



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

中华人民共和国国家标准

GB 5413.14-2010

**National food safety standard
Determination of vitamin B₁₂ 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维生素 B₁₂ 的测定

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Foreword

This standard Replacing GB/T 5413.14 - 1997 *Milk powder and formula foods for infant and young children-Determination of vitamin B₁₂ content.*

Comparison with GB/T 5413.14-1997, main change of this Standard is as follows:

- Changed the title to *Determination of vitamin B₁₂ in foods for infants and young children, milk and milk products;*

Appendix A of this Standard is informative.

The versions replaced by this standard are:

- GB 5413 - 1985, GB/T 5413.14- 1997.

National food safety standard

Determination of vitamin B₁₂ in foods for infants and young children, milk and milk products

1. Scope

This standard is formulated a microbial method for determination of vitamin B₁₂.

This standard is applicable to Determination of Vitamin B₁₂ in Foods for Infants and Young Children, Raw Milk and Dairy Products.

2. Normative References

The normative documents referenced in the text are indispensable to the application of this standard. For dated references, only the edition bearing such date applies to this standard. For undated references, the latest edition of the normative document referred to (including all the amendments) applies.

3. Principles

To quantitatively measure the content of Vitamin B₁₂ in the test sample through the specificity and sensitivity of *Lactobacillus leichmannii* against vitamin B₁₂. Provide all nutrient contents besides Vitamin B₁₂ into the medium used for the determination, in this way, the light transmittance produced by growth of microorganisms will be corresponding to the content of Vitamin B₁₂ in the standard curve working liquid and the solution to be tested, the standard curves are compiled according to the light transmittance of standard solutions with different concentrations to the concentration of standard materials with each concentration, then the content of Vitamin B₁₂ in the test sample can be calculated according to the standard curve.

4. Reagents and materials

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

4.1 Bacterial strain: *Lactobacillus leichmannii* ATCC 7830.

4.2 Standard vitamin B₁₂ (Vitamin B₁₂ or Cyanocobalamin) product: molecular formula C₆₃H₈₈CoN₁₄O₁₄P, purity≥99%.

4.3 Medium

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