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

GB/T 28729-2025

Replacing GB/T 28729-2012

Nitrous oxide

一氧化二氮

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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/T 28729-2012 "Nitrogen Oxide". Compared with GB/T 28729-2012, except for structural adjustments and editorial changes, In addition to the dynamic, the main technical changes are as follows.

- Deleted the content related to the use, molecular formula and relative molecular mass of nitrous oxide in the scope (see Chapter 1, 2012 Edition In Chapter 1 of the Regulations, a description of the use of nitrous oxide in the adipic acid tail gas recovery process for non-medical purposes was added to the scope of application (see Chapter 1);

- Changed the technical requirements table, divided into two tables according to the medical and non-medical uses of nitrous oxide, and increased the non-medical use by 99.9%.

The purity requirements for nitrous oxide have been changed, and the limit values for ammonia, nitric oxide and nitrogen dioxide have been added.

Seek (see Chapter 4, Chapter 3 of the 2012 edition);

- Added the requirements for nitrous oxide batching (see 5.1);
- Changed the requirements for nitrous oxide sampling and sampling safety (see 5.2, 4.1 of the 2012 edition);
- Changed the sampling requirements for nitrous oxide (see 5.3, 4.1 of the 2012 edition);
- Changed the calculation method of nitrous oxide purity (see 6.1.2, 4.2 of the 2012 edition);
- Added the method for determining the argon content in nitrous oxide (see 6.2);
- Added the determination method of ammonia content, nitric oxide content and nitrogen dioxide content in nitrous oxide (see 6.3);

- Added requirements for exhaust gas treatment (see 6.11);
- Changed the requirements of the inspection rules and added provisions for numerical rounding (see Chapter 7, 4.1 of the 2012 edition);
- Changed the marking requirements (see 8.1, 5.1 and 5.2 of the 2012 edition);
- Changed the labeling requirements (see 8.2, 5.2 of the 2012 edition);
- Changed the provisions on packaging, filling, transportation and storage (see Chapter 9, Chapter 5 of the 2012 edition);
- Changed the safety information of nitrous oxide (see Chapter 10, 5.9 of the 2012 edition).

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 was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Gas Standardization Technical Committee (SAC/TC206).

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The previous versions of this document and the documents it replaces are as follows.

- First issued in 2012 as GB 28729-2012 "Nitrous Oxide";
- This is the first revision. Nitrous oxide

1 Scope

This document specifies the technical requirements for nitrous oxide and the batching, sampling, testing methods, inspection rules, marking, labeling, and accompanying The

requirements for documentation, packaging, filling, transportation and storage are described, relevant test methods are described, and safety information for nitrous oxide is provided.

This document applies to the medical nitrous oxide obtained by thermal decomposition and purification of ammonium nitrate, the recovery and separation of ammonium nitrate thermal decomposition and adipic acid tail gas. The non-medical nitrous oxide is obtained after purification.

2 Normative references

GB 190

GB/T 191

GB/T 3634.2

GB/T 4844

GB/T 5099

GB/T 5832.2

GB/T 6388

GB/T 7144

GB/T 8170

GB/T 8979

GB/T 8984

GB/T 11640

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