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

GB/T 6020-2008

Replacing GB/T 6020-1999; GB/T 12702-1999

**Butadiene for industrial use -- Determination of
tert-butyl-catechol (TBC)**

工业用丁二烯中特丁基邻苯二酚(TBC)的测定
(English Translation)

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Foreword

This revised standard adopts ASTM D1157:1991 (2004) "Determination of light hydrocarbons in t-butyl catechol (TBC) standard Standard Test Method "(in English), this Standard and structural differences ASTM D1157 in Appendix A.

This standard ASTM D1157:1991 (2004) of the main differences are.

- Increased liquid chromatography;
- Measured by the scope of ASTM D1157 prescribed 50mg/kg ~ 500mg/kg to 1mg/kg ~ 300mg/kg;
- Calibration curve TBC directly to the quality of the abscissa;
- Introduction of density in the results calculation.

This standard replaces GB/T 6020-1999 "industrial use of tert - butyl catechol (TBC) spectrophotometric determination" and GB/T 12702-1999 "industrial use of tert - butyl catechol (TBC) High performance liquid chromatography." this standard spectrometry and GB/T 6020-1999 The main differences are as follows.

- The name was changed to "industrial use of tert - butyl catechol (TBC) Measurement";
- The measurement process of the reference solution for the reunification of distilled water.

This standard HPLC and GB/T 12702-1999 main differences are as follows.

- The name was changed to "industrial use of tert - butyl catechol (TBC) Measurement";
- Chromatographic conditions in the original specifications and particle size column has been modified.

Appendix A of this standard is an informative annex.

The standard proposed by China Petroleum and Chemical Corporation.

This standard by the National Standardization Technical Committee Petrochemical Chemical Club (SAC/TC63/SC4) centralized.

This standard was drafted. China Petroleum & Chemical Corporation Shanghai Research Institute of Petrochemical.

1 Scope

1.1

standard provides industry with tert - butyl catechol [ie, 4- (1,1-dimethyl-ethyl) -1,2-hydroquinone] measured spectral Spectrophotometry and high performance liquid chromatography. This standard applies spectrophotometric measurement range of 1mg/kg ~ 300mg/kg, high performance liquid chromatography Spectroscopy measurement range applies to 1mg/kg ~ 250mg/kg.

1.2

This standard is not intended to illustrate its use of all safety-related issues. Therefore, the user has the responsibility to take appropriate safety and prevention Protective measures to ensure compliance with the provisions of the relevant national regulations.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequently Some amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Study whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 8170 numerical rounding rules GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3639. 1987, MOD) GB/T 13290 Industrial liquid propylene and butadiene sampling method

3.1 Method summary

Butadiene After evaporation, the remaining residue was dissolved with water and an excess of ferric chloride. At 425nm wavelength, with a spectrophotometer Yellow complex was measured by absorbance and the calibration curve for determination of the content of TBC.

3.2 Reagents and materials

The method used reagents were analytical grade, third grade water as the water requirements of GB/T 6682 regulations.

3.2.1

Ethanol. 95% (volume fraction).

3.2.2

hydrochloric acid (density 1.19g/mL).

3.2.3

ferric chloride solution. Weigh 20.0g of ferric chloride ($\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$), with 95% ethanol (3.2.1) dissolved moved 1000mL volumetric flask, was added 9.2mL of hydrochloric acid (3.2.2), with 95% ethanol diluted to the mark.

3.2.4

t-butyl catechol (TBC) standard solution.

TBC standard solution 3.2.4.1 6.7mg/mL for. Weigh 0.67gTBC (accurate to 0.0001g), was dissolved in ethanol 10mL95% , And transferred to 100mL volumetric flask, dilute with water to the mark. This solution is unstable and must be formulated immediately prior to use.

3.2.4.2 0.67mg/TBC mL of the standard solution. A standard solution TBC 6.7mg/mL of the diluted 10-fold with water, and mix. this Unstable solution shall be formulated immediately prior to use.

Note: TBC potentially harmful, can cause skin irritation or burns, it can be absorbed through the skin and may cause harm to the respiratory system, swallowing may cause fatal harm retropharyngeal. Avoid contact with the eyes should be, otherwise it will burn eye tissue damage eyesight. Should pay attention to ventilation, should be stored Flammable liquids stored in the area.

3.3 Instrument

3.3.1

Spectrophotometer. with 1cm absorption cell.