

ICS 67.020
CCS C 54



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

GB 29963-2013

**Food additive -- 3-mercapto-2-butanone
(3-mercapto-butan-2-one)**

食品添加剂 3-巯基-2-丁酮(3-巯基-丁-2-酮)
(English Translation)

Issued on: November 29, 2013

Implemented on: June 1, 2014

**Issued by: National Health and Family Planning Commission of the
People's Republic of China**

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1 Scope

This standard applies to the butanone and sulfur as raw materials to prepare food additive 3-mercapto-2-butanone (3-mercapto - 2-one).

2.1 Chemical Name

Formula 2.2

C₄H₈OS

2.4 Relative molecular mass

104.17 (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 State liquid, short-term storage becomes cloudy after Meaty aroma, chestnut-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 3-mercapto-2-butanone content, w /% >= 99.0 Appendix A

Refractive index (20 °C) 1.470 ~ 1.480 GB/T 14454.4 the relative density (25 °C/25 °C) 1.015 ~ 1.045 GB/T 11540 Note. This product should be stored below 5 °C.

Appendix A

Determination of 3-mercapto-2-butanone 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 3-mercapto-2-butanone gas chromatograph (area normalization method)
See Appendix B.

Appendix B

Food Additive 3-mercapto-2-butanone gas chromatogram (Area normalization method)
Food additives B.1 3-mercapto-2-butanone gas chromatogram

Figure B.1.

Figure B.1 food additive 3-mercapto-2-butanone 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. 110 °C constant temperature 10 min; then linear temperature program from 110 °C ~ 200 °C, the rate of 10 °C/min; most After 200 °C heated 20 min.

B.2.5 Inlet temperature. 240 °C.

B.2.6 detector temperature. 240 °C.

B.2.7 Detector. Hydrogen flame ionization detector.

B.2.8 carrier gas. nitrogen.

B.2.9 pre-column pressure. 60 kPa.

B.2.10 Injection volume. about 0.2 µL.

B.2.11 split ratio. 100?1.