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**NATIONAL STANDARD OF THE
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GB 28349-2012

**Food additives -- Ethyl cinnamate
(English Translation)**

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1 Scope

This standard applies to cinnamic acid and ethanol as raw materials prepared by the food additives ethyl cinnamate.

2.1 Chemical name

3-phenylacrylate

2.2 Molecular formula

C₁₁H₁₂O₂

2.4 Relative molecular mass

176.22 (according to 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 Colorless to pale yellow State liquid Place the sample in a colorimetric tube with a visual method Observed Aroma sweet aroma - honey aroma
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 Ethyl cinnamate content, w /% ≥ 99.0 Appendix A Acid value (in KOH)/(mg/g) ≤ 1.0 GB/T 14455.5 Refractive index (20 ° C) 1.558 ~ 1.562 GB/T 14454.4 Relative density (25 ° C/25 ° C) 1.044 ~ 1.051 GB/T 11540 Appendix A Determination of ethyl cinnamate 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.

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

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

Appendix B

Food Additives Cinnamate Typical Gas Chromatography (Area normalization method) B.1 Food Additives Cinnamate Typical Gas Chromatography Food additive Cinnamic acid ethyl ester Typical gas chromatogram is shown in Figure B.1.

Figure B.1 Typical additives for food additives for cinnamic acid

B.2 Operating conditions B.2.1 Column. capillary column, length 30m, diameter 0.53mm.

B.2.2 Stationary phase. Dimethylpolysiloxane.

B.2.3 Film thickness. 1.5 μm .

B.2.4 Chromatographic furnace temperature. linear program temperature from 130 °C ~ 180 °C, the rate of 3 °C/min, and then from 180 °C ~ 250 °C, the rate 10 °C/min, and finally at 250 °C constant temperature 10min.

B.2.5 Inlet temperature. 250 ° C.

B.2.6 Detector temperature. 260 ° 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.