



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

GB 1886.363-2022

**National food safety standard - Food additive - Plant activated
carbon (Rice husk activated carbon)**

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1 Scope

This standard applies to the food additive plant activated carbon (rice husk source) made from rice husks through carbonization, alkali dissolution, acidification, and other processes.

2.1 Sensory requirements

Sensory requirements shall meet the requirements of Table 1.

2.2 Physicochemical indices

Physicochemical indices shall meet the requirements of Table 2.

Appendix A Testing method

A.1 Warning Some of the reagents used in this test method are toxic, corrosive, and flammable, so operators must be careful. If splashed on the skin, wash with water immediately; if the situation is serious, treat it immediately. When using flammable materials, it is strictly forbidden to use an open flame for heating.

A.2 General provisions The reagents and water used in this standard, unless other requirements are specified, refer to the analytical reagents and grade III water specified in GB/T 6682. Unless other requirements are specified, the standard titration solution, standard solution for impurity determination, preparations, and products used in the test shall be 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 the aqueous solution if the solvent is not specified.

A.3 Identification test
A.3.1 Reagents and materials
A.3.1.1 Oil sample. Use the neutralized soybean oil obtained from the neutralization section of the oil refinery. Its absorbance measured with a 1 cm cuvette at a wavelength of 520 nm shall be 0.2~0.4.

A.3.1.2 Medium-speed qualitative filter paper.

A.3.2 Instruments and equipment Constant temperature magnetic stirrer. It shall be equipped with a contact temperature sensor, and the temperature range shall be 0 °C~150 °C.

A.3.3 Identification steps Weigh 50.0 g $\pm$ 0.1 g oil sample and 1.00 g $\pm$ 0.01 g specimen, put them in a 200 mL beaker, and place the beaker on a preheated constant temperature magnetic stirrer; insert a contact temperature sensor into the oil sample to measure the oil temperature, and stir the oil sample while heating. Keep the contact temperature sensor always immersed in the oil sample; when the temperature rises to 105 °C~110 °C, hold for 10 min. Remove the beaker and immediately filter the oil sample with medium-speed qualitative filter paper while it is still hot. Collect the filtrate in a 25 mL colorimetric tube and make up to the mark; compare it with the reference solution, and its color shall not be darker than that of the reference solution.

Reference solution. Pipette the oil sample before decolorization, place it in a 25 mL colorimetric tube and make up to the mark.

A.4 Determination of oil decolorization rate A.4.1 Method summary Take a certain amount of neutralized soybean oil, add a certain amount of sample for decolorization, and obtain the absorbance of the oil after decolorization. Calculate the decolorization rate according to the decrease in absorbance, and express it as a percentage.

A.4.2 Reagents and materials A.4.2.1 Oil sample. It shall be the neutralized soybean oil obtained from the neutralization section of the oil refinery. Its absorbance measured with a 1 cm cuvette at a wavelength of 520 nm shall be 0.2~0.4.

A.4.2.2 Medium-speed qualitative filter paper.

A.4.3 Instruments and equipment A.4.3.1 Spectrophotometer. It shall be equipped with a 1 cm cuvette.

A.4.3.2 Constant temperature magnetic stirrer. It shall be equipped with a contact temperature sensor, and the temperature range shall be 0 °C~150 °C.

A.4.4 Analysis steps Weigh 150.00 g $\pm$ 0.01 g oil sample, put it in a 500 mL beaker, and place the beaker on a preheated constant temperature magnetic stirrer; insert a contact temperature sensor into the oil sample to measure the oil temperature, and stir the oil sample while heating.

When the oil temperature rises to 60 °C, slowly add 3.00 g $\pm$ 0.01 g specimen, and the stirring should drive the entire oil sample to move like a vortex (set the constant temperature magnetic stirrer to rotate at 350 r/min); keep the sample and contact temperature sensor fully immersed in the oil sample. When the oil temperature rises to 105 °C~110 °C, hold the temperature for 30 min. Remove the beaker and immediately filter the oil sample with medium-speed qualitative filter paper while it is still hot. Use a 100 mL graduated cylinder to receive the oil sample, and discard the initial 60 mL decolorized oil

sample; then, collect the decolorized oil sample in a dry beaker. On a spectrophotometer, at a wavelength of 520 nm, use a 1 cm cuvette and zero it with water, then, measure the absorbance of the filtered decolorized oil sample. At the same time,

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