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

GB 29958-2013

Food additive -- and l-menthol propyleneglycol carbonate

食品添加剂 l-薄荷醇丙二醇碳酸酯

(English Translation)

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1 Scope

This standard applies to the l- menthol and propylene glycol for raw materials of food additives l- menthol propylene carbonate.

2.1 Chemical Name

l- menthol propylene carbonate Formula 2.2 C₁₄H₂₆O₄

2.4 Relative molecular mass

258.36 (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 the sample was placed in a colorless color colorimetric tube, were visually observed Liquid state Aroma like mint cool flavor 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 l- menthol propyleneglycol carbonate content (sum of isomers), w /% ≥ 98.0 Appendix A Refractive index (20 °C) 1.455 ~ 1.461 GB/T 14454.4 the relative density (25 °C/25 °C) 1.010 ~ 1.018 GB/T 11540 Optical rotation (20 °C) -60 ° ~ -70 ° GB/T

14454.5 Appendix A Determination of l- menthol propyleneglycol carbonate 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 l- menthol propylene carbonate gas chromatograph (area normalization method) See Appendix B.

Appendix B

Food additives l- menthol propyleneglycol carbonate gas chromatogram (Area normalization method) B.1 food additive l- menthol propyleneglycol carbonate gas chromatogram

Figure B.1.

1 - l- menthol propyleneglycol carbonate Isomer 1;

2 - l- menthol propyleneglycol carbonate Isomer 2;

3 - l- menthol propyleneglycol carbonate isomer 3.

Figure B.1 food additive l- menthol propylene carbonate gas chromatogram

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

B.2.2 stationary phase. polyethylene glycol.

B.2.3 film thickness. 0.25 μm .

B.2.4 chromatography oven temperature. 80 °C constant temperature 3 min; then linear temperature programmed from 80 °C ~ 200 °C, the rate of 10 °C/min; and finally 200 °C heated 10 min.

B.2.5 Inlet temperature. 250 °C.

B.2.6 detector temperature. 270 °C.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 carrier gas. nitrogen.

Before B.2.9 column pressure. 21.04 kPa.

B.2.10 Injection volume. 0.3 μL .

B.2.11 split ratio. 50?1.