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**NATIONAL STANDARD OF THE
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**The Food Additives -- 2,3-pentanedione
(English Translation)**

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1 Scope

This standard applies to the preparation of 2,3-pentanedione, a food additive made from hydroxyacetone as raw material.

2.1 Chemical name

2,3-pentanedione

2.2 Molecular formula

C₅H₈O₂

2.4 Relative molecular mass

100.12 (according to 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 yellow to green State liquid Place the sample in a colorimetric tube Observation method Aroma spikes, with a butter-like aroma when diluted with 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 2,3-pentanedione content, w /% 93.0 <= content a Appendix A
Determination of 2,3-pentanedione 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 additives 2,3-pentanedione Typical gas chromatograms (area normalization) See
Appendix B.

Appendix B

Food additive 2,3-pentanedione Typical gas chromatogram (Area normalization method)

B.1 Food additive 2,3-pentanedione Typical gas chromatogram Food additives
2,3-pentanedione Typical gas chromatograms are shown in Figure B.1.

Description.

1 - 2,3 - pentanedione;

2 - 2,3 - pentanedione dimer.

Figure B.1 Food additive 2,3-pentanedione 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. 60 °C constant temperature 5min, and then
linear program temperature from 60 °C ~ 230 °C, the rate of 10 °C/min, 230 °C constant
Temperature 20min.

B.2.5 Inlet temperature. 230 ° 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. 1.5 mL/min.

B.2.10 Injection volume. about 0.2 μL .

B.2.11 Split ratio. 1/50.