

Translated English of Chinese Standard: GB14936-2012

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**GB**

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

**GB 14936-2012**

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**National Food Safety Standard -  
Food Additives - Diatomaceous Earth**

食品安全国家标准

食品添加剂 硅藻土

**Issued on: December 25, 2012**

**Implemented on: January 25, 2013**

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**Issued by: Ministry of Health of the PRC**

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# **National Food Safety Standard - Food Additives - Diatomaceous Earth**

## **1 Scope**

This Standard is applicable to the food additives diatomaceous earth of diatomaceous earth dry products, pickling products, roasting products, fluxing roasting products prepared by processes such as drying, roasting, pickling, classification and with natural diatomaceous earth as raw materials.

## **2 Technical requirements**

**2.1 Sensory requirements:** It shall meet the requirements of Table 1.

**Table 1 -- Sensory requirements**

## **Appendix A**

### **Inspection methods**

#### **A.1 Warning**

Some of the reagents used in the inspection methods of this Standard are toxic or corrosive. During operation, it shall take appropriate safety and protective measures.

#### **A.2 General**

The reagents and water used in this Standard, when no other requirements are specified, refer to the analytical reagents and the Grade 3 water specified in GB/T 6682-2008. Standard solutions, preparations, and products for the determination of impurities used in the test, when no other requirements are specified, shall be prepared in accordance with the provisions of GB/T 602 and GB/T 603. The solution used, when no solvent is specified, refers to the aqueous solution.

#### **A.3 Identification test**

##### **A.3.1 Instrument and equipment**

Microscope: 10 times or more than 10 times (objective lens) ×10 (eyepiece).

##### **A.3.2 Identification method**

DROP 1 drop of water on the slide; then ADD a small amount of the sample; COVER with a cover glass; observe under a microscope. A typical diatom shape may be observed.

#### **A.4 Determination of arsenic (As)**

##### **A.4.1 Preparation of sample solution A**

WEIGH 10.00 g±0.01 g of the sample; PLACE it in a 250 mL beaker; ADD 50 mL of hydrochloric acid solution; USE a glass watch glass to cover the beaker; HEAT at 70 °C for 15 min. COOL; USE a slow qualitative filter paper to filter the supernatant into a 100 mL volumetric flask. USE three portions of 10 mL of hot water to wash the filter pulp; USE 15 mL of hot water to wash the filter paper. USE water to dilute to the mark; SHAKE well. Retain this sample solution A, for use in A.5, determination of lead.

solution and mix. USE 20 mL of trichloromethane to extract twice respectively; COLLECT the extracts in a 50 mL beaker; evaporate in a steam bath to dryness (This must be done in a fume hood); ADD 3 mL of nitric acid to the residue; continue to evaporate to near dryness. ADD 0.5 mL of nitric acid and 10 mL of water; HEAT to a solution volume of approximately 3 mL~5 mL. TRANSFER to a 10 mL volumetric flask; USE water to dilute to the mark; SHAKE well.

#### **A.5.3.3 Preparation of standard solution**

PIPETTE 1.00 mL of lead standard solution into a 150 mL beaker; ADD 30 mL of water; ADD 1 mL of hydrochloric acid. HEAT to boil for a few minutes; COOL; DILUTE to 100 mL. USE sodium hydroxide solution to adjust the pH of solution to 1.0~1.5 (USE precision test paper with pH 0.5~5.0 to detect). The subsequent procedure is the same as that in A.5.3.2 "TRANSFER this solution to a 250 mL separating funnel...TRANSFER to a 10 mL volumetric flask; USE water to dilute to the mark; SHAKE well".

#### **A.5.3.4 Determination**

USE an air-acetylene flame; at a wavelength of 283.3 nm, USE water to set to zero; determine the absorbance of sample solution B. The absorbance of sample solution B shall not exceed that of the standard solution.

### **A.6 Determination of loss on drying**

#### **A.6.1 Instrument and equipment**

**A.6.1.1** Weighing bottle:  $\phi 40\text{ mm}\times 25\text{ mm}$ .

**A.6.1.2** Electrothermal constant-temperature drying oven: The temperature may be controlled at  $105\text{ }^{\circ}\text{C}\pm 2\text{ }^{\circ}\text{C}$ .

#### **A.6.2 Analytical procedures**

WEIGH approximately 2 g of sample, accurate to 0.0002 g; PLACE it in a weighing bottle which has been previously dried at  $105\text{ }^{\circ}\text{C}\pm 2\text{ }^{\circ}\text{C}$  to a constant mass. DRY in an electrothermal constant-temperature drying oven at  $105\text{ }^{\circ}\text{C}\pm 2\text{ }^{\circ}\text{C}$  for 2 h; TAKE out; COOL to room temperature and weigh. This is sample A, for use in A.7 determination of loss on ignition and A.8 determination of non-silicon substance.

#### **A.6.3 Result calculation**

The mass fraction  $w_1$  of loss on drying is calculated according to the formula (A.1):

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