

ICS 67.220.20

CCS X 41



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

GB 1886.14-2015

Replacing GB 3263-2008

**National Food Safety Standard -- Food Additives --
Propylgallate**

食品安全国家标准 食品添加剂 没食子酸丙酯

(English Translation)

Issued on: September 22, 2015

Implemented on: March 22, 2016

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

Table of Contents

Foreword

1 Scope

2 Molecular formula, structural formula, relative molecular mass

2.2 Formula

2.3 Relative molecular mass

3 Technical requirements

3.1 Sensory requirements

3.2 Physical and Chemical Indicators

Foreword

This standard replaces GB 3263-2008 "food additive propyl gallate." this standard compared with GB 3263-2008, the main changes are as follows.

--- Standard name was changed to "national food safety standards for food additives, propyl gallate." National Food Safety Standard Food Additives propyl gallate

1 Scope

This standard applies to gallic acid and n-propanol in an acidic dehydrating agent, heating the esterification of gallic acid food additives Propyl.

2 Molecular formula, structural formula, relative molecular mass

Formula 2.1

C₁₀H₁₂O₅

2.2 Formula

COO (CH₂)₂CH₃

2.3 Relative molecular mass

212.20 (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 White or milky white color Status crystalline powder Take the right amount of sample is placed in a clean, dry white porcelain dish, self Under natural light, observe its color and status

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 Gallic acid ester content ($C_{10}H_{12}O_5$ dollars), w /% 98.0 ~ 102.0
Appendix A A.3 Loss on drying, w /% ≤ 0.5 GB 5009.3 Residue on ignition, w /% ≤ 0.1
GB 5009.4a Melting point/ $^{\circ}C$ 146 ~ 150 Appendix A A.4 Arsenic (As)/(mg/kg) ≤ 3.0 GB
5009.76 Lead (Pb)/(mg/kg) ≤ 1.0 GB 5009.75 Weigh about 2g a sample (accurate to
0.0001g).

Appendix A

Testing method

A.1 General Provisions this standard reagents and water in the absence of other specified requirements, refer to the three water analytical reagent and GB/T 6682 regulations.

Reagents Used in the standard solution, standard solution for measuring impurities, formulations and products, did not indicate when the other requirements according to GB/T 601, GB/T 602, GB/T 603 provisions of the preparation. Solution was used in the tests did not indicate what is formulated with solvent, it refers to an aqueous solution.

A.2 Identification Test A.2.1 Reagents and materials A.2.1.1 ferric chloride solution. 10g/L.

A.2.1.2 ethanol. 31.

A.2.1.3 sodium hydroxide solution. 1mol/L.

A.2.2 Analysis step

A.2.2.1 About 0.5g sample was dissolved in 10mL sodium hydroxide solution, distillation, distillate take about 4mL, its solution should be clarified, there is heated Alcohol odor.

A.2.2.2 Approximately 0.1g sample was dissolved in 5mL ethanol solution, add 1 drop of ferric chloride solution was purple.

A.3 propyl gallate content ($C_{10}H_{20}O_5$ meter) measurement A.3.1 Reagents and materials

A.3.1.1 bismuth nitrate test solution. Weigh 5g of bismuth nitrate $[Bi(NO_3)_3 \cdot 5H_2O]$,

placed in a conical flask, was added 7.5mL and 10mL of nitric acid Water, shaken vigorously to dissolve, cooled, filtered, diluted with water volume to 250mL, spare.

A.3.1.2 nitric acid solution. 1300.

A.3.2 Analysis step

Weigh in advance at 110 ± 2 °C dried to constant weight of the sample 200mg (accurate to 0.0001g), placed in 400mL beaker, Add 150mL dissolved in water, heated to boiling, shaking vigorously, add 50mL bismuth nitrate test solution, heating was continued for several minutes to boiling until complete precipitation, cold but, filtered, and the yellow precipitate was filtered off to constant weight of acid frit funnel and washed with a solution of nitric acid and 110 ± 2 °C drying 4h, said to constant weight.

A.3.3 Calculation Results Gallic acid ester content ($C_{10}H_{12}O_5$ meter) mass fraction w, according to equation (A.1) Calculated.

$m_1 \times 0.4866$

$\times 100\%$ (A.1)

Where.

Mass m_1 --- dried precipitate in grams (g);

.4866 --- Propyl gallate Bismuth converted into gallic acid ester coefficient;

m_0 --- sample mass, in grams (g).

The test results mean of two parallel determination results shall prevail (to one decimal place). Twice under repeated condition alone Li absolute difference between the measurement results shall not exceed 0.2% of the arithmetic mean.

A.4 melting point

Sample pre-dried 4h at 110 °C to constant weight, then the method GB/T 617 predetermined measurement.

5102-

41 6881