

ICS 71.040.30

CCS G 60



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

GB/T 613-2007

**Chemical reagent -- General method for the determination of
specific optical rotatory power (specific optical rotation)
[including MODIFICATION 1]**

(English Translation)

Issued on: September 26, 2007

Implemented on: April 1, 2008

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Terms and definitions...	4
4 Principle of the method...	4
5 Apparatus...	5
6 Determination...	5
7 Calculation...	5
Amendment No. 1 [2009XG1]...	6

Foreword

The degree of consistency between this Standard and ISO 6353-1:1982, Reagents for chemical analysis - Part 1: General test methods is non-equivalent.

This Standard replaces GB/T 613-1988 Chemical reagent - General method for the determination of specific optical rotation. Compared with GB/T 613-1988, the main changes are as follows:

- Change the standard name to "specific optical rotatory power (specific optical rotation)";
- Add a chapter on normative references (Chapter 2 of this edition);
- Adjust the symbol and unit of specific optical rotatory power (2.1 of the 1988 edition; Chapter 3 of this edition);
- Modify the expression of the calculation formula (Chapter 6 of the 1988 edition; Chapter 7 of this edition).

This Standard is proposed by China Petroleum and Chemical Industry Federation.

This Standard is under the jurisdiction of Subcommittee 3 on Chemical Reagent of National Technical Committee 63 on Chemistry of Standardization Administration of China (SAC/TC 63/SC 3).

Drafting organization of this Standard: Sinopharm Chemical Reagent Co., Ltd.

Main drafters of this Standard: Chen Haoyun, Chen Hong.

This Standard was first published in 1965, revised for the first time in 1977, and revised for the second time in 1988.

Chemical reagent - General method for the determination of
specific optical rotatory power (specific optical rotation)

1 Scope

This Standard specifies a general method for determining the specific optical rotatory power of chemical reagents using a polarimeter.

This Standard applies to the determination of the specific optical rotatory power of chemical reagents.

2 Normative references

The provisions in the following documents become provisions of this Standard through reference in this Standard. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this standard. However, parties to agreements that are based on this Standard are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this Standard.

JJG 536-1998, Polarimeter and saccharimeter

3 Terms and definitions

The following terms and definitions are applicable to this Standard.

3.1

specific optical rotatory power

Optical rotatory power measured at the liquid layer of length 1 dm, concentration 1 g/mL, and temperature 20°C by the wavelength of sodium spectrum D line (589.3 nm).

The unit is degrees square meters per kilogram $[(^{\circ}) \cdot \text{m}^2/\text{kg}]$.

4 Principle of the method

When the polarized light transmitted from the polarizer passes through the sample, due to the optical rotation of the sample material, its vibration direction changes by a certain angle α . Rotate the analyzer at a certain angle to make the transmitted light intensity equal to the incident light intensity, and this angle is the optical rotatory angle of the sample.

.....