

ICS 75.140



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

GB 22160-2008

Food grade microcrystalline wax

食品级微晶蜡

(English Translation)

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Foreword

Clause 4 of this standard is mandatory, and the rest are recommended.

This standard is nonequivalent to the standard FAO/WHO JECFA (2000) Microcrystalline wax (English version) of the Joint Food Additive Expert Committee of United Nations Food Agriculture Organization and World Health Organization.

The main differences between this standard and FAO/WHO JECFA (2000) are as follows.

- ADD the technical requirements of the melting point of the drop, DETERMINE the grade by the melting point of the product, there are totally 5 grades;
- ADD the technical requirements for penetration at 25 °C;
- ADD the technical requirements for oil content;
- ADD the technical requirement that the grade 70 "100 °C kinematic viscosity is not less than 6.0";
- ADD the technical requirements for smell;
- CANCEL the technical requirements of "appearance", "solubility", "infrared absorption", "sulfur content", "refractive index".

Appendix A and Appendix B of this standard are normative appendices.

This standard is the first release.

1 Scope

1.1

This standard specifies the technical requirements, test methods, marking, packaging, storage and transportation, sampling of food grade microcrystalline wax.

1.2

This standard applies to food grade microcrystalline wax obtained by solvent refining of petroleum heavy fraction or vacuum residue by solvent refining, dewaxing, de-oiling, and then by white clay or hydro-refining.

2 Normative references

The provisions in following documents become the provisions of this standard through reference in this standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this standard; however, parties who reach an agreement based on this standard are encouraged to study if the latest versions of these documents are applicable.

For undated references, the latest edition of the referenced document applies.

GB/T 265 Petroleum products - Determination of kinematic viscosity and calculation of dynamic viscosity

GB/T 4985 Standard test method for needle penetration of petroleum waxes

GB/T 5009.75 Determination of lead in food additives

GB/T 6540 Petroleum products - Determination of color

GB/T 7363 Wax - Determination of polynuclear aromatics

GB/T 8026 Standard test method for drop melting point of petroleum wax, including petrolatum (GB/T 8026-1987, neq ISO 6244:1982)

SH/T 0129 Test method for ignition residue of petroleum wax and malthenes

SH 0164 Petroleum product - Packaging, storage and delivery acceptance rules

SH/T 0229 Solid and semi-solid petroleum product sampling method

SH/T 0398 Standard test method for molecular weight of petroleum wax

B.3

B.3.4 Concentrated sulfuric acid. excellent grade pure.

B.3.5 Concentrated hydrochloric acid. excellent grade pure.

B.3.6 Concentrated nitric acid. excellent grade pure.

B.3.7 Perchloric acid. excellent grade pure.

B.3.8 Lead nitrate. excellent grade pure.

B.4.1 Preparation of lead standard solution

In a 1000 mL volumetric flask, DISSOLVE 1.6 g of lead nitrate $\text{Pb}(\text{NO}_3)_2$ (weighed to 0.1 mg) in nitric acid (DISSOLVE 10 mL concentrated nitric acid in 20 mL water, BOIL it, REMOVE nitric acid flue gas and COOL it), ADD water to the marking line. At 20 °C, TAKE 10 mL of this solution in a 500 mL volumetric flask and ADD water to the marking line. The lead standard solution contains lead 20 µg/mL.

B.4.2 Preparation of calibration curve solution

In a series of 100 mL volumetric flasks, USE pipette to respectively ADD 0, 1 mL, 2 mL, 3 mL, 4 mL, 5 mL of lead standard solution, DILUTE it to approximately 50 mL. ADD 8 mL of concentrated sulfuric acid and 10 mL of concentrated hydrochloric acid, SHAKE it uniformly to dissolve it. After dissolving, USE deionized water to dilute it to the marking line.

These solutions contain 0, 0.2 µg, 0.4 µg, 0.6 µg, 0.8 µg, and 1.0 µg of lead per millimeter, respectively.

B.4.3 Preparation of sample solution

In a 100 mL ~ 150 mL Kjeldahl flask, accurately WEIGH 2.5 g of sample (weighed to 0.1 mg) and ADD 5 mL of dilute nitric acid. When the initial reaction changes to slow-down, START to heat it slowly, until further vigorous reaction stops and then COOL it down. Gradually ADD 4 mL of concentrated sulfuric acid, CONTROL the rate of addition so that no excessive foam is generated during the heating process (usually 5 ~ 10 minutes), HEAT it until the color of the liquid becomes black apparently, that is, carbonization begins. ADD a small amount of concentrated nitric acid slowly, HEAT it between every two additions, until it darkens again. DO not violently heat it up to avoid excessive carbonization. In this process, it is allowed a small amount of free nitric acid to present. CONTINUE this process until the solution turns pale yellow and the color no longer darkens during subsequent heating. If the solution still changes color in 0.5 mL of perchloric acid solution and a small amount of concentrated nitric acid, HEAT it for about 15 minutes, then ADD 0.5 mL of perchloric acid