

ICS 67.220.20
CCS C 54;X40



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

GB 28351-2012

**Food additive -- 5-ethyl furfural
(English Translation)**

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Ministry of Health of the People's Republic of China

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 2-methyl furan as raw material prepared by the food additives 5 - methyl furfural.

2.1 Chemical name

5-methyl-2-furfural

2.2 Molecular formula

C₆H₆O₂

2.4 Relative molecular mass

110.11 (according to the 2007 international relative atomic mass)

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 pale yellow to brown State liquid Place the sample in a colorimetric tube with a visual method Observed Aroma spicy - sweet, warm and fragrant, slightly with caramel 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 5-methyl furfural content, w /% ≥ 97.0 Appendix A Acid value (in KOH)/(mg/g) ≤ 5.0 GB/T 14455.5 Refractive index (20 ° C) 1.525 ~ 1.535 GB/T 14454.4 Relative density (25 ° C/25 ° C) 1.098 ~ 1.110 GB/T 11540 Appendix A Determination of 5 - methyl furfural 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 Additive 5-Methylfurfural Typical Gas Chromatography (Area Normalization) See Appendix B.

Appendix B

Food Additive 5 - Methylfurfural Typical Gas Chromatography (Area normalization method)

B.1 Food Additive 5-Methylfurfural Typical Gas Chromatography Food additives 5-methyl furfural Typical gas chromatograms are shown in Figure B.1.

Figure B.1 Food additive 5-methyl furfural Typical gas chromatogram

B.2 Operating conditions B.2.1 Column. capillary column, length 30m, inner diameter 0.25mm.

B.2.2 Stationary phase. Polyethylene glycol.

B.2.3 Film thickness. 0.25 μm .

B.2.4 chromatographic furnace temperature. 140 ° C constant temperature 10min, and then linear temperature from 140 ° C ~ 200 ° C, the rate of 10 ° C/min.

B.2.5 Inlet temperature. 240 ° C.

B.2.6 Detector temperature. 250 ° C.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 Carrier gas. nitrogen.

B.2.9 Pre-column pressure. 70 kPa.

B.2.10 Injection volume. 0.2 μL .

B.2.11 Split ratio. 1/100.