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

GB 29952-2013

**Food additive -- γ -octanolactone
(English Translation)**

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Table of Contents

- 1 Scope
- 2 Chemical name, molecular formula, molecular mass and structural formula
 - 2.1 Chemical Name
 - 2.3 Formula
 - 2.4 Relative molecular mass
- 3 Technical requirements
 - 3.1 Sensory requirements
 - 3.2 Physical and Chemical Indicators

1 Scope

This standard applies to the n-amyl alcohol and acrylate (methyl acrylate) or by the hexanal and malonate for raw materials in the food additive gamma- oct ester.

2.1 Chemical Name

5-butyl-dihydro -2 (3H) - furanone Formula 2.2 C₈H₁₄O₂

2.4 Relative molecular mass

142.20 (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 Color colorless to pale yellow color of the sample is placed over the inner tube, were visually observed Liquid state Sweet aroma, coconut, fruity 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 oct-gamma- lactone content, w /% ≥ 98.0 Appendix A Acid value (in dollars KOH)/(mg/g) ≤ 6.0 GB/T 14455.5 Refractive index (20 °C) 1.443 ~ 1.447 GB/T

14454.4 the relative density (25 °C/25 °C) 0.970 ~ 0.980 GB/T 11540 Appendix A
Determination of gamma- lactone content of oct 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 gamma- -octalactone gas chromatograph (area normalization method) See
Appendix B.

Appendix B

Food Additives gamma- lactone oct gas chromatogram (Area normalization method) B.1
food additives gamma- lactone oct gas chromatogram

Figure B.1.

Figure B.1 food additives gamma- lactone oct 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% phenyl methyl polysiloxane.

B.2.3 film thickness. 0.25 µm.

B.2.4 chromatography oven temperature. 100 °C constant temperature 4 min; then linear
temperature program from 100 °C ~ 190 °C, the rate of 10 °C/min; and finally 190 °C
heated 15 min.

B.2.5 Inlet temperature. 250 °C.

B.2.6 detector temperature. 250 °C.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 carrier gas. nitrogen.

Before B.2.9 column pressure. 34.45 kPa.

B.2.10 Injection volume. 0.2 µL.

B.2.11 split ratio. 100?1.