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 5009.124–2003

Replace GB/T 14965–1994

Determination of amino acids in foods

食品中氨基酸的测定

Issued on August 11, 2003 **Implemented on January 01, 2004**

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

Standardization Administration of the People's Republic of China (SAC)

Contents

Foreword

This Standard will replace GB/T 14965-1994 *Method for determination of amino acids in foods.*

Comparison with GB/T 14965-1994, main changes of this Standard are as follows:

— Changed the Chinese title as *Determination of amino acids in foods*;

— Changed the structure of original standard according to GB/T 20001.4-2001 *Rules for drafting standards—Part 4: Methods of chemical analysis*.

This Standard is proposed by the Ministry of Health (MOH) of the People's Republic of China.

This Standard is drafted by Nutrition and Food Hygiene Research Institute of Chinese Academy of Preventive Medicines.

Chief drafters of this Standard: Jia Jianbin and Zhao Xihe.

This primary standard was first issued in 1994 and this is the first revision.

Determination of amino acids in foods

1 Scope

This standard stimulated the determination method of automatic amino acid analyzer for amino acid in food.

This standard applies to determine 16 kinds of amino acids in food such as aspartic acid, threonine, serine, glutamic acid, proline, glycine, alanine, valine, methionine, isoleucine, leucine, tyrosine, phenylalanine, histidine, lysine and arginine. The minimum detection limit is 10 pmol.

This standard does not apply to the determination of amino acids in low protein content of fruits, vegetables, drinks and starch foods.

2 Principle

The protein in food become free amino acids through hydrochloric acid hydrolysis, after separation by the ion exchange column of amino acid analyzer and color reaction with ninhydrin solution, the amino acid content is measured through the spectrophotometer colorimetric determination.

3 Reagent

3.1 Concentrated hydrochloric acid: Excellent pure.

3.2 6 mol/L hydrochloric acid: 1+1 mix of concentrated hydrochloric acid and water.

3.3 Phenol: With double distillation.

3.4 (0.0025 mol/L) mixed amino acid standard solution (marketed by instrument manufacturing companies).

3.5 Buffer solution

3.5.1 Sodium citrate buffer of pH2.2: Take 19.6 g sodium citrate($Na_3C_6H_5O_7 \cdot 2H_2O$) and 16.5 mL concentrated hydrochloric acid, dilute to 1,000mL with water, adjust pH to 2.2 with concentrated hydrochloric acid or 500 g/L sodium hydroxide solution.

3.5.2 Sodium citrate buffer of pH3.3: Take 19.6 g sodium citrate and 12 mL concentrated hydrochloric acid dilute to 1,000mL with water, adjust pH to 3.3 with concentrated hydrochloric acid or 500 g/L sodium hydroxide solution.

3.5.3 Sodium citrate buffer of pH4.0: Take 19.6 g sodium citrate and 9 mL concentrated

完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email：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！