

ICS 65.150
CCS B 51



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

GB/T 46303-2025

**Technical specification for identification of Spirulina
(Arthrospira) species**

螺旋藻种质资源鉴定技术规范

Issued on: October 5, 2025

Implemented on: November 1, 2026

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

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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 and is under the jurisdiction of the China National Institute of Standardization. This document was drafted by: Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences; Yantai Science and Technology Innovation Promotion Center; Shandong Academy of Agricultural Sciences. China University of Petroleum (East China), China National Institute of Standardization, Fuqing Xindaze Spirulina Co., Ltd., Institute of Process Engineering, Chinese Academy of Sciences Inner Mongolia Revisit Biotechnology Co., Ltd. The main drafters of this document are. Qin Song, Chen Jun, Chen Gao, Ge Baosheng, Wang Yinchu, Cui Yulin, Ma Aijin, Wang Kang, Xiao Yupeng, Huang Yongdong, and Su Yongning. Wang Xiufeng and Zhao Lin. Technical Specifications for Identification of Spirulina Germplasm Resources

1 Scope

GB/T 46303-2025 is the Chinese national standard covering identifying a spirulina strain - the morphology under the microscope and its variability with culture conditions, the molecular markers and the sequencing that settle what the morphology cannot, and the record kept with a germplasm accession. First edition, in force from 1 November 2026. Issued on 5 October 2025, it takes effect on 1 November 2026.

This document specifies the content and requirements for the identification of Spirulina germplasm resources, and describes the corresponding identification methods. This document applies to *Spirulina platensis* and *Spirulina maxima*. Identification of germplasm resources of *Spirulina maxima* (Arthrospira/Spirulinamaxima).

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 34796 Determination of Concentration and Purity of Nucleic Acids in Aqueous Solutions - Ultraviolet Spectrophotometry

3 Terms and Definitions

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

4. Content of the assessment The content of the assessment should comply with the provisions of Table 1. Table

1. Basic characteristics and germplasm resource identification items of *Spirulina*
Characteristic identification items Morphological characteristics include filament diameter, spiral distance, spiral amplitude, constriction of cell walls, shape of terminal cells, and presence or absence of air sacs. Molecular biological characteristics. 16S ribosomal subunit coding sequence (16S rDNA), variable number tandem repeat (VNTR) sequence.

5. Reagents or materials Unless otherwise specified, use only analytical grade reagents.

5.1 Reagents

5.1.1 Hexadecyltrimethylammonium bromide (CTAB, C₁₉H₄₂BrN), CAS. 57-09-0.

5.1.2 Chloroform (CHCl₃), CAS. 67-66-3.

5.1.3 Isoamyl alcohol (C₅H₁₂O), CAS. 123-51-3.

5.1.4 Isopropanol (C₃H₈O), CAS. 67-63-0.

5.1.5 Phenol (C₆H₆O), CAS. 108-95-2.

5.1.6 Ethanol (C₂H₆O), CAS. 64-17-5.