

Translated English of Chinese Standard: GB 5413.22-2010

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GB

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

GB 5413.22-2010

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

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Preface

This standard replaces GB/T 5413.22-1997 "Determination of phosphorus in formula and milk powder for infants and young children".

Compared with GB 5413.22-1997, the main changes in this standard are as follows:

- The digestion of 3-type of strong acids "nitric acid - sulphuric acid - perchloric acid" is changed into the digestion of "nitric acid - perchloric acid".

The previous editions replaced by this standard are as follows:

- GB 5413-1985, GB/T 5413.22-1997.

National food safety standard

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

1 Scope

This standard specifies the method for the determination of phosphorus in foods and dairy products for infants and young children.

This standard applies to the determination of phosphorus in foods and dairy products for infants and young children.

2 Normative references

The reference document in this standard is essential to the application of this standard. For dated reference documents, only the dated versions apply to this standard. For undated reference documents, the latest versions (including all amendments) apply to this standard.

3 Principle

Samples are subjected to acid oxidation, to make phosphorus react with vanadium-ammonium molybdate and form yellow complex compound in nitric acid solution. Use spectrophotometer to determine the absorbance at the wavelength of 440 nm. The color depth is proportional to the content of phosphorus.

4 Reagents and materials

Unless specified, all reagents used in this method are analytical reagents. Water is the Grade 3 water specified by GB/T6682.

4.1 Nitric acid: Guaranteed reagent.

4.2 Perchlorate: Guaranteed reagent.

4.3 Ammonium molybdate $[(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}]$.

4.4 Metavanadate (NH_4VO_3) .

4.5 Sodium hydrate (NaOH) .

4.6 Standard solution of potassium dihydrogen phosphate (KH_2PO_4) .

4.7 2,6-dinitrophenol or 2,4-dinitrophenol $[\text{C}_6\text{H}_3\text{OH}(\text{NO}_2)_2]$.

4.8 Sulphuric acid: Guaranteed reagent.

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