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

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

(English Translation)

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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 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.

1 Scope

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 .C₃₆H₆₀O₂ 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

3.1 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 /% ≤ 8.0 Heavy metals (Pb)/(mg/kg) ≤ 10 Total arsenic (As)/(mg/kg) ≤ 2

4 Test methods

Unless otherwise specified, the reagents used are of analytical grade; the chromatographic and spectral analysis of water used are in line with GB/T 6682 in a water regulation Set, and other test water in line with the provisions of GB/T 6682 in the three water; reagent and solution preparation should be consistent with GB/T 601 and GB/T 603 Provisions.

4.1 Sensory test

Take a proper amount of sample in a clean, dry white porcelain dish and observe its color and form under natural light.

4.2 Identification

According to "vitamin A palmitate content determination" (4.3) under the test, the relative retention time of the main peak of the sample solution (4.3.4) should be consistent with the standard Solution (4.3.5) Vitamin A palmitate peak retention time consistent.

4.3 Vitamin A palmitate content determination

Warning. The test should be carried out in dark conditions

4.3.1 Principle

Samples with bromelain enzymatic hydrolysis may exist gelatin coating, then extracted with isopropanol vitamin A palmitate, liquid chromatography Determination, external standard method.

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 $\geq 3150000\text{IU/g}$).

4.3.2.5

Vitamin A acetate reference substance (content $\geq 2800000\text{IU/g}$).

4.3.2.6

Vitamin A palmitate reference substance (content $\geq 1700000\text{IU/g}$).

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.