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

GB/T 16496-1996

**Chemical reagent. Potassium sulfate
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Characteristics...	6
4 Specification...	6
5 Tests...	6
6 Inspection rules...	10
7 Packaging and marks...	10

Foreword

This Standard specifies two grades. analytically pure reagents (AR) and chemically pure reagents (CP). The analytically pure reagent is equivalent to R 85 "Potassium Sulfate" as specified in ISO 6353-3:1987 "Reagents for chemical analysis -- Part 3. Specifications -- Second series". The differences are as follows.

1 Standard drafting

In light of China's specific conditions, this Standard includes three additional chapters covering characteristics, inspection rules, packaging and marking.

2.1 Items

Compared to the international standard, this Standard includes two additional items. clarity test and water-insoluble matter.

2.2 Indicators

The specifications for iron and arsenic in the analytically pure reagent are stricter than international standards, while all other items match international standards.

3 Tests

The methods for determining content in this Standard are identical to those in the international standard. Regarding calcium determination, while the international

standard employs atomic absorption spectrometry, this Standard adopts the colorimetric method using a calcium reagent, as it is more convenient to implement. For other parameters, the corresponding standards from the established Chinese series of general test methods for chemical reagents are cited; this series was formulated primarily based on ISO 6353-1.1982 "Reagents for chemical analysis -- Part 1.General test methods".

This Standard was formulated based on HG 3-920-76 "Chemical reagent -- Potassium sulfate". Compared to the previous version, corresponding changes have been made to the specifications and test methods in order to align with international standards.

As of the effective date of this Standard, the former Ministry of Chemical Industry standard HG 3-920-76 is superseded.

Annex A of this Standard is a normative annex.

This Standard was proposed by Ministry of Chemical Industry of the People's Republic of China.

This Standard shall be under the jurisdiction of Beijing Chemical Reagent General Factory.

The drafting organizations of this Standard. Chengdu Chemical Reagent Factory.

Main drafters of this Standard. Chen Junru, Guo Shanpei.

Chemical reagent -- Potassium sulfate

Molecular formula. K_2SO_4

Relative molecular mass. 174.26

1 Scope

This Standard specifies the technical requirements, test methods, inspection rules, and packaging and marking for the chemical reagent - potassium sulfate.

2 Normative references

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB/T 601-88, Chemical Reagent -- Preparations of Standard Volumetric Solutions

GB/T 602-88, Chemical Reagent -- Preparations of Reagent Solution for Use in Test

GB/T 603-88, Chemical Reagent -- Preparation of reagents and products used in the test methods

GB/ T 609-88, Chemical Reagent -- General method for the determination of total nitrogen (idt ISO 6353-1.1982)

GB/T 610.2-88, Chemical Reagent -- General method for the determination of arsenic (silver diethyldithiocarbamate method) (eqv ISO 6353.1982)

GB/T 619-88, Chemical Reagent -- Sampling and acceptance rules

GB 6682-92, Specifications and test methods for analytical laboratory water (eqv ISO 3696.1987)

GB/ T 9723- 88, Chemical Reagent -- General rules for flame atomic absorption spectrometry

GB/T 9724-88, Chemical Reagent -- General rules for pH determination (eqv ISO 6353-1.1982)

GB/T 9729-88, Chemical Reagent -- General method for the determination of chloride (eqv ISO 6353-1.1982)

GB/ T 9735-88, Chemical Reagent -- General methods for the determination of heavy metals (eqv ISO 6353-1.1982)

GB/ T 9738-88, Chemical Reagent -- General method for the determination of water-insoluble matter (eqv ISO 6353-1.1982)

GB/T 9739-88, Chemical Reagent -- General method for the determination of iron (eqv ISO 6353-1.1982)

GB 15346-94, Chemical Reagent -- Packaging and marks

HG 3-1168-78, Chemical Reagent -- Preparation and determination methods for clarity standards

3 Characteristics

This reagent is a colorless, transparent crystalline substance or powder that is soluble in water.

4 Specification

The specifications for potassium sulfate shall comply with the requirements of Table 1.

Table 1

5 Tests

Unless otherwise specified in this chapter, the standard titration solutions, standard solutions, reagents, and preparations used shall be prepared in accordance with GB/T 601, GB/T 602, and GB/T 603; the water used for experiments shall meet the

Name

Clarity test

Analytically pure Chemically pure

Content (K₂SO₄), %

Water-insoluble matter, %

Chloride (Cl), %

Total nitrogen content (N), %

Sodium (Na), %

Calcium (Ca), %

Iron (Fe), %

Arsenic (As), %

Heavy metal (calculated as Pb), %

Qualified Qualified

specifications for Grade 3 water as defined in GB 6682-92; and samples shall be weighed to an accuracy of 0.01 g.