

CCS X 40



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

GB 1886.258-2016

National Food Safety Standard -- Food Additives -- N-hexane

食品安全国家标准 食品添加剂 正己烷

(English Translation)

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1 Scope

This standard applies to the crude oil straight-run fraction refined by the preparation of food additives n-hexane, the main component of n-hexane.

2.1 Molecular formula

C₆H₁₄

2.2 Relative molecular mass

86.18 (according to 2011 international relative atomic mass)

3.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 sensory requirements

The project requires a test method Color and colorless State clear liquid Take the appropriate amount of sample placed in the color tube, in the natural light under the view Perceived its color and state

3.2 Physical and chemical indicators

Physical and chemical indicators should be consistent with the provisions of Table 2.

Table 2 Physical and chemical indicators

Item Index Test Method N-hexane content, w /% ≥ 60 SH/T 0714 Distillation range Initial boiling point/ $^{\circ}\text{C}$ $\geq$ Dry point/ $^{\circ}\text{C}$ $\leq$ GB/T 6536 Sai Bote color number ≥ 28 GB/T 3555 Bromine index/(mgBr/100g) ≤ 50 GB/T 11136

Table 2 (continued)

Item Index Test Method Evaporation residue/(mg/100mL) ≤ 0.5 GB/T 3209 Sulfur (in S)/(mg/kg) ≤ 2 SH/T 0253 (Arbitration) or SH/T 0689 Benzene, w /% ≤ 0.01 GB/T 17474 or GB/T 12688.9 Polycyclic Aromatic Hydrocarbons Through Test Appendix A, A.3 Lead (Pb)/(mg/kg) ≤ 1.0 GB 5009.12 Appendix A Testing method A.1 General provisions in addition to the provisions of this standard, the purity of the reagents used are analytical pure, the standard titration solution used, the standard solution for the determination of impurities, preparation and products should be prepared according to GB/T 601, GB/T 602, GB/T 603, the experimental water should be consistent with GB/T 6682 in the three water regulations set. The solution used in the test refers to the aqueous solution when it is not specified in the formulation of the solvent.

A.2 Identification test A.2.1 Solubility test Do not dissolve in water, soluble in ether, ethanol and acetone.

A.2.2 Relative density test the relative density of the sample shall be determined according to the method specified in GB/T 1884, and the relative density (20 °C) of the sample should be 0.660 ~ 0.687.

A.2.3 Refractive index test According to the method specified in GB/T 614 to determine the refractive index of the sample, the sample refractive index (20 °C) should be 1.375 ~ 1.384.

A.3 Determination of polycyclic aromatic hydrocarbons A.3.1 Reagents and materials

A.3.1.1 n-hexane. chromatographic purity.

A.3.1.2 Dimethyl sulfoxide. Chromatographic purity.

A.3.1.3 Trimethyl pentane. Chromatographic purity.

A.3.1.4 naphthalene.

A.3.2 Instruments and equipment A.3.2.1 Dispensing funnel. 125 mL.

A.3.2.2 Spectrophotometer.

A.3.3 Analysis steps A.3.3.1 Preparation of blank solution Measure the amount of 5.0mL dimethyl sulfoxide, placed in the separatory funnel, adding 25mL n-hexane, shake for 1min, static stratification. Take the bottom the clear liquid phase is a blank solution.

A.3.3.2 Determination of absorbance of sample solution A 25.0 mL sample was taken, placed in a separatory funnel, 25 mL of n-hexane was added, mixed, and 5.0 mL of dimethylsulfoxide was added. Shaking violently 1min, static stratification. The bottom liquid phase was transferred to another separatory funnel, 2 mL of n-hexane was added, the mixture was vigorously shaken, Layer, separated from the bottom liquid phase, this is the sample solution. Take this sample solution in 1cm cuvette, the blank solution as the reference solution, with points the photometer measures the absorbance at a wavelength of 260 nm to 420 nm.

A.3.3.3 Determination of absorbance of the control solution A trimethylpentane solution containing 7.0 mg/L naphthalene was prepared using trimethylpentane as a solvent as a control solution. Take the control solution 1 cm cuvette, trimethylpentane as the reference solution, with a spectrophotometer at 275nm determination of absorbance.

A.3.3.4 Determination any absorbance of the sample solution in the wavelength range of 260 nm to 420 nm does not exceed the absorbance of the control solution at 275 nm One third, that is through the test.