

ICS 83.080.20

CCS G 31



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

GB/T 36214.1-2018

**Plastics -- Determination of average molecular mass and
molecular mass distribution of polymers using size-exclusion
chromatography -- Part 1: General principles**

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

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 first 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 16014-1:2012 "plastic volume exclusion chromatography to determine the average molecular weight of the polymer

And molecular weight distribution Part 1. General.

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, Zhonglan Chenguang Chengdu Testing Technology Co., Ltd., China Bluestar (Group) shares

Co., Ltd., PetroChina Research Institute of China National Petroleum Corporation, Beijing Puli Taike Instrument Co., Ltd.

1 Scope

This part of GB/T 36214 specifies the determination of the average molecular weight and

molecular weight distribution of polymers using volume exclusion chromatography (SEC).

General method. The average molecular weight and molecular weight distribution are calculated from the calibration curve. The calibration curve is either by GB/T 36214.2~

Calculated from the polymer standard of one of the SEC techniques described in GB/T 36214.4, or equipped with light scattering detection as described in GB/T 36214.5

The absolute molecular weight data of the volume exclusion chromatography (SEC-LS) of the detector was calculated.

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 36214.2-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Part 2. Universal Correction (ISO 16014-2:2012, IDT)

GB/T 36214.5-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Part 5. Light scattering method (ISO 16014-5:2012, IDT)

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

Determination of average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography - Part 3. Low temperature method

(Plastics-Determination of average molecular mass and molecular mass distribution of polymers using size-exclusion chromatography-Part 3. Low-temperature method)

Plastics - Determination of the average molecular weight and molecular weight distribution of polymers - Part 4. High temperature method

(Plastics-Determination of average molecular mass and molecular mass distribution of polymers using size-exclusion chromatography-Part 4. High-temperature method)

3 Terms and definitions

The following terms and definitions defined by ISO 472 apply to this document.

3.1

Volume exclusion chromatography size-exclusion chromatography; SEC

The hydrodynamics of molecules eluted in a column packed with a non-absorbent porous material with a pore size similar to the size of the molecule being separated

A liquid chromatography with a volume based on separation.

Note. The term gel permeation chromatography (GPC) should be used only when the non-absorbent porous filler material is a gel; however, volume exclusion chromatography (SEC) terminology

It is preferred.

3.2

Light scattering detection light-scattering detection

LS detection

A technique for determining the quality or size of a polymer molecule by measuring its light scattering.