

ICS 65.120

CCS B46



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

GB 32449-2015

Feed additive - Magnesium sulphate

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Table of Contents

1 Scope

1.0 Clarity test Clarification Fineness (400µm test sieve) /% ≥ 95 - Test Method

1.5 Sulfate Chemical synthesis. $\leq$

2 Normative references

4.2 Identification Test

4.2.1 Reagents and materials

4.2.2 Analysis of step Identification of magnesium ions

4.3 Determination of magnesium sulfate and magnesium content

4.3.2 Reagents

4.3.3 Analysis of step

4.4 Determination of Arsenic According to

4.5 Determination of lead content According to

4.7 Determination of chloride (Cl) content

4.7.1 Principle With

4.7.2 Reagents

4.7.3 Instruments and equipment With

4.9 Determination of fineness

5 Inspection Rules

7 Shelf Life

Foreword

This standard of Chapter 1, Chapter 3 and Chapter 5 are mandatory, the rest are recommended. This standard was drafted in accordance with rules GB/T 1.1-2009 given. This standard is proposed and managed by the National Feed Industry Standardization Technical Committee (SAC/TC76). This standard was drafted. Beijing Institute of Animal Chinese Academy of Agricultural Sciences, Institute of Guangdong Academy of Agricultural Sciences, southerly chemical Group Co., Ltd. The main drafters. Lu Lin, Luo Xu Gang, BUSINESS STUDIES He Qixia, Zhang Liyang, Zhang Ling Yan, Ma Yunlong, Chen Aibing, Lv Hongxia. Feed additive over magnesium

1 Scope

GB 32449-2015 is the Chinese national standard on feed additive - magnesium sulphate, in

the field of agriculture. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 31 December 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2016. Classification: ICS 65.120, CCS B46. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies requirements for a feed additive or over anhydrous magnesium sulfate heptahydrate, test methods, inspection rules, labeling, packaging, transportation, Storage and shelf life. This standard applies to the chemical synthesis method or a sulfuric acid salt lake bittern production of a feed additive or over anhydrous magnesium sulfate heptahydrate. Molecular formula. $\text{MgSO}_4 \cdot n\text{H}_2\text{O}$, $n = 1$ or $n = 7$. Molecular Weight. 138.38 ($n = 1$), 246.47 ($n = 7$) (according to 2007 international relative atomic mass).

1.0 Clarity test Clarification Fineness (400 μm test sieve) /% ≥ 95 - Test Method

4 Warning. some of the procedures specified test methods can lead to dangerous situations, the operator should take appropriate safety and health practices. The standard test methods the reagents and water, in the absence of other requirements specified, are by analytical reagent 6682 and GB/T in Three water.

4.1 sensory testing The appropriate amount of sample is placed in a clean white paper, color and observed under natural light state.

1.5 Sulfate Chemical synthesis. $\leq$

0.1 Salt Lake Bittern method. $\leq$

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated paper Pieces. For undated references, the latest edition (including any amendments) applies to this document. General Method

GB/T 3051-2000 inorganic chemical products chloride content measured by the mercury Method GB T6003.1-2012 Test sieves of metal wire cloth

GB/T 6682 Water for analytical laboratory specifications and test methods

GB 10648 feed tag Determination

GB/T 13079-2006 total arsenic in feed

GB/T 13080-2004 lead in Feed Atomic Absorption Spectrometry Determination GB/T 13081 feed Mercury

GB/T 14699.1 feed samples Preparation

GB/T 601 standard titration solution Chemicals

3.1 Appearance and traits A product as a white anhydrous magnesium sulfate (sulfate chemical synthesis) or off-white powder (Salt Lake bittern method), magnesium sulphate heptahydrate as a colorless crystalline particles Particles without agglomeration.

3.2 Technical Specifications Feed additives over magnesium to comply with Table 1. Table

1 Specifications project index An anhydrous magnesium $\text{MgSO}_4 \cdot \text{H}_2\text{O}$ Magnesium sulfate heptahydrate $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ Magnesium sulfate (MgSO_4) /% ≥ 94.0 $\geq$

99.0 Magnesium (Mg) /% ≥ 16.5 $>$

9.7 TABLE 1 (cont.) project index An anhydrous magnesium $\text{MgSO}_4 \cdot \text{H}_2\text{O}$ Magnesium sulfate heptahydrate $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ Total arsenic (As)/(mg/kg) $\leq$

4.2.1 Reagents and materials

4.2.1.1 solution of ammonium chloride. 50g/L.

4.2.1.2 ammonia solution. aqueous ammonia = 23.

4.2.1.3 ammonium carbonate solution (200g/L). Weigh 20g of ammonium carbonate, aqueous ammonia 20mL was added, water was added to 100mL.

4.2.1.4 sodium dihydrogen phosphate solution (50g/L). Weigh 5g of sodium dihydrogen phosphate, add appropriate amount of water dissolved, add water to 100mL.

4.2.1.5 barium chloride solution (50g/L). Weigh 5g barium chloride, add appropriate amount of water dissolved, add water to 100mL.

4.2.2 Analysis of step Identification of magnesium ions

4.2.2.1 The sample was dissolved in water, was added aqueous ammonia solution (4.2.1.2), i.e., a white precipitate of ammonium chloride was added dropwise a solution of (4.2.1.1), the precipitate was dissolved again Was added a solution of sodium dihydrogen phosphate (4.2.1.4) to form a white precipitate, this precipitate was not dissolved in the ammonia. Identification of sulfate ion

4.2.2.2 The sample was dissolved in water, a solution of barium chloride (4.2.1.5), a white precipitate formed.

4.3 Determination of magnesium sulfate and magnesium content

4.3.1 Principle Masking with a small amount of triethanolamine of trivalent iron and aluminum ions added pH~10 ammonia - ammonium chloride buffer solution, chrome black T as indicator. The total amount of disodium ethylenediaminetetraacetate (EDTA) titration standard titration solution calcium and magnesium. Under the conditions of the test solution pH~

12.5 to the Cal as indicator, with disodium ethylenediaminetetraacetic acid (EDTA) Standard Titration titration of calcium. Subtracting from the total amount of calcium and magnesium in the calcium content, to calculate the magnesium content.

4.3.2 Reagents

4.3.2.1 ammonia solution. aqueous ammonia = 12.

4.3.2.2 triethanolamine. Triethanolamine water = 13.

4.3.2.3 ammonia - ammonium chloride buffer solution (pH~10). Weigh 27g of ammonium chloride, dissolved in appropriate amount of water, add 197 mL of aqueous ammonia, diluted with water to 500mL.

4.3.2.4 sodium hydroxide solution. 50g/L.

4.3.2.5 disodium edetate (EDTA) standard titration solution [c (EDTA) = 0.05mol/L]. prepared according to GB/T 601 requirements.

4.3.2.6 disodium edetate (EDTA) standard titration solution [c (EDTA) = 0.02mol/L]. prepared according to GB/T 601 requirements.

4.3.2.7 chrome black T indicator. 5g/L.

4.3.2.8 indicator in the Cal. Cal - 0.1g taken and dried for 2h at 105 °C NaCl10g, milled Mix well.

4.3.3 Analysis of step

4.3.3.1 Preparation of test solution Weigh about 10g of magnesium sulfate heptahydrate or a 5g sample over anhydrous magnesium sulfate, accurate to 0.0001g, was placed in a 250mL beaker was added 100mL Dissolved in water. All transferred to 250mL volumetric flask, diluted with water to the mark. If necessary dry filtration, the solution was a solution A, for Determination of calcium and magnesium content, calcium content, the chloride content.

4.3.3.2 Determination Determination of calcium and magnesium content 4.3.3.2.1 Pipette with a pipette 10mL solution A, placed in 250mL Erlenmeyer flask, was added 40mL of water, 5 mL triethanolamine (4.3.2.2), with Aqueous ammonia solution (4.3.2.1) adjusted to pH 7-8, was added 10mL of ammonia - ammonium chloride buffer solution (4.3.2.3) and a small amount of Eriochrome Black T (4.3.2.7), With disodium edetate Standard Solution (4.3.2.5) to the solution titrated from purple to pure blue as the end point. At the same time