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

SN/T 3002-2011

**Determination of relative molecular weight and molecular
weight distribution of polyethylene. Gel permeation
chromatography method**

聚乙烯相对分子量和分子量分布的测定 凝胶渗透色谱法
(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This revised standard adopts ASTM D6474:1999 (2006) "polyolefin molecular weight distribution and average molecular testing methods High Temperature Gel Permeation chromatography. " this standard ASTM D6474:1999 (2006) compared to made the following modifications.

--- Scope of this standard polyethylene molecular weight distribution and average molecular weight determination, ASTM D6474:1999 Scope of poly Ethylene and polypropylene molecular weight distribution and average molecular weight determination;

--- Remove ASTM D6474:1999 (2006) Chapter 5, Section 9, Chapter 10 and Chapter 17;

--- This document Chapters 3 and 4 correspond to the ASTM D6474:1999 (2006) of Chapters 3 and 4;

--- Increased 5.1 Chapter 5 of this document and 5.4,5.2,5.7,5.8 correspond to the ASTM D6474:1999 (2006) of 8.1,8.2,12.2,12.1,5.5 and 5.6 corresponds to ASTM D6474:1999 (2006) of 8.3;

--- Chapter 6 of this document correspond to the increased 6.2,6.1 ASTM D6474:1999 (2006), Chapter 7;

--- This document corresponds to 7.1 ASTM D6474:1999 (2006) of Chapter 13;

--- This document is up 7.2 Gel permeation chromatography working conditions;

--- This document corresponds to 7.3 ASTM D6474:1999 (2006) of Chapter 14;

--- 7.4.1 of this document correspond to ASTM D6474:1999 (2006) of 15.2 and 12.3;

--- This document is increased 7.4.2;

--- This document 7.4.3,7.4.5 correspond to ASTM D6474:1999 (2006) of 15.3,15.6;

- 7.4.4 of this document correspond to ASTM D6474:1999 (2006) of 15.4 and 15.5;
- Chapter 8 of this document correspond to ASTM D6474:1999 (2006) of Chapter 16;
- Chapter 9 of the document increases.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Shanghai Entry-Exit Inspection and Quarantine Bureau, People's Republic of China Guangdong Entry-Exit Inspection and Quarantine Bureau.

1 Scope

This standard specifies the polyethylene (except high pressure low density polyethylene) gel permeation chromatography relative molecular weight and molecular weight distribution method.

This standard applies to 140 °C when dissolved in 1,2,4-trichlorobenzene polyethylene (except high pressure low density polyethylene) Molecular weight and molecular Determination of the amount of the distribution.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Standard Methods GB/T 21864 polystyrene average molecular weight and molecular weight distribution of High Performance Size Exclusion Chromatography (ASTM D5296:2005,

Standard test method for molecular weight averages and molecular weight distribution of polystyrene-High performance size-exclusion chromatography, IDT) ASTM D883 plastic Definition ASTM E685 liquid chromatography using a standard fixed wavelength photometric detection means Experimental Practice

3 Terms and Definitions

ASTM D883 define the following terms and definitions apply to this document.

Polyolefin this standard polyolefin is polyethylene (except high pressure low density polyethylene) and polypropylene.

Polyethylene, PE

4 Summary

Polyethylene samples were dissolved in a solvent injection column packed with a solid matrix, separated according to the order of the polymer molecules in solution. when the concentration of molecules based on their molecular weight to detect and record separation when the column was rinsed out. By the calibration curve, the retention time can be converted to Molecular weight. Average molecular weight and molecular weight distribution calculated from the concentration data obtained.

5 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade.

5.1 2,6-di-t-butyl-4-methylphenol.