

ICS 67.020  
CCS C 53



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

**GB 29971-2013**

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**Food additive -- Benzaldehyde glycol acetal  
(English Translation)**

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### 1 Scope

This standard applies to benzaldehyde and 1,2-propanediol for raw materials of food additives benzaldehyde propanediol acetal.

### 2.1 Chemical Name

Formula 2.2

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>

### 2.4 Relative molecular mass

164.20 (according to 2007 international relative atomic mass)

### 3.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 Sensory requirements

Project requires test methods Colorless to pale yellow color, the specimen was placed inside color than the tube, were visually observed Liquid state Aroma soft almond-like aroma GB/T 14454.2

### 3.2 Physical and Chemical Indicators

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

Table 2. Physical and chemical indicators

Item Index Test Method Benzaldehyde propanediol acetal content, w /%  $\geq 98.0$  Appendix

A Acid value (in dollars KOH)/(mg/g)  $\leq$  1.0 GB/T 14455.5 Refractive index (20 °C) 1.506 ~ 1.516 GB/T 14454.4 the relative density (25 °C/25 °C) 1.061 ~ 1.071 GB/T 11540 Appendix A Determination of benzaldehyde glycol acetal A.1 instruments and equipment A.1.1 chromatograph. According to GB/T 11538-2006 provisions in Chapter 5.

A.1.2 Column. capillary column.

A.1.3 Detector. Hydrogen flame ionization detector.

A.2 Determination

Area normalization method. According to GB/T 11538-2006 10.4 Determination.

A.3 repeatability and results are shown According to GB/T 11538-2006 provisions in 11.4, shall comply with the requirements.

Food additives benzaldehyde propanediol acetal gas chromatograph (area normalization method) See Appendix B.

Appendix B

Food additives benzaldehyde propanediol acetal gas chromatogram (Area normalization method) B.1 food additives benzaldehyde propanediol acetal gas chromatogram

Figure B.1.

Figure B.1 food additives benzaldehyde propanediol acetal gas chromatogram

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

B.2.2 stationary phase. 5% diphenyl-95% dimethylpolysiloxane.

B.2.3 film thickness. 1.0  $\mu$ m.

B.2.4 chromatography oven temperature. 150 °C constant temperature 3 min; then linear temperature program from 150 °C ~ 250 °C, the rate of 10 °C/min; final at 250 °C thermostat 5 min.

B.2.5 Inlet temperature. 250 °C.

B.2.6 detector temperature. 280 °C.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 carrier gas. nitrogen.

B.2.9 pre-column pressure. 120 kPa.

B.2.10 Injection volume. 0.1  $\mu$ L.

B.2.11 split ratio. 50?1.