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

GB/T 23741-2025

Replacing GB/T 20363-2006

Determination of barbiturates in feeds

饲料中巴比妥类药物的测定

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 20363-2006 "Determination of phenobarbital in feeds", GB/T 23741-2009 "Determination of four barbiturates in feeds" Compared with GB/T 20363-2006 and GB/T 23741-2009, in addition to structural adjustments and editorial changes, the main technical The technical changes are as follows.

a) The scope of application and the limit of quantification of liquid chromatography-tandem mass spectrometry (see Chapter 1, Chapter 1 of GB/T 20363-2006) have been changed.

Chapter 1 of GB/T 23741-2009);

b) The GC-MS method (see Chapter 4 of GB/T 20363-2006) has been deleted;

c) The principle has been changed (see 4.1 and 5.1, 3.1 of GB/T 20363-2006, and Chapter 3 of GB/T 23741-2009);

d) The test procedures have been changed (see 4.5 and 5.5, 3.5 of GB/T 20363-2006, and Chapter 7 of GB/T 23741-2009);

e) The test data processing has been changed (see 4.6 and 5.6, 3.6 of GB/T 20363-2006, 8.4 and 9.8).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Feed Industry Standardization Technical Committee (SAC/TC76).

This document was drafted by: Shandong Provincial Animal Products Quality and Safety Center, Guoliang Wuhan Scientific Research and Design Institute Co., Ltd., Mérieux Testing Technology (Qingdao) Co., Ltd.

The main drafters of this document are: Sun Yanjun, Zhang Yun, Lan Fengjie, Wang Boyuan, Du Yan, Li Junling, Chen Beibei, Zhang Kun, Wang Nuanxia, Zhang Wei, Zhang Chao, Zhang Bowen, Chao Juanjuan, Zhao Xuefeng, Wu Ligu, Liu Xiaofei, Li Huirong, and Wang Yingying.

The previous versions of this document and the documents it replaces are as follows.

- GB/T 20363, first issued in 2006 as GB/T 20363-2006;
- GB/T 23741, first issued in 2009 as GB/T 23741-2009;
- This is the first revision.

1 Scope

This document describes a method for the determination of barbiturates in feed by liquid chromatography-tandem mass spectrometry and high performance liquid chromatography.

This document applies to barbiturates, Determination of phenobarbital, butabarbital, pentobarbital, amobarbital and secobarbital.

The detection limit of the liquid chromatography-tandem mass spectrometry method in this document is 0.01 mg/kg, and the limit of quantification is 0.03 mg/kg; the detection limit of the high performance liquid chromatography method is 0.01 mg/kg, and the limit of quantification is 0.03 mg/kg.

The limit of detection is 0.5 mg/kg and the limit of quantification is 1 mg/kg.

2 Normative references

GB/T 6682

GB/T 20195

3 Terms and Definitions

There are no terms or definitions that require definition in this document.

4.1 Principle

The analytes in the samples were extracted with acetonitrile, cleaned up with solid phase extraction columns, determined by liquid chromatography tandem mass spectrometry, and quantified by the internal standard method.

4.2 Reagents or materials

Unless otherwise specified, only analytical grade reagents were used.

4.2.1 Water. GB/T 6682, Grade 1.

4.2.2 Methanol. chromatographic grade.

4.2.3 Acetonitrile. chromatographic grade.

4.2.4 Formic acid. chromatographically pure.

4.2.5 Ammonium acetate. chromatographically pure. 4.2.6 Sodium sulfate. 4.2.7 Sodium chloride.

4.2.8 Ammonium acetate solution (0.005 mol/L). Weigh 0.19 g of ammonium acetate (4.2.5), dissolve it in water, transfer it to a 500 mL volumetric flask, and Mix well.

4.2.9 Reconstitution solution. Pipette 200 mL of acetonitrile (4.2.3) into a 1000 mL volumetric flask, add 2 mL of formic acid (4.2.4), dilute with water, and Mix well.