

ICS 65.120

CCS B46



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

GB 23386-2017

Replacing GB/T 23386-2009

Feed additive-Vitamin A palmitate (powder form)

饲料添加剂 维生素A棕榈酸酯（粉）

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10	Total arsenic (As)/(mg/kg) ≤ 2

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 23386-2009 "feed additive vitamin A palmitate powder." This standard compared with GB/T 23386-2009, the main technical differences are as follows:

- Product traits modified to "light yellow to yellow liquid particles or powder, no obvious odor, the air, heat, light and humidity sensitive";
- Chapter 3 added "product specifications" requirements;
- Total arsenic by " $\leq 3\text{mg/kg}$ " revised " $\leq 2\text{mg/kg}$ ";
- Modify the determination of vitamin A palmitate content;
- Determination of particle size modified to GB/T 5917.1 provided for the implementation

of the method;

--- Added Appendix A This standard is proposed and managed by the National Feed Industry Standardization Technical Committee (SAC/TC76). This standard was drafted unit. New and into Zhejiang Co., Ltd., China Feed Industry Association, Zhejiang Pharmaceutical Co., Ltd., Zhejiang Province, animal Drug Feed Inspection Office. The main drafters of this standard. Yang Jinshu, Wang Liwen, Zhu Congying, Shi Dongming, Ren Yuqin, Zhang Xianghan, Yang Yahong, Ye Yueheng, Pan Dayong, Wang Wenfeng, Lu Weijun, Jiang Hongjun, Su Junfen. This standard replaces the standards previously issued as.

--- GB/T 23386-2009. Feed Additives Vitamin A Palmitate (Powdered)

1 Scope

GB 23386-2017 is the Chinese national standard on feed additive-vitamin a palmitate (powder form), 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 feed additive Vitamin A palmitate (powder) product requirements, test methods, inspection rules and labels, packages Loading, transportation, storage and shelf life. This standard applies to chemical synthesis of vitamin A palmitate as raw material, modified starch and other accessories, adding the right amount of antioxidants to Spray process production of feed additives vitamin A palmitate (powder).

Chemical name 3,7-Dimethyl-9- (2,6,6-trimethyl-1-cyclohexen-1-yl)

-2,4,6,8-nonatetraene-1-palm Acid ester Molecular formula .C₃₆H₆₀O

2 Relative molecular mass. 524. 86 (International relative atomic mass in.2007) Chemical Structure.

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 For all undated references, the latest edition (including all amendments) applies to this document.

GB/T 601 chemical reagent standard titration solution preparation

GB/T 603 chemical reagent test methods used in the preparation of preparations and products

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

GB/T 14699.1 feed sampling

3 Requirements

3.1 Appearance and traits This product is light yellow to yellow fluid particles or powder, no obvious odor, the air, heat, light and humidity sensitive.

3.2 Product Specifications 3.2.1 25 million IU/g.

3.2.2 Product specifications can also be determined according to the contract (but not less than 250,000 IU/g).

3.3 Technical Specifications Technical indicators should meet the requirements of Table 1. Table 1 technical indicators Project Indicators Vitamin A palmitate content (accounting for the amount) /% 95.0 ~ 115.0 Vitamin A alcohol and vitamin A acetate total content /% ≤

1.0 granularity 100% through a 0.84mm aperture test sieve More than 85% through the aperture of 0.425mm test sieve Loss on drying /% ≤

4.3.2 Reagents and solutions

4.3.2.1 Bromelain (>.2000 GDU/g).

4.3.2.2 isopropanol (chromatographic purity).

4.3.2.3 Methanol (chromatographic purity).

4.3.2.4 Vitamin A alcohol reference substance (content ≥ 3150000IU/g).

4.3.2.5 Vitamin A acetate reference substance (content ≥ 2800000IU/g).

4.3.2.6 Vitamin A palmitate reference substance (content ≥ 1700000IU/g).

4.3.3 Instruments and Equipment

4.3.3.1 High Performance Liquid Chromatograph with UV detector or diode array detector.

4.3.3.2 electric oven temperature.

4.3.3.3 ultrasonic cleaner.

4.3.3.4 Analysis of balance. Sense of 0.1mg.

4.3.4 Preparation of sample solution Weigh the sample amount (about the equivalent of vitamin A palmitate 50000IU), accurate to 0.1mg, placed in 250mL brown volumetric flask , Add Bromelain (4.3.2.1) 20mg ~ 30mg, water 10mL, at 60 °C ~ 65 °C water bath ultrasonic 5min, remove the cold water But to room temperature, diluted with isopropyl alcohol (4.3.2.2) to the mark, shake.

4.3.5 standard solution preparation Weigh vitamin A palmitate reference substance (4.3.2.6) 0.05g, accurate to 0.1mg, placed in 50mL brown volumetric flask, add different Propanol (4.3.2.2) diluted to the mark, shake.

4.3.6 Reference chromatographic conditions Reference chromatographic conditions are as follows:

- Column. C18 column, column length 150mm, diameter 4.6mm, particle size 5μm or quite performance;
- Column temperature .35 °C;
- Mobile phase. Methanol (4.3.2.3);
- Flow rate .1.5mL/min;
- Detection wavelength .325nm;
- Injection volume .20μL.

4.3.7 Determination steps Take the standard solution (4.3.5) and sample solution (4.3.4) respectively, filtered through 0.45μm membrane, injection analysis, record the chromatograms (vitamins A palmitate liquid chromatogram see Appendix A), according to external standard method to peak area calculation.

4.3.8 Calculation and representation of results

4.3.8.1 Vitamin A palmitate content The content of vitamin A palmitate X1, expressed in IU/g (IU/g), is calculated according to equation (1). $X1 = A2 \times m1 \times 250 \times C1 / A1 \times m2 \times 500$
(1) In the formula. A1

- standard solution of vitamin A palmitate peak area; A2
- sample solution of vitamin A palmitate peak area; m1
- vitamin A palmitate quality of the reference substance, in grams (g); m2
- the quality of the sample, in grams (g); 250
- sample dilution volume, in milliliters (mL); 500
- Vitamin A palmitate reference standard dilution volume, in milliliters (mL); C1
- Vitamin A palmitate reference substance content in units of International Units per gram