

ICS 83.080.20

CCS G 31



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

GB/T 36214.4-2018

**Plastics -- Determination of average molecular mass and
molecular mass distribution of polymers using size-exclusion
chromatography -- Part 4: High-temperature method**

Issued on: May 14, 2018

Implemented on: December 1, 2018

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Principle
5 reagents
5.1 eluent
5.2 Evaluation of column reagents

Foreword

GB/T 36214 "Plastics volume exclusion chromatography for the determination of the average molecular weight and molecular weight distribution of polymers" is divided into five parts.

- Part 1. General;
- Part 2. Universal Correction Method;
- Part 3. Low temperature method;
- Part 4. High temperature method;
- Part 5. Light scattering method.

This part is the fourth part of GB/T 36214.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to ISO 16014-4:2012 "plastic volume exclusion chromatography to determine the average molecular weight of the polymer.

And molecular weight distribution Part 4. High temperature method.

This section has made the following editorial changes.

- Appendix C supplements the test conditions and test results of the precision test.

This part was proposed by the China Petroleum and Chemical Industry Federation.

This part is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15).

This section drafted by. Guangzhou Quality Supervision and Inspection Institute, Tongdao Technology Chengdu Co., Ltd., China Petroleum and Chemical Corporation

Beijing Yanshan Branch Resin Application Research Institute, Beijing Puli Taike Instrument Co., Ltd., China National Petroleum Corporation Petrochemical Co., Ltd.

Research Institute, Zhonglan Chengdu Testing Technology Co., Ltd.

1 Scope

This part of GB/T 36214 specifies the use of organic eluents at 60 ° C ~ 180 ° C, by volume exclusion chromatography (SEC)

A method of determining the average molecular weight and molecular weight distribution of a polymer. Calculate the average molecular weight and fraction based on the calibration curve constructed from the polymer standard

The sub-quantity distribution, therefore the test method is a relative method (see Appendix A and Appendix A of GB/T 36214.1-2018).

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 36214.1-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Points. General (ISO 16014-1.2012, IDT)

ISO 472 plastic terminology and its definition (Plastics-Vocabulary)

ISO 16014-2 Determination of average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography - Part 2. General

Plastics-Determination of average molecular mass and molecular mass distribution of polymers using size-exclusion chromatography-Part 2. Universal calibration method)

3 Terms and definitions

The terms and definitions defined by ISO 472 and GB/T 36214.1-2018 apply to this document.

4 Principle

See Chapter 4 of GB/T 36214.1-2018.

5.1 eluent

The general requirements for eluents are given in 5.1 of GB/T 36214.1-2018.

See Appendix B for examples of eluents used in SEC equipment above 60 °C.

5.2 Evaluation of column reagents

See 5.2 of GB/T 36214.1-2018.

Several low molecular weight compounds can be used, such as diphenylmethane or 1,2,4-trichloro when using 1,2-dichlorobenzene as eluent

Ethylbenzene can be used as the eluent for benzene.