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

GB/T 47307-2026

**Measurement and quantification methods for greenhouse gas
emissions from liquid manure of livestock and poultry**

畜禽液体粪污温室气体排放监测方法

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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 by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of Animal Husbandry (SAC/TC274). This document was drafted by: China Agricultural University, Institute of Agricultural Environment and Sustainable Development, Chinese Academy of Agricultural Sciences, and the National Animal Husbandry Station. Beijing Academy of Agricultural and Forestry Sciences Information Technology Research Center, Changzhou Huitu Intelligent Technology Co., Ltd., Hami Agricultural and Animal Husbandry Industry Development Investment Co., Ltd. company. The main drafters of this document are: Wang Chaoyuan, Wang Yue, Zhao Xiaoli, Shi Zhengxiang, Liu Yu, Yang Xiao, Ding Luyu, Li Hao, Liang Chao, Si Buchun, and Qi Fei. Duan Na, Li Yongzhen, Deng Jun, and Wang Kexiang. Methods for monitoring greenhouse gas emissions from livestock and poultry liquid manure Warning. Livestock and poultry liquid manure storage facilities are hazardous operating environments. Operators must be professionally trained and operate the facilities in accordance with regulations. Wear protective gear to prevent falls, poisoning, and other hazards to ensure personal safety. This document does not cover all possible safety issues; users are responsible for their own safety. Take appropriate safety and health protection measures and ensure compliance with relevant national laws and regulations.

1 Scope

GB/T 47307-2026 is the Chinese national standard covering the methane and nitrous oxide coming off a slurry lagoon - measured rather than estimated, with the chamber and micrometeorological methods, the sampling over a season and the calculation of an emission factor. First edition, in force since 1 October 2026, with the manure land application limits GB 47500-2026. 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 Ministry of Agriculture and Rural Affairs. 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 describes the static and dynamic chamber methods for measuring greenhouse gas emission fluxes from livestock and poultry liquid manure. This document applies to the determination of greenhouse gas emission fluxes during the storage of non-sealed liquid manure and the monitoring of greenhouse gas emissions during the storage of biogas slurry. The test should be performed according to the reference.

Note. Greenhouse gases in this document include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).

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 8984 Gas Analysis - Determination of Trace Carbon Monoxide, Carbon Dioxide and Hydrocarbons in Gases - Flame Ionization Gas chromatography

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Livestock and poultry manure with a dry matter (DM) content of < 15%. [Source: GB/T 25171-2023, 3.6]

3.2 Greenhouse gases Naturally occurring and human-generated elements in the atmosphere that can absorb and disperse pollutants produced by the Earth's surface, atmosphere, and clouds. Gaseous components of radiation with wavelengths in the infrared spectrum.

Note. Unless otherwise specified, greenhouse gases in this standard include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs). Perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). [Source: GB/T 32150-2025, 3.1]

3.3 emission flux The amount of gaseous substances emitted into the atmosphere per unit time and per unit area by an emission source. [Source: HJ492-2009, 2.32, modified]