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

GB/T 46875-2025

**Quality requirements for carbon dioxide entering long-distance
transportation pipelines**

进入二氧化碳长输管道介质质量要求

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Quality Indicators	2
5.Sampling and Testing Methods	2
4 Reference	11

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. 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 and is under the jurisdiction of the National Technical Committee on Standardization of Environmental Management (SAC/TC207). This document was drafted by: the Branch of the Science and Technology Research Institute of China Oil & Gas Pipeline Network Corporation, and Sinopec Petroleum Engineering & Design Institute. Design & Research Institute Co., Ltd., Daqing Oilfield Co., Ltd., China University of Petroleum (East China), China Huaneng Group Clean Energy Technology Research Institute Co., Ltd. Company, China National Institute of Standardization, China Petroleum Pipeline Engineering Co., Ltd., China Petroleum Engineering Materials Research Institute Co., Ltd. Yangtze University, Sinopec (Dalian) Petrochemical Research Institute Co., Ltd., China University of Petroleum (Beijing), Southwest Petroleum University, China Petroleum Pipeline Daoju Engineering Co., Ltd. The main drafters of this document are. Yan Feng, Ouyang Xin, Zhang Duihong, Wang Weibin, Li Yuxing, Liang Haining, Zhang Wenwei, Hu Qihui, Meng Lan, and Gu Xiaoting. Mu Chengguang, Mo Linlin, Zhou Rui, Meng Fanpeng, Yang Yanmei, Zhou Luli, Jing Tieya, Wang Xiaolin, Man Jianfeng, Li He, Wang Wei, Fan Zhenning, Wang Yubin Liu Xiaoben, Jia Wenlong, Wang Cailin, Chi Qiang, Chen Diwu, Zhang Yan, Wang Xin, Yu Hongmei, Nie Chaofei, Peng Shiyao, Zhang Jiahang, Sun Sheng, Tan Xiao, Zhou Juan Xue Qian, Shang Huining, Zhao Bin, Zhou Daowu, Zhi Shujie, Zhang Qiang, Sun Xiaozhe.

Quality requirements for media entering long-distance carbon dioxide pipelines

1 Scope

GB/T 46875-2025 is the Chinese national standard covering the specification of the CO₂ a

pipeline will accept - above all the water, because dry CO₂ is harmless to steel and wet CO₂ makes carbonic acid, plus the oxygen, sulfur species and non-condensables that change the phase behaviour of the dense-phase fluid. First edition, and it is the specification the capture plants of GB/T 46876-2025 and GB/T 46877-2025 have to meet. It was issued on 31 December 2025 and has been in force since 1 July 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 2025 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 quality indicators, sampling and testing methods, and inspection rules for the medium entering long-distance carbon dioxide pipelines. This document applies to different phases of carbon dioxide media that have been treated and transported via long-distance pipelines.

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 5832.1 Gas analysis - Determination of trace moisture - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 carbon dioxide medium A medium whose main component is carbon dioxide.

3.2 Carbon dioxide with both temperature and pressure above the critical point. [Source: SY/T 7440-2019, 2.0.6]

3.3 Carbon dioxide at a temperature below the critical temperature and a pressure above the critical pressure. [Source: SY/T 7440-2019, 2.0.7]

3.4 In pipeline transportation of carbon dioxide in liquid, dense, and supercritical phases, some chemical substances exist in a gaseous state.

Note. N₂, Ar, H₂, CH₄, and O₂, etc.