



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

GB 1886.52-2015

**National food safety standard - Food additives - Vegetable oil
extraction solvent (also known as hexane solvent)**

食品安全国家标准 食品添加剂 植物油抽提溶剂(又名己烷类溶剂)

(English Translation)

Issued on: September 22, 2015

Implemented on: March 22, 2016

**Issued by: National Health and Family Planning Commission of the
People's Republic of China**

Table of Contents

Foreword
1 Scope
2 Technical requirements
Annex A Test methods

Foreword

This document was issued on 22 September 2015 by the National Health and Family Planning Commission of the People's Republic of China under Announcement No. 8 of 2015, and has applied since 22 March 2016.

It is a GB national food safety standard: compliance is mandatory in China.

It belongs to the GB 1886 series of standards for food additives.

1 Scope

This standard applies to the food additive vegetable oil extraction solvent (also known as hexane solvent), obtained by refining straight-run petroleum fractions. The product consists mainly of aliphatic hydrocarbons such as hexane.

2 Technical requirements

2.1

Sensory requirements

The sensory requirements shall comply with Table 1. The colour shall be colourless and the product shall be a transparent liquid free of mechanical impurities. A suitable sample is placed in a clean, dry cuvette and its colour and appearance are examined in natural light.

2.2

Physical and chemical indicators

The physical and chemical indicators shall comply with Table 2, which covers the distillation range from initial boiling point to dry point (GB/T 6536), the benzene content (GB/T 17474), the evaporation residue (GB/T 3209), the sulfur content (SH/T 0253), the lead content (GB 5009.12), the polycyclic aromatic hydrocarbons (Annex A, A.3) and the pH (Annex A, A.4).

A Annex A Test methods

A.1 General: unless otherwise stated, the reagents used are analytical grade and the water is grade three water complying with GB/T 6682. The standard solutions, impurity standard solutions and preparations used are prepared according to GB/T 601, GB/T 602 and GB/T 603. Solutions for which no solvent is stated are aqueous solutions.

A.2.1 Identification - solubility: insoluble in water; soluble in ether, ethanol and acetone.

A.2.2 Identification - density: determined in accordance with GB/T 1884 and GB/T 1885; the density at 20 °C is in the range 0.655 g/cm³ to 0.680 g/cm³.

A.3 Determination of polycyclic aromatic hydrocarbons: the reagents are dimethyl sulfoxide and a solution of naphthalene in trimethylpentane at 7.0 mg/L. A 25.0 mL test portion is placed in a 125 mL separating funnel, 25 mL of hexane is added and mixed, 5.0 mL of dimethyl sulfoxide is added, the funnel is shaken vigorously for 1 min and the layers are allowed to separate. The lower layer is taken, shaken vigorously with 2 mL of hexane and separated again. A blank prepared from 25 mL of hexane and 5.0 mL of dimethyl sulfoxide serves as the reference, and the absorbance is measured from 260 nm to 420 nm. The naphthalene solution in trimethylpentane is measured at 275 nm against trimethylpentane as the reference value.

A.3.3 Result: the test is passed if the absorbance of the sample at every peak between 260 nm and 420 nm does not exceed one third of the reference value.

A.4 Determination of pH: the reagents are ethanol and two buffer solutions bracketing the expected pH of the sample; the apparatus is a pH meter with temperature compensation and an accuracy of at least 0.02, with an electrode or a combined electrode. The electrode is rinsed with water, the buffer solutions and the sample are brought as close as possible to the same temperature, the meter is calibrated with the two buffers according to its manual, the electrode is rinsed and dried with filter paper, and the reading is taken with the electrode immersed in the sample until it is stable.

A.4.4 Result: the result is the arithmetic mean of two parallel determinations, whose absolute difference shall not exceed 0.1.