



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

GB 1903.81-2025

**National food safety standard - Food nutrition fortifier - Vitamin
K2 (synthesis method)**

食品安全国家标准 食品营养强化剂 维生素K2（合成法）

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Standardization Administration of the PRC**

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Foreword

2 Chemical name, molecular formula, structural formula, and relative molecular mass 2.1
Chemical name

(all-E)-2-(3,7,11,15,19,23,27-Heptamethyl-2,6,10,14,18,22,26-octacosaeptaenyl)-3-methyl-1,4-naphthalenedione

1 Scope

This standard applies to vitamin K2, a food fortifier, which is chemically synthesized from vitamin K3 and 7-en-terpen-ol, or from vitamin K3, farnesol, and geraniol.

2 Chemical name, molecular formula, structural formula, and

relative molecular mass

2.1 Chemical name

(all-E)-2-(3,7,11,15,19,23,27-Heptamethyl-2,6,10,14,18,22,26-octacosaeptaenyl)-3-methyl-1,4-naphthalenedione

2.4 Relative molecular mass

649.02 (based on the international relative atomic mass in 2022).

3.1 Sensory requirements

Sensory requirements shall comply with the provisions of Table 1.

Some reagents used in the test methods of this standard are toxic or corrosive; therefore, caution must be exercised and the relevant regulations must be followed during

handling. If splashed onto skin, rinse immediately with water; for severe cases, seek immediate medical attention. When using volatile acids, the test shall be conducted in a fume hood.

A.2 General provisions

Unless otherwise specified, only reagents confirmed to be of analytical grade and Grade I water as specified in GB/T 6682 shall be used in the analysis. Unless otherwise specified, standard titration solutions, standard solutions for impurity determination, preparations and products used in the test methods shall be prepared in accordance with the provisions of GB/T 601, GB/T 602 and GB/T 603. The solutions used, unless the solvent for preparation is specified, all refer to aqueous solutions.

Vitamin K2 is sensitive to light, so care shall be taken to avoid light during the experiment.

A.3 Identification test

High-performance liquid chromatography (HPLC) analysis is performed according to the method for determining vitamin K2 content, and the retention times of the sample and vitamin K2 standard are compared. The main peak of the sample chromatogram shall have the same retention time as the main peak of the standard.