

ICS 67.040

C 53



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

**中华人民共和国国家标准**

GB/T 5009.29-2003

Replace GB/T 5009.29-1996

---

**Determination of sorbic acid and benzoic acid in  
foods**

**食品中山梨酸、苯甲酸的测定**

**Issued on August 11, 2003**

**Implemented on January 01, 2004**

---

**Issued by Ministry of Health of the People's Republic of China**

**Standardization Administration of the People's Republic of China**

## Contents

Foreword.....	1
1. Scope .....	1
2. Principle.....	1
3. Reagents.....	1
4. Instrument .....	2
5. Analytical procedure .....	2
6. Principle.....	4
7. Reagent.....	4
8. Instrument .....	5
9. Analytical procedure .....	5
10. Principle .....	7
11. Reagents .....	7
12. Instruments .....	8
13. Analytical procedure.....	8
14. Boric acid and borax .....	10
15. Salicylic acid .....	11

## Foreword

This Standard will replace GB/T 5009.29-1996 *Method for determination of total arsenic in food*.

Comparison with GB/T 5009.29-1996, main changes of this Standard are as follows:

- Changed the Chinese title of standard as *Determination of sorbic acid and benzoic acid in foods*;
- Changed the structural of previous standard according to GB/T 20001.4-2001 *Rules for drafting standards--Part 4: Methods of chemical analysis*.

This Standard is proposed and under jurisdiction of Ministry of Health of P.R. China.

Method I is drafted by Food Hygienic Supervision and Inspection Center of MOH.

Method II is drafted by Tianjin Food Hygienic Supervision and Inspection Center, Liaoning Food Hygienic Supervision and Inspection Center, Wuhan Health and Epidemic Prevention Station, Zhejiang Health and Epidemic Prevention Station and Sichuan Health and Epidemic Prevention Station.

Method III is drafted by Food Hygienic Supervision and Inspection Center of MOH.

This Standard was firstly issued on 1985, firstly revised on 1996, this is secondary revision.

# Determination of sorbic acid and benzoic acid in foods

## 1. Scope

This standard stipulates the method to determine content of sorbic acid and benzoic acid in foods such as soybean sauce, fruit juice and jam.

This standard applies to determination of the content of sorbic acid and benzoic acid in foods such as soybean sauce, fruit juice and jam.

Minimum detectable concentration: minimum detectable quantity of gas chromatography is 1  $\mu\text{g}$ . If the sample used in chromatographic analysis is 1g, the minimum detectable concentration is 1mg/kg.

## The First Method: Gas Chromatography

### 2. Principle

After the sample is acidized, use diethyl ether to extract sorbic acid and benzoic acid. Use gas chromatograph of the flame ionization detector to separate them and make determination. Compare the content with the standard.

### 3. Reagents

3.1 Diethyl ether: do not contain peroxide.

3.2 Petroleum ether: boiling range: 30 $^{\circ}\text{C}$ ~60 $^{\circ}\text{C}$

3.3 Hydrochloric acid

3.4 Anhydrous sodium sulfate

3.5 Hydrochloric acid (1+1): take 100 mL hydrochloric acid. Add water to dilute it until it reaches 200 mL.

3.6 Sodium chloride acid solution (40 g/L): add a little hydrochloric acid (1+1) to sodium chloride solution (40 g/L) to acidize it.

3.7 Standard solution of sorbic acid and benzoic acid: weigh 0.2000 g of sorbic acid and 0.2000 g of benzoic acid respectively accurately. Put them in a 100 mL volumetric flask. Dissolve them in the mixed solvent of petroleum ether and diethyl ether (3+1).

---

---

## 完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email: [info@lancarver.com](mailto:info@lancarver.com)

<http://www.lancarver.com>

---

---

## 线下付款方式：

### 1. 对公账户：

单位名称：北京文心雕语翻译有限公司

开户行：中国工商银行北京清河镇支行

账 号：0200 1486 0900 0006 131

---

---

### 2. 支付宝账户：info@lancarver.com

---

---

注：付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！

---



银联特约商户