



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

中华人民共和国国家标准

GB/T 5413.5-2010

**National food safety standard
Determination of lactose and sucrose 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乳糖、蔗糖的测定

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Foreword

This standard replaces the GB/T 5413.5-1997 *Milk powder and formula foods for infant and young children-Determination of lactose, sucrose and total sugars contents*.

Comparison with GB/T 5413.5-1997, main change of this Standard is as follow:

— add of Evaporative Light Scattering Detector (ELSD).

The previous editions to be replaced by this standard:

— GB/T 5413-1985, GB/T 5413.1997.

National food safety standard

Determination of lactose and sucrose in foods for infants and young children, milk and milk products

1. Scope

This standard specifies the methods for determination of lactose and sucrose in foods for infants and young children, milk and milk products.

This standard applies to the determination of lactose and sucrose in foods for infants and young children, milk and milk products.

2. Normative References

The references in this Standard are inevitable for the application of this Standard. For all dated references, the versions with the noted apply to this Standard. For all undated references, the latest version (including all modification lists) applies to this Standard.

Method I: High Performance Liquid Chromatography

3. Principles

After the lactose and sucrose in the testing samples are extracted, the test samples are separated through high performance liquid chromatographic column, then detected through differential refractive index detector or evaporative light scattering detector, as well as measured through external reference method.

4. Reagents and Materials

Unless otherwise specified, the reagents used on this method are analytically pure and the water is Class I water specified in GB/T 6682.

4.1 Acetonitrile

4.2 Acetonitrile: chromatographically pure reagent.

4.3 Standard Solution

4.3.1 Lactose standard storage solution(20 mg/mL): weigh 2g lactose standard sample (correct to 0.1mg) which has been dried for two hours in the oven with a temperature of $94^{\circ}\text{C} \pm 2^{\circ}\text{C}$, and then dissolve them in the water, put them into 100mL measuring flasks for water dilution. Put them into the 4°C refrigerator.

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