

ICS 65.120
CCS B 46



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

GB/T 46931-2025

**Determination of protein solubility in potassium hydroxide
solution in feed materials**

饲料原料中氢氧化钾蛋白质溶解度的测定

Issued on: December 31, 2025

Implemented on: July 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 National Technical Committee on Standardization of Feed Industry (SAC/TC76). This document was drafted by: Sichuan Weier Testing Technology Co., Ltd., Shandong Provincial Livestock Product Quality and Safety Center, and Tongwei Agricultural Development Co., Ltd. Limited Company. The main drafters of this document are: Zhang Fengping, Song Jun, Li Junling, Ma Huifang, Zhang Ye, Lu Jiawen, Zhou Xingyu, Yang Fashu, Du Xueli, and Zhang Lu. Wang Yingying, Yang Jun, Tu Jie, Li Guiyou, Fu Shaohong, Wu Fang. Determination of the solubility of potassium hydroxide in protein in feed ingredients

1 Scope

GB/T 46931-2025 is the Chinese national standard covering the KOH protein solubility of soybean meal - the standard measure of whether the meal was over-toasted or under-toasted, since too little heat leaves trypsin inhibitors and too much destroys the lysine. First edition, with the feed standards of the same batch. 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 describes a method for determining the solubility of potassium hydroxide in

protein in feed ingredients. This document applies to the determination of the solubility of potassium hydroxide in protein in processed products of feed ingredients, oilseeds, and seeds (excluding fermented products).

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 6432 Determination of crude protein in feed - Kjeldahl method

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 20195 Preparation of animal feed samples

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 The percentage of crude protein in the sample that is soluble in

0.036 mol/L potassium hydroxide solution relative to the total crude protein content in the sample. [Source: GB/T 19541-2017, 3.1, with modifications]

4.Principles Under specified conditions, the crude protein content dissolved in dilute potassium hydroxide solution and the total crude protein content in the sample were determined respectively. The amount of potassium hydroxide and protein in the sample was calculated by measuring the percentage of each.

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

5.1 Water. GB/T 6682, Grade III.

5.2 Potassium hydroxide solution (

0.036 mol/L ±

0.002 mol/L). Prepared and standardized according to Appendix A, stored in a tightly sealed polyethylene container, effective Period. 30 days.

6.1 Analytical balance. accuracy

0.1 mg,

0.01 mg.