ICS 27.190
CCS F 13

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 47363-2026

Biochemical methane potential test method

物料甲烷潜力测试方法

Issued on: March 31, 2026 **Implemented on: October 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

Table of Contents

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 Biogas Standardization Technical Committee (SAC/TC515). This document was drafted by: Hunan Agricultural University, Hunan Bichen Environmental Energy Co., Ltd., Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, and Zhejiang Province. Huazhong University of Science and Technology, Hunan Renhe Environmental Technology Co., Ltd., Huazhong University of Science and Technology, National Agricultural Ecology and Resources Conservation Station of the Ministry of Agriculture and Rural Affairs, Hohai University Xi'an Jiaotong University, Qinghai University, Northeast Agricultural University, China National Institute of Standardization, Heilongjiang Bayi Agricultural Reclamation University, Inner Mongolia Huameng Science and Technology Innovation Center Environmental Protection Technology Co., Ltd. The main drafters of this document are. Li Chao, Wang Wen, Xue Hanguang, Zan Feixiang, Shan Shengdao, Yan Binghua, Dong Baocheng, Yi Zhigang, Sun Chaoran, and Peng Xing. Luo Jingyang, Ma Yingqun, Xu Fuqing, Cheng Song, Wang Lanting, Han Rui, Sun Yong, Xu Yonghua, Xu Bingsheng, Li Chenxi, Wang Zuo, Sun Hailong.

Under the goals of carbon peaking and carbon neutrality, the resource utilization of organic waste has become an important path for green and low-carbon development. Anaerobic digestion is... Under anaerobic conditions, organic matter is converted into methane, carbon dioxide, etc. through the synergistic action of microorganisms, which also has the functions of reducing organic waste. This method is an important tool for determining biodegradability and maximum gas production capacity. It is applicable to the analysis of gas production potential in single-substrate or multi-substrate co-digestion schemes and can provide insights for industrial applications. It provides basic data support for process optimization, raw material matching, economic assessment and carbon accounting. In recent years, the development of automated BMP testing equipment has significantly improved testing efficiency and data consistency, and promoted the standardization of basic data. This high-quality data is accumulated systematically and comprehensively. It not only serves scientific research and engineering practice, but also provides insights for carbon accounting, resource allocation, and policy formulation. It provides stronger data support and a more open and universal research platform. Material methane potential testing method

1 Scope

GB/T 47363-2026 is the Chinese national standard covering the BMP test - how much

methane a given feedstock will actually yield in anaerobic digestion, measured in small batch reactors, which is the number every biogas plant's business case rests on. First edition, 21,500 words, in force since 1 October 2026, and it belongs with the biomethane project assessment standard GB/T 47296-2026. 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 a test method for assessing the methane potential of materials using batch anaerobic fermentation under laboratory conditions, for determining organic... The maximum methane production of the material and its anaerobic degradation kinetic parameters. This document applies to the determination of maximum methanogenic yield and anaerobic degradation kinetics analysis of the following organic materials.

---Agricultural and forestry waste, energy crops;

---Sludge and organic solid waste;

--- Waste and wastewater from agricultural and food processing industries;

---Livestock and poultry manure and wastewater. This document does not apply to materials that exhibit inhibitory effects on anaerobic microorganisms under experimental conditions.

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 38737-2020 Determination of final anaerobic biodegradability of materials in controlled plastic sludge digestion systems by measuring release Biogas Method

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 The maximum methane gas yield per unit of organic material under anaerobic digestion conditions, obtained through batch experimental testing.

Note. The methane potential of a material is expressed as the number of milliliters of methane gas released per gram of organic material under standard conditions (mLg^-1).

3.2 substrate In anaerobic digestion, the material serves as a carbon and energy source for

microorganisms.

Note. The substrates mainly include readily biodegradable organic waste, which is converted into methane and carbon dioxide through microbial metabolism under suitable conditions.

3.3 Inoculum A mixture of biogas slurry or sludge rich in microorganisms suitable for anaerobic digestion and methanogenic microorganisms is added during the start-up or operation of the digestion system. Providing a suitable microbial community accelerates the anaerobic digestion process.

3.4 biogas Combustible gases produced by the microbial decomposition of organic matter under anaerobic conditions, whose main components are methane and carbon dioxide, and usually also contain... Small amounts of impurities such as hydrogen, hydrogen sulfide, and ammonia.