



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

**中华人民共和国国家标准**

GB 5413.27-2010

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**National food safety standard  
Determination of fatty acids in foods for infants and  
young children, milk and milk products**

**食品安全国家标准**

**婴幼儿食品和乳品中脂肪酸的测定**

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**Issued on Mar 26, 2010**

**Implemented on Jun 01, 2010**

**Issued by the Ministry of Health of P.R of China**

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## Foreword

This standard replaces GB/T 21676-2008, *Milk and dairy products — Determination of fatty acid content — Gas-liquid chromatography*, GB/T 5413.27-1997, *Milk powder and formula foods for infant and young children — Determination of DHA and EPA contents*, and GB/T 5413.4-1997, *Milk powder and formula foods for infant and young children—Determination of linoleic acid content*.

Comparison to the previous editions of standard, the main changes specified by this standard are as follows:

- Method I is named as acetyl chloride - methanol methyl esterification method;
- GB/T 21676 – 2008, GB/T 5413.27 – 1997, GB/T 5413.4 - 1997 were combined as Method II, i.e. ethanol-ammonia water extraction method, in this standard.

Annex A of this standard is informative.

This standard replaces the following historical editions issued:

- GB/T 5413.4 – 1997;
- GB/T 5413.27 – 1997;
- GB/T 21676 – 2008.

# **National food safety standard**

## **Determination of fatty acids in foods for infants and young children, milk and milk products**

### **1. Scope**

This standard specifies determination method of fatty acids in foods for infants and young children, milk and milk products.

This standard applies to determination of fatty acids in foods for infants and young children, milk and milk products. Method II is not applicable to determination of those containing embedded fatty acid.

### **2. Normative references**

The following normative documents for application of this document are indispensable. For dated references, only the dated edition applies to this document. For undated references, the latest edition (including all amendments) applies.

#### **Method I Acetyl chloride - methanol methyl esterification method**

### **3. Principle**

Acetyl chloride reacts with methanol to generate hydrochloride – methanol which makes the fat and free fatty acid in the specimen as methyl esterification. After extracted with toluene, it is separated and detected through gas chromatography analyzer. Quantify it in external standard method.

### **4. Reagents and materials**

Unless otherwise specified, all the reagents used in this method are analytically pure or stricter and water is Class I in accordance with GB/T 6682.

- 4.1 Sodium carbonate anhydrous;
- 4.2 Toluene: Chromatographically pure;
- 4.3 Acetyl chloride;

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