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

GB/T 46929-2025

Determination of bile acids in feeds

饲料中胆汁酸的测定

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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: Shanghai Customs Animal and Plant Quarantine Technology Center and Sichuan Well Testing Technology Co., Ltd. Shanghai Ocean University. The main drafters of this document are: Wang Min, Zhang Fengping, Cao Chen, Han Yuxuan, Wang Xin, Zhao Yong, Yang Fashu, Li Ming, Zhang Lu, Wu Xugan, and Liu Haiquan. Determination of bile acids in feed

1 Scope

GB/T 46929-2025 is the Chinese national standard covering bile acids added to animal feed - an emulsifier that helps young animals digest fat, now a common additive, measured here so that what is on the label is in the bag. First edition, one of four feed analysis standards issued together. 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 methods for the determination of bile acids in feed using liquid chromatography-tandem mass spectrometry and high performance liquid chromatography. This document describes a liquid chromatography-tandem mass spectrometry method applicable to bile acids (porcine bile acids, porcine deoxycholic acid) in compound feeds, concentrated feeds, and concentrate supplements. The determination of bile acids (including chenodeoxycholic acid) by high-performance liquid chromatography (HPLC) is

applicable to the determination of bile acids (such as pig bile acids) in premixed feed additives and mixed feed additives. Determination of acid (porcine deoxycholic acid, chenodeoxycholic acid). The limits of quantitation for porcine cholic acid, porcine deoxycholic acid, and chenodeoxycholic acid by liquid chromatography-tandem mass spectrometry in this document are all

0.10 mg/kg; high performance liquid chromatography-tandem mass spectrometry... The limits of quantification (LOQ) for premixed feed additives by phase chromatography is 100 mg/kg, and the limits of quantification (LOQ) for mixed feed additives is 1000 mg/kg.

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 6682 Specifications and test methods for water used in analytical laboratories

GB/T 20195 Preparation of animal feed samples

3 Terms and Definitions

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

4 Liquid Chromatography-Tandem Mass Spectrometry

4.1 Principle Bile acids in the sample were extracted with acetic acid in methanol solution, purified by solid-phase extraction column, and determined by liquid chromatography-tandem mass spectrometry. Matrix-matched standard was used. Quasi-curve calibration, external standard method for quantification.

4.2 Reagents or Materials Unless otherwise specified, use only analytical grade reagents.

4.2.1 Water. GB/T 6682, Grade I.

4.2.2 Methanol. chromatographic grade.

4.2.3 n-Hexane. analytical grade.

4.2.4 Acetonitrile. chromatographic grade.

4.2.5 Formic acid. chromatographic grade. 4.2.6 0.1% Acetic Acid Methanol Solution. Transfer

1.0 mL of acetic acid and dilute to 1000 mL with methanol, then mix well. 4.2.7 50% acetonitrile solution. Transfer 50 mL of acetonitrile (4.2.4), dilute to 100 mL with water, and

mix well. 4.2.8 0.1% formic acid solution. Transfer

1.0 mL of formic acid, dilute with water to 1000 mL, and mix well. 4.2.9 0.1% Formic Acid Acetonitrile Solution. Transfer

1.0 mL of formic acid and dilute to 1000 mL with acetonitrile (4.2.4), and mix well.

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