ICS 65.120
CCS B46

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 22489-2017

Replacing GB/T 22489-2008

Feed additive-Manganese methionine complex (chelate)

饲料添加剂 蛋氨酸锰络(螯)合物

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Standardization Administration of China

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Foreword

The first chapter of this standard, Chapter 3 and Chapter 5 is mandatory, the rest are recommended. This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 22489-2008 "feed additive methionine manganese." This standard compared with GB/T 22489-2008, the main technical differences are as follows:

--- Adjust the molar ratio of 2. 1 manganese methionine (chelate) the technical indicators;

--- Moisture from 5% to 3%;

--- Lead from 10mg/kg modified to 5mg/kg;

--- Modified methionine assay;

5.3 adjusted the factory inspection items. This standard is proposed and managed by the National Feed Industry Standardization Technical Committee (SAC/TC76). This standard was drafted unit. National Feed Quality Supervision and Inspection Center (Wuhan), Guangzhou Tianke Technology Co., Ltd., Guangzhou Kang Ruide biotechnology Co., Ltd., Chinese Academy of Agricultural Sciences Beijing Institute of Animal Husbandry and

Veterinary. The main drafters of this standard. Yang Lin, Teng Bing, Liu Xianrong, He Xu Kong, Luo Xu Gang, Zhou Jianqun. This standard replaces the standards previously issued as.

--- GB/T 22489-2008. Feed additive methionine manganese (chelate) complexes

1 Scope

GB 22489-2017 is the Chinese national standard on feed additive-manganese methionine complex (chelate), 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 14 October 2017 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 May 2018. 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 the requirements of feed additive methionine manganese (chelate) compounds, test methods, inspection rules and labeling, packaging, transportation, Storage and shelf life. This standard applies to soluble manganese salt and methionine (2-amino-4-methylthio-butyric acid) synthesis molar ratio of 2. 1 or 1. 1 feed Materials additive manganese methionine (chelate) complexes. Methionine manganese complex (methionine) complex with methionine and manganese molar ratio of 2. 1, the molecular formula is C10H20N2O4S2Mn; relative molecular mass. 351.4 (By International Relative Atomic Weight,.2007). Methionine manganese molar ratio of 1. 1 methionine manganese complex (molecular formula C5H11NO6S2Mn; relative molecular mass .300.2 (by 2007 International relative atomic mass meter).

2 Normative references

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

GB/T 601 chemical reagent standard titration solution preparation

GB/T 5917.1 forage particle size determination two sieve screening method

GB/T 6435 Determination of moisture in feed

GB/T 6682 analytical laboratory water specifications and test methods

GB 10648 feed label Determination of total arsenic in feedstuffs

GB/T 13079-2006 Feedstuffs - Determination of lead - Atomic absorption spectrometry GB/T 13080-2004

GB/T 13080.2 feed additive methionine iron (copper, manganese, zinc) chelation rate gel filtration chromatography

GB/T 13082 Determination of cadmium in feed

GB/T 14699.1 feed sampling

3 Requirements

3.1 Appearance and traits Methionine Manganese (chelate) (molar ratio of 2. 1) for the class of white powder, slightly soluble in water, with the unique smell of methionine, no caking, fat Mold, deterioration phenomenon. Methionine Manganese (chelate) (molar ratio of 1. 1) is white or almost white powder, soluble in water, a slight methionine odor, no knot Block, moldy, deterioration phenomenon.

3.2 Specifications Technical indicators should meet the requirements of Table 1. Table 1 methionine manganese (chelate) technical indicators project index The molar ratio of 2. 1 product is 1.

4.2.1 Reagents and solutions

4.2.1.1 Methanol.

4.2.1.2 Trichloromethane.

4.2.1.3 pyridine naphthol (PAN) chloroform solution (0.1mg/mL). Weigh 0.01gPAN dissolved in 100mL trichloromethyl Alkane.

4.2.1.4 Potassium hydroxide methanol solution (0.01g/mL) Weigh 1g of potassium hydroxide dissolved in 100mL of methanol.

4.2.2 Identification method Weigh 1.0g sample, extracted with 25mL of methanol (4.2.1.1), filtered, the filtrate 1.0mL, was added pyridylazonaphthol (PAN) tris

1.0 mL of methyl chloride solution (4.2.1.3) and

0.5 mL of potassium hydroxide methanol solution (4.2.1.4) to give a purple solution.

4.3 moisture According to the method specified in GB/T 6435 Determination.

4.4 smashing size According to the method specified in GB/T 5917.1 Determination.

4.5 Determination of total arsenic Pre-treatment according to the provisions of

5.4.1.2 GB/T 13079-2006, determination according to GB/T 13079-2006 in Chapter 5 get on.

4.6 Determination of lead Pretreatment according to the provisions of

7.1.2.1 GB/T 13080-2004, determined according to GB/T 13080-2004 in 7.2,

7.3 regulations Set to.

4.7 Determination of cadmium According to the method specified in GB/T 13082 Determination.

4.8 Determination of manganese content

4.8.1 Principle In a phosphoric acid medium, the divalent manganese in the sample is quantitatively oxidized to trivalent manganese with ammonium nitrate at.200 ° C. to 220 ° C., N-benzyloxide Aminobenzoic acid as an indicator, ammonium ferrous sulfate standard titration solution titration.

4.8.2 Reagents and materials

4.8.2.1 Phosphoric acid.

4.8.2.2 Ammonium nitrate.

4.8.2.3 Anhydrous sodium carbonate.

4.8.2.4 N-phenyl-anthranilic acid indicator solution .2g/L. Weigh 0.2gN-phenyl-anthranilic acid, dissolved in a small amount of water, add 0.2g anhydrous sodium carbonate, low temperature heating to dissolve water to 100mL, shake.

4.8.2.5 Phosphorus Mixed Acid Add 150mL sulfuric acid and 150mL phosphoric acid to 700mL water, shake well and cool.

4.8.2.6 Potassium dichromate standard solution .c (1/6K2Cr2O7) is about 0.1mo1/L. Weigh at 120 °C bake to a constant mass basis weight Potassium Chromate about 4.9g (accurate to 0.0001g), placed in 1000mL volumetric flask, add the appropriate amount of water dissolved, diluted to the mark, shake.

4.8.2.7 Ferrous ammonium sulfate standard titration solution .c [Fe (NH4) 2 (SO4) 2] is about 0.1mol/L. Ferrous ammonium sulfate standard titration solution The calibration should be performed simultaneously with the sample determination. Weigh 40g ammonium ferrous sulfate, add (14) sulfuric acid solution 300mL, add 700mL of water after dissolving, shake. Weigh 25mL potassium dichromate standard solution, add 10mL phosphoric acid, add water to 100mL. Ferrous ammonium sulfate standard Titration to orange yellow disappeared. Add 2 drops of N-phenyl-anthranilic acid indicator solution, continue titration until the solution was bright green is the end. Ferrous ammonium sulfate standard titration solution concentration (c1) according to equation (1) calculation. c1 = V1m1 49.03V (1) In the formula. m1