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

GB/T 12496.10-1999

Replacing GB/T 12496.2-1990

**Test methods of wooden activated carbon--Determination of
methylene blue adsorption**

木质活性炭试验方法 亚甲基蓝吸附值的测定

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Foreword

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Test Methods of Wooden Activated Carbon - Determination of Methylene Blue Adsorption

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Test Methods of Wooden Activated Carbon - Determination of Methylene Blue Adsorption 1
Scope

This Standard specifies the test methods for the methylene blue adsorption value of wooden activated carbon. This Standard applies to wooden activated carbon.

2 Normative References

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall

explore the possibility of using the latest version of the following standards.

GB/T 6682-1992 Water for laboratory use - Specifications

GB/T 9721-1988 Chemical reagent - General rules for the molecular absorption spectrophotometry (ultraviolet and visible)

3 Method Summary

The specimen is mixed with a certain amount (in milliliters) of methylene blue solution and then filtered. The absorbance of the filtrate is measured by a spectrophotometer. If the absorbance is lower than the absorbance of the standard solution at a specified concentration, the required number of milliliters of methylene blue is the methylene blue adsorption value of the activated carbon specimen.

4 Main Instruments 4.1 Electric oscillator (reciprocating), with frequency about 275 times/min.

5 Reagents and Solutions

The water used in this Standard shall comply with the Grade-3 water specifications in GB/T 6682. The listed reagents are analytically pure reagents unless otherwise specified.

5.1 Methylene blue, indicator.

5.2 Disodium hydrogen phosphate [$\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$] (GB/T 1263).

5.3 Potassium dihydrogen phosphate (GB/T 1274).

5.4 Buffer solution: Weigh

3.6 g of potassium dihydrogen phosphate and

14.3 g of disodium hydrogen phosphate; and dissolve them in 1,000 mL of water. The pH value of this buffer solution is about 7.

5.5 Methylene blue test solution (

5.5.1 Preparation Since the properties of methylene blue change during the drying process, it shall be used without drying. Therefore, it is necessary to measure its moisture content after drying at $(105 \pm 0.5)^\circ\text{C}$ for 4 h. The amount of undried methylene blue to be used is calculated according to Formula (1): Where: m_1 - mass of undried methylene blue, in g; E - moisture content, in %; m - required amounts of dry products, in g; P - purity of methylene blue, in %. Calculate the amount of undried product equivalent to

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