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

GB 29436-2023

Replacing GB 29436.1-2012

**Norm of energy consumption per unit production of methanol,
ethylene glycol and dimethyl ether**

甲醇、乙二醇和二甲醚单位产品能源消耗限额

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Table of Contents

- 1 Scope
- 2 Normative reference documents
- 3 Terms and definitions

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 29436:1-2012 "Methanol unit product energy consumption limit Part 1: Methanol from coal", GB 29436:2- 2015 "Energy consumption limit per unit product of methanol Part 2: Methanol from natural gas", GB 29436:3-2015 "Energy consumption per unit product of methanol" Consumption limit part 3: Synthetic ammonia co-production of methanol", GB 29436:4-2015 "Methanol unit product energy consumption limit part 4: "Coke oven gas to methanol", GB 31535-2015 "Energy consumption limit per unit product of dimethyl ether" and GB 32048-2015 "Unit production of ethylene glycol" "Energy Consumption Limit for Products", which is consistent with GB 29436:1-2012, GB 29436:2-2015, GB 29436:3-2015, GB 29436:4-2015, Compared with GB 31535-2015 and GB 32048-2015, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope of application of the standard has been changed (see Chapter 1, GB 29436:1-2012, GB 29436:2-2015, GB 29436:3- 2015, GB 29436:4-2015, GB 31535-2015 and Chapter 1 of GB 32048-2015);
- b) Changed some terms and definitions (see Chapter 3, GB 29436:1-2012, GB 29436:2-2015, GB 29436:3- 2015, GB 29436:4-2015, GB 31535-2015 and Chapter 3 of GB 32048-2015);
- c) Increased the energy consumption limit level per unit product for the production of ethylene glycol process route using coal as raw material (see Chapter 4);
- d) The energy consumption level per unit product of methanol, ethylene glycol and dimethyl ether has been changed (see Chapter 4, GB 29436:1-2012, GB 29436:2-2015, GB 29436:3-2015, GB 29436:4-2015, GB 31535-2015 and GB 32048- Chapter 4 of:2015);
- e) The statistical range of energy consumption for methanol and ethylene glycol production has been changed (see 6:1, GB 29436:1-2012, GB 29436:2-2015, 5:1 of GB 29436:3-2015, GB 29436:4-2015 and GB 32048-2015);
- f) The calculation method of raw material methanol and the standard coal conversion

coefficient in the calculation of dimethyl ether energy consumption have been changed (see 6:2, GB 31535-2015 5:2:5);

g) Energy saving management and measures are deleted (see GB 29436:1-2012, GB 29436:2-2015, GB 29436:3-2015, Chapter 6 of GB 29436:4-2015, GB 31535-2015 and GB 32048-2015);

h) The calculation requirements for methanol production power consumption, energy consumption using energy-consuming working fluids, and various output energies in Appendix C have been changed (see Appendix C, Appendix A of GB 29436:1-2012 and Appendix B of GB 29436:2-2015 and GB 29436:4-2015);

i) Changed the principles and scope of methanol production calculation in Appendix D (see Appendix D, Appendix B of GB 29436:1-2012 and Appendix A of GB 29436:2-2015, GB 29436:3-2015, and GB 29436:4-2015): Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents: This document is proposed and coordinated by the National Standardization Administration Committee: The previous versions of this document and the documents it replaces are as follows:

---First released as GB 29436:1-2012 in:2012; first released as GB 29436:2-2015 and GB 29436:3- in:2015: 2015, GB 29436:4-2015, GB 31535-2015 and GB 32048-2015;

---This is the first revision, and GB 29436:1-2012, GB 29436:2-2015, GB 29436:3-2015, GB 29436:4- In:2015, GB 31535-2015 and GB 32048-2015 were integrated and revised:
Energy per unit product for methanol, ethylene glycol and dimethyl ether Consumption limit

1 Scope

GB 29436-2023 is the Chinese national standard on norm of energy consumption per unit production of methanol, ethylene glycol and dimethyl ether, in the field of energy and heat transfer engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 27 November 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2024. Classification: ICS 27.010, CCS F01. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document stipulates the limit levels, technical requirements and statistics of energy consumption per unit product of methanol, ethylene glycol and dimethyl ether (hereinafter referred to as energy consumption): Scope and calculation method: This document is applicable to the calculation and assessment of energy consumption by the following

manufacturing enterprises, as well as the energy consumption control of new construction and renovation and expansion projects:

- a) Enterprises that produce methanol using coal, natural gas, detarred oil and crude desulfurized coke oven gas as raw materials;
- b) Enterprises that produce ethylene glycol using ethylene, syngas, and coal as raw materials;
- c) Enterprises that produce dimethyl ether using methanol as raw material:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 213 Calorific value determination method of coal

GB/T 338 Methanol for industrial use

GB/T 2589 General principles for comprehensive energy consumption calculation

GB/T 4649 Industrial ethylene glycol

GB/T 5751 China Coal Classification

GB/T 11062 Calculation method for calorific value, density, relative density and Wobbe index of natural gas

GB/T 12723 General rules for compiling energy consumption limits per unit product

GB/T 25035 Dimethyl ether for town gas

3 Terms and definitions

The terms and definitions defined in GB/T 2589, GB/T 12723 and the following apply to this document: 3:

1 During the statistical reporting period, the total amount of energy consumed by enterprises to produce methanol products: 3:

2 During the statistical reporting period, the comprehensive energy consumption of methanol products expressed in unit output: 3:

3 During the statistical reporting period, the total amount of energy consumed by enterprises to produce ethylene glycol products: 3:

4 During the statistical reporting period, the comprehensive energy consumption of ethylene glycol products expressed in unit output:

Note: The output of ethylene glycol is the equivalent of ethylene oxide used in the output of products using ethylene as raw material:

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