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

GB/T 47270-2026

**Determination of the nitrogen content of coking benzole
products**

焦化苯类产品氮含量的测定

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Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting is scheduled.

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 Iron and Steel Association. This document is under the jurisdiction of the National Technical Committee on Standardization of Coal Chemical Industry (SAC/TC469). This document was drafted by: Ansteel Co., Ltd., Xingtai Xuyang Coal Chemical Co., Ltd., and Jiangsu Xingaoke Analytical Instruments Co., Ltd. Liaoning University of Science and Technology, Metallurgical Industry Information and Standardization Research Institute, and Hebei Vocational and Technical University of Science and Technology. The main drafters of this document are. Lü Ming, Li Yuanyuan, Liu Ying, Yang Lu, Zhu Jiayu, Wang Xiaoyuan, Gao Le, Wang Qingfeng, Zhang Minxin, and Bai Jinfeng. Yan Lining, Zhang Zhimin, Liu Ping, Zheng Peng, Li Chao. Determination of nitrogen content in coking benzene products Warning

---Personnel using this document should have practical experience working in a formal laboratory. This document does not address all possible safety issues. Users of this document are responsible for taking appropriate safety and health measures and ensuring compliance with relevant national laws and regulations.

1 Scope

GB/T 47270-2026 is the Chinese national standard covering nitrogen in benzene and its relatives recovered from coke oven gas - the nitrogen compounds that poison downstream catalysts and that distinguish coking benzole from the petrochemical product. First edition, in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with

the English translation.

This document specifies the principles, reagents and materials, instruments and equipment, sample collection, test procedures, and results for determining the nitrogen content of coking benzene products. Results calculation, precision, and test reports. This document applies to the determination of nitrogen content in coking benzene, coking toluene, coking xylene, and their intermediate products. The determination range is... 0.2mg/kg~100mg/kg.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 1999 Sampling Method for Coking Oil Products

GB/T 2281 Test Method for Density of Coking Oil Products

GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Principles The sample enters the high-temperature pyrolysis tube via an autosampler and is then carried by argon gas into the oxygen-enriched high-temperature combustion chamber, where organic nitrogen is oxidized to nitric oxide. (NO), Nitric oxide reacts with ozone to produce excited-state nitrogen dioxide (NO₂*), which emits light when it returns to the ground state. The photons are then absorbed by the photomultiplier tube. The data is received and amplified, and the data processing system combines the signal with a standard curve to quantitatively determine the nitrogen content in the sample.

5 Reagents and Materials

5.1 Nitrogen calibration solutions.

0.2 mg/L,

0.5 mg/L,

75.0 mg/L, 100.0 mg/L. Certified standard substances for nitrogen content determination at the required concentrations can be purchased directly, or commercially available [methods/materials] can be used. Certified reference materials are diluted with isooctane to

obtain a nitrogen calibration solution of the required concentration.

5.2 Argon. purity not less than 99.99%.

5.3 Reaction gas. Oxygen, with a purity of not less than 99.99%.

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