chromatogram

B.2 Operating conditions B.2.1 Column. capillary column, length 30m, inner diameter
0.32mm.

B.2.2 Stationary phase. Polyethylene glycol.

B.2.3 Film thickness. 0.25 μm .

B.2.4 Temperature of the chromatographic furnace. 240 $^{\circ}\text{C}$ constant temperature.

B.2.5 Inlet temperature. 240 $^{\circ}\text{C}$.

B.2.6 Detector temperature. 240 $^{\circ}\text{C}$.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 Carrier gas. nitrogen.

B.2.9 Carrier gas flow rate. 1.5 mL/min.

B.2.10 Injection volume. 0.2 μL .

B.2.11 Split ratio. 1/40.