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GB 29983-2013

Food additive -- Fourteen lactone

(English Translation)

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2.1 Chemical Name

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1 Scope

This standard applies to the cyclopentanone and nonanal for raw materials of food additives delta- fourteen lactone.

2.1 Chemical Name

6- nonyl-tetrahydro-2-pyrone Formula 2.2 C14H26O2

2.4 Relative molecular mass

226.4 (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 of the sample was placed inside color than the tube, were visually observed Liquid state Soft butter aroma, musk, butter-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 fourteen delta- lactone content, w /% >= 97.0 Appendix A Acid value (in dollars KOH)/(mg/g) <= 8.0 GB/T 14455.5 Refractive index (20 °C) 1.454 ~ 1.464

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GB/T 14454.4 the relative density (25 °C/25 °C) 0.932 ~ 0.939 GB/T 11540 Appendix A Determination of fourteen delta- lactone content 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 delta- lactone fourteen gas chromatogram (area normalization method) See Appendix B.

Appendix B

Food additives fourteen delta- lactone gas chromatogram (Area normalization method) B.1 fourteen food additives delta- lactone gas chromatogram

Figure B.1.

Figure B.1 food additives delta- lactone fourteen 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. linear temperature program from 120 °C ~ 190 °C, the rate of 5 °C/min; then linear temperature program from 190 °C ~ 250 °C, rate of 10 °C/min; and finally at 250 °C with 10 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.

B.2.9 carrier gas flow rate. 25 mL/mim.

B.2.10 Injection volume. 0.2 μL.

B.2.11 split ratio. 100?1.

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