



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

Ministry of Health of the People's Republic of China

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National Standard of the People's Republic of China

GB 5413.14-2010

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Preface

This standard replaces GB/T 5413.14-1997 “Milk powder and formula foods for infant and young children—Determination of vitamin B₁₂ content”.

Compared with GB/T 5413.14-1997, major changes of this standard are as follows:

——The standard title has been changed to “Determination of vitamin B₁₂ in foods for infants aTable 2 Preparation of test sample solutionnd young children, milk and milk products”.

Annex A of this standard is a normative annex.

This standard replaces all previous standards, those issued editions 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 specifies the method for the determination of vitamin B₁₂ in foods for infants and young children, milk and milk products.

This standard is applicable to the determination of vitamin B₁₂ in foods for infants and young children, milk and milk products.

2 Normative references

The documents cited in this standard are indispensable for the application of this standard. For dated references, only the noted date edition of the normative document is applicable to this standard. For undated references, the latest edition (including all the amendments hereof) of the normative document referred to applies.

3 Principles

Based on the specificity and sensitivity of *Lactobacillus leichmannii* to vitamin B₁₂, quantitatively determine the content of vitamin B₁₂ in the test sample. In a medium containing all the nutritional components with the exception of vitamin B₁₂, the growth of microorganisms shall be proportional to the content of vitamin B₁₂ in standard working solutions and test sample solutions. Plot the standard curve with the transmittance of standard solutions with different concentrations against the concentration of standard substance, and then calculate the content of vitamin B₁₂ in the test sample according to the standard curve.

4 Reagents and materials

Unless otherwise specified, all the reagents used in this method are analytical pure, and the water used is two-level water specified in GB/T 6682.

4.1 Strain: *Lactobacillus leichmannii*, ATCC 7830.

4.2 Vitamin B₁₂ (Vitamin B₁₂ or Cyanocobalamin) standard substance: with molecular formula of C₆₃H₈₈CoN₁₄O₁₄P and purity of not less than 99 %.

4.3 Culture mediums



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