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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 71.080.60

G 17

GB/T 24768-2009

1,4-Butanediol for industrial use

工业用 1,4-丁二醇

Issued on: December 15, 2009

Implemented on: July 1, 2010

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

Standardization Administration Committee.

Table of Contents

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Requirements	5
4 Test methods	5
5 Inspection rules	9
6 Marks, packaging, transport and storage	9
Annex A (Normative) Typical chromatogram, relative retention, relative correction factor for determination of 1,4-butanediol for industrial use content	11

1,4-Butanediol for industrial use

1 Scope

This Standard specifies the requirements, test methods, inspection rules and marks, packaging, transport and storage of 1,4-butanediol for industrial use.

This Standard is applicable to the production, inspection and sales of 1,4-butanediol for industrial use.

Chemical formula: $C_4H_{10}O_2$

Relative molecular mass: 90.15 (according to 2007 international relative atomic mass)

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 325.1, *Packing containers - Steel drums - Part 1: General specifications*

GB/T 3143, *Color determination method of liquid chemicals (Hazen unit - Platinum-cobalt scale)*

GB/T 6283, *Chemical products - Determination of water Karl-fischer method (general method) (ISO 760-1978, NEQ)*

GB/T 6678, *General principles for sampling chemical products*

GB/T 6680, *General rules for sampling liquid chemical products*

GB/T 6682-2008, *Water for analytical laboratory use - Specification and test methods (ISO 3696:1987, MOD)*

GB/T 8170, *Rules of rounding off for numerical values & expression and judgement of limiting values*

4.4.2.3 Air: purified and dried by activated carbon, blue silica gel and 5A molecular sieve.

4.4.2.4 Methanol: chromatographic pure.

4.4.2.5 Tetrahydrofuran: chromatographic pure.

4.4.2.6 γ -butyrolactone: chromatographic pure.

4.4.2.7 Dimethyl succinate: chromatographic pure.

4.4.2.8 1,4-pentanediol: chromatographic pure.

4.4.2.9 2-methyl-1,4-butanediol: chromatographic pure.

4.4.2.10 1,6-hexanediol: chromatographic pure.

4.4.2.11 Butanol: chromatographic pure.

4.4.2.12 2-methyl-tetrahydrofuran: chromatographic pure.

4.4.2.13 3-hydroxy-tetrahydrofuran: chromatographic pure.

4.4.2.14 Xylene: chromatographic pure.

4.4.2.15 1,4-butanediol: mass fraction is not less than 99.8%.

4.4.3 Instruments

4.4.3.1 Gas chromatograph: with flame ionization detector (FID), the sensitivity and stability of the whole machine shall meet the relevant regulations in GB/T 9722-2006.

4.4.3.2 Data processing system: chromatographic data processor or chromatography workstation.

4.4.3.3 Sample injector: 10- μ L micro syringe or auto sampler injector.

4.4.4 Chromatographic conditions

The recommended column and chromatographic operating conditions in this Standard are shown in Table 2. Typical chromatograms and retention times of components are in Annex A. Other chromatographic columns and chromatographic operating conditions that can achieve equivalent separations can also be used.

Take the arithmetic average of two parallel determination results as the report result. The absolute difference between two parallel determinations is not greater than 0.003%.

4.6 Determination of chromaticity

Determine according to the provisions of GB/T 3143.

5 Inspection rules

5.1 All items required in Clause 3 and specified in Table 1 are all exit-factory inspection items. The exit-factory inspection shall be performed in batches.

5.2 1,4-butanediol for industrial use takes the amount of a storage tank or tank car (ship) as one batch or the products of same mass as one batch.

5.3 The sampling of 1,4-butanediol for industrial use shall be performed according to GB/T 6678, GB/T 6680. Take a representative sample with a sample volume of not less than 400 mL and pack in two clean, dry glass bottles, seal. Label it and indicate the product name, manufacturer's name, batch number or production date, sampling date, sampling location, sampler's name, etc. One bottle is for inspection, the other for future reference.

5.4 1,4-butanediol for industrial use shall be inspected by the quality supervision and inspection department of manufacturer. The manufacturer shall ensure that each batch of manufactured products conforms to the requirements of this Standard and is accompanied by a quality certificate in a certain format, including manufacturer's name and address, product name, product grade, production date or lot number, net content, and reference to this Standard.

5.5 The determination of the test results is carried out according to the comparison method of repair value in GB/T 8170. If one of the inspection results does not meet the requirements of this Standard, it shall be re-sampled from the twice-amount packaging unit for inspection. Even if only one indicator does not meet the requirements of this Standard, the entire batch of products shall be disqualified.

6 Marks, packaging, transport and storage

6.1 Marks

The packaging container of 1,4-butanediol for industrial use shall have obvious fixed mark, indicating product name, manufacturer's name and address, production lot number or date, net content, certificate of conformity, product standard number, etc., and accompanying safety technical data sheet with the

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