



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

GB 1886.351-2021

**National Food Safety Standard - Food Additives -
alpha-cyclodextrin**

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1 Scope

This Standard applies to the food additive alpha-cyclodextrin prepared by enzymatic hydrolysis and purification of starch.

2.1 Molecular formula

(C₆H₁₀O₅)₆

2.2 Relative molecular mass

972.85 (according to 2018 international relative atomic mass)

3.1 Sensory requirements

Sensory requirements shall meet the requirements of Table 1.

3.2 Physical and chemical indicators

The physical and chemical indicators should meet the requirements of Table 2.

Annex A Inspection methods

A.1 General The reagents and water used in this Standard refer to analytically-pure reagents and grade 3 water specified in GB/T 6682 when other requirements are not indicated. The standard solutions used in the test, standard solutions for impurity determination, preparations and products, unless other requirements are specified, are prepared in accordance with the provisions of GB/T 601,

GB/T 602 and GB/T 603. The solution used in the test refers to an aqueous solution when it is not specified which solvent is used to prepare it.

A.2 Identification test A.2.1 Specific rotation test Weigh 1.00g of specimen and dissolve it in 100mL of water. Determine according to the method specified in GB/T 613. The specific rotation shall be +145°~+151°.

A.2.2 Chromatography test In the alpha-cyclodextrin content determination test, the retention time of the main peak of the test solution chromatogram shall be consistent with the retention time of the main peak of the standard solution chromatogram.

A.3 Determination of alpha-cyclodextrin content (on a dry basis)

A.3.1 Reagents and materials A.3.1.1 Methanol: Chromatographically pure.

A.3.1.2 Water: Grade 1 water specified in GB/T 6682.

A.3.1.3 alpha-cyclodextrin standard product: Purity $\geq 98.0\%$.

A.3.2 Instruments and equipment High performance liquid chromatograph: Equipped with a refractive index detector.

A.3.3 Reference chromatographic conditions A.3.3.1 Chromatographic column: C18, C8, phenyl column and other reverse chromatographic columns (5 μ m, 150mm $\times$ 4.6mm).