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

GB/T 17829-2026

Replacing GB/T 17829-1999

Polyethoxylated fatty alcohols

聚乙氧基化脂肪醇

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Table of Contents

4	Product Categories
5	Technical Requirements
6.5	Polyethylene glycol
6.6	Average adduct number of ethoxy groups
6.6.3	Calculation of the average number of ethoxy groups
7	Inspection Rules
7.1	Inspection Classification
8	Marking, packaging, transportation, and storage

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 17829-1999 "Polyethoxylated Fatty Alcohols". Compared with 17829-1999, the main differences are structural adjustments and editorial changes. Aside from the modifications, the main technical changes are as follows:

---The product specification grading has been changed (see Table 1, 1999 edition of Table 1);

---Added requirements for 1,4-diane (see Table 1);

---The testing method for color has been changed (see 6.2, 5.2 in the 1999 edition);

---The test method for moisture content has been changed (see 6.4, 5.4 in the 1999 edition);

---The test method for hydroxyl value has been changed (see 6.6.2, 5.6.2 in the 1999 edition);

---A test method for 1,4-diane has been added (see 6.7). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China National Light Industry Council. This document is under the jurisdiction of the National Technical Committee on Standardization of Surfactants and Detergents (SAC/TC272). This document

was drafted by: China Daily Chemical Research Institute Co., Ltd., China Light Industry Daily Chemical Technology Co., Ltd., and China Light Industry Inspection and Certification (Taiyuan). Limited Liability Company, Liaoning Shengde Huaxing Chemical Co., Ltd., Guangdong Rongqiang Chemical Co., Ltd., Shandong Daming Fine Chemical Co., Ltd., Jiangsu Shengtai Chemical Co., Ltd. Xue Technology Co., Ltd., Shandong Deshunyun Petroleum Technology Co., Ltd., Lianhong New Material Technology Co., Ltd., Jiangsu Sirbang Petrochemical Co., Ltd. company. The main drafters of this document are. Cheng Xiaojing, Feng Yimin, Zhang Wei, Yao Meixing, Lin Qingyu, Gao Guangjiang, Zhu Ridong, Meng Zhaoling, Fu Bing, and Liu Yanfeng. Wang Shuyong, Zang Yungang, Zhang Chenhui, Liu Miao, Wang Xiaoping, Liang Meng, Wang Chuanxin. The release history of this document and the document it replaces is as follows:

---First published in.1999 as GB/T 17829-1999;

---This is the first revision. Polyethoxylated fatty alcohols

1.Scope This document specifies the product classification and technical requirements for polyethoxylated fatty alcohols (also known as fatty alcohol polyoxyethylene ethers, or simply "alcohol ethers"), and describes... The corresponding test methods are described, and the inspection rules and requirements for marking, packaging, transportation and storage are specified. This document applies to the production and sales of polyethoxylated fatty alcohol nonionic surfactants (condensation products of fatty alcohols and ethylene oxide). Sales and inspection.

4 Product Categories

4.1 Structural Formula $RO-[CH_2-CH_2-O]_nH$ R represents an alkyl group, the carbon chain length of the main component is between 6 and 18, and n is the average molar amount of ethoxy(EO) bound to 1 mole of fatty alcohol. Er number.

4.2 Classification Polyethoxylated fatty alcohols are classified into three categories according to the average degree of polymerization (n) of the ethoxy groups.

a) Type M. $n \leq 3$, commonly used as an intermediate in the preparation of alcohol ether anionic surfactants;

c) Class A. $n > 9$, commonly used as a production aid in industries such as textiles, printing and dyeing, petroleum, papermaking, and leather.

4.3 Product Marking Marking method. Product name (polyethoxylated fatty alcohol/fatty alcohol polyoxyethylene ether/alcohol ether) Fatty alcohol carbon chain distribution average epoxy Ethane addition ratio, product specification grade, execution standard number, product type (can be omitted). Example. The superior grade of polyethoxylated fatty alcohols with an average of 7 ethylene oxide atoms added to fatty alcohols mainly composed of C12-15 alkyl groups is marked as follows: "Polyethoxylated fatty alcohol

C12~15 7EO Superior Grade GB/T 17829L" or "Fatty alcohol polyoxyethylene ether C12~15 7EO Superior Grade" GB/T 17829 Class L or "Superior Grade of Alcohol Ethers C12~15 7EO GB/T 17829 Class L", where "Class L" can be omitted.

5 Technical Requirements

The physicochemical properties of the product should meet the requirements of Table 1.

6. Test Methods Unless otherwise specified, only reagents confirmed to be of analytical grade and water of grade III or higher as specified in GB/T 6682 shall be used in the analysis.

6.1 Appearance Place the sample in a beaker or glass bottle and visually inspect its color and condition at $(25 \pm 2)^\circ\text{C}$.

6.2 Color The determination is performed according to GB/T 9282.1, and platinum-cobalt unit grades of 5, 15, 25, and 35 can be added as needed. Samples with $n \leq 9$ should use... For original sample determination, if the sample is in paste or solid form at room temperature, it can be heated until it just melts before determination; for samples with $n > 9$, it should be prepared with 95% ethanol. Determination of 100 g/L solution.

6.3 pH The pH value of a 10 g/L aqueous solution of the sample at 25°C was determined according to GB/T 6368.

6.4 Moisture Measured according to the provisions of QB/T 1324.

6.5 Polyethylene glycol

6.5.1 Chemical method (arbitration method) Measured according to the provisions of GB/T 5560.

6.5.2 High Performance Liquid Chromatography Measured according to the provisions of GB/T 17830.

6.6 Average adduct number of ethoxy groups

6.6.1 Determination of ethoxy content According to GB/T 7385, the content (X) of ethoxy groups (EO) in the sample shall be determined.

6.6.2 Determination of hydroxyl value According to GB/T 7383, the hydroxyl value (I) of the sample (calculated as KOH) shall be determined.

6.6.3 Calculation of the average number of ethoxy groups

6.6.3.1 The average molar mass (M) is calculated according to formula (1).

6.6.3.2 The average ethoxylated number (n) is calculated according to formula (2).

7.1 Inspection Classification

7.1.1 Factory Inspection The color, pH, moisture content, and polyethylene glycol content specified in the technical requirements are factory inspection items. Product delivery acceptance and quality control are also part of the product inspection process. When conducting inspections, quality supervision agencies should inspect all factory inspection items.

7.1.2 Type Testing All technical requirements specified in this document shall be inspected in the following circumstances.

- a) When changes in production processes, equipment, raw materials, or catalysts may affect product quality;
- b) When production resumes after a long period of shutdown;
- c) When the factory inspection results differ significantly from the previous type inspection results;
- d) A type test should be conducted every 3 months during normal production;
- e) When market supervision and management agencies and users request type testing.

7.2 Batching and Sampling Rules Products are delivered in batches and subject to sampling inspection. Products of the same type, specification, and batch number delivered at one time constitute a delivery batch. Products must pass the manufacturer's factory inspection and be issued a certificate of quality before leaving the factory. The receiving unit shall, based on the certificate of quality, inspect the goods within one month. Sampling and acceptance shall be carried out in accordance with this document. Based on the product batch size, determine the sample size according to Table 2, and randomly select sample units from the batch.

7.3 Judgment Rules and Re-verification The test results for physicochemical properties shall be rounded according to the requirements of GB/T 8170. If any item fails to meet the requirements, both parties may jointly review the test results from the sample unit. Double the sample size and retest any non-conforming items. If the retest results meet the requirements of this document, the batch of products is deemed (qualified); otherwise, it is deemed (unqualified). The batch of products was deemed substandard.

8 Marking, packaging, transportation, and storage

8.1 Each product package shall bear the following markings.

- a) Product name, trademark, type, grade, and applicable standard number;
- b) Gross weight and net content;