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

GB 21257-2024

Replacing GB 21257-2014

**Norm of energy consumption per unit production of caustic
soda, PVC, methane chloride**

烧碱、聚氯乙烯树脂和甲烷氯化物单位产品能源消耗限额

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting: This document replaces GB 21257-2014 "Limits of energy consumption per unit product of caustic soda" and GB 30527-2014 "Limits of energy consumption per unit product of polyethylene resin" Product Energy Consumption Limits: Compared with GB 21257-2014 and GB 30527-2014, in addition to structural adjustments and editorial changes, the main The technical changes are as follows:

- a) The energy consumption limit per unit product of diaphragm caustic soda plants has been deleted (see Chapter 1 and Chapter 4);
- b) Deleted "AC power consumption per unit product of caustic soda electrolysis unit", "comprehensive energy consumption per unit product of caustic soda electrolysis unit", "polyvinyl chloride resin The terms and definitions of "comprehensive energy consumption per unit product of vinyl chloride unit" and "comprehensive energy consumption per unit product of polyvinyl chloride resin polymerization unit"; The definitions of "product comprehensive energy consumption" and "comprehensive energy consumption per unit of key products in the chlor-alkali industry" in the terms and definitions have been changed (see Section 3 Chapter 3 of GB 21257-2014, Chapter 3 of GB 30527-2014);
- c) Added energy consumption limit levels (see Chapter 4);
- d) Added the energy consumption limit level and technical requirements for unit product of methane chloride (see Chapter 4 and Chapter 5);
- e) The advanced values of energy consumption limits have been deleted (see Chapter 4 of GB 21257-2014 and Chapter 4 of GB 30527-2014);
- f) The statistical scope of caustic soda, polyvinyl chloride resin products and energy-consuming working fluids has been changed (see Chapter 6, Section 5 of GB 21257-2014): Chapter 5 of GB 30527-2014);

g) Deleted the indicator value and calculation method of "AC power consumption per unit product of caustic soda electrolysis unit" (see GB 21257-2014, Section

4 Chapter 1, Chapter 5);

h) The calculation method and formula for comprehensive energy consumption per unit of caustic soda and polyvinyl chloride resin have been changed (see Chapter 6, Chapter 5 of GB 21257-2014, Chapter 5 of GB 30527-2014): Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document is proposed and coordinated by the National Standardization Administration: The previous versions of this document and the documents it replaces are as follows:

---GB 21257, first issued in:2007 and first revised in:2014;

---GB 30527, first issued in:2014:

---This is the first integrated revision: Caustic soda, polyvinyl chloride resin and methane chloride Energy consumption limit per unit product

1 Scope

GB 21257-2024 is the Chinese national standard on norm of energy consumption per unit production of caustic soda, pvc, methane chloride, 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 29 April 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2025. 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 specifies the energy consumption per unit product (abbreviated as energy consumption) limit level, technical requirements and Requirements, statistical scope and calculation requirements: This document is applicable to the calculation and assessment of energy consumption of caustic soda, polyvinyl chloride resin and methane chloride production enterprises by ion membrane electrolysis, as well as Energy consumption control for new construction, renovation and expansion projects:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document: For referenced documents without a date,

only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document:

GB/T 2589 General rules for calculation of comprehensive energy consumption

GB/T 12723 General rules for the compilation of energy consumption limits per unit product

GB/T 29116 General rules for calculation of raw material consumption of industrial enterprises

3 Terms and definitions

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

1 The ratio of comprehensive energy consumption of caustic soda, polyvinyl chloride resin or methane chloride products to the output of qualified products during the statistical reporting period:

Note: Product refers to qualified final product or intermediate product:

4 Energy consumption limit levels

1 Caustic soda energy consumption limit level The energy consumption limit level of caustic soda is divided into 3 levels, see Table 1, among which level 1 has the lowest energy consumption: