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

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Feed additive - Ferrous sulphate

饲料添加剂 硫酸亚铁

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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 is proposed and managed by the National Feed Industry Standardization Technical Committee (SAC/TC76). This standard drafting unit. Chinese Academy of Agricultural Sciences Beijing Institute of Animal Husbandry and Veterinary, China Feed Industry Association, Sichuan Tie Lishi Industrial Co., Ltd. Limited, Institute of Agricultural Quality Standards and Testing Technology, Chinese Academy of Agricultural Sciences [National Feed Quality Supervision and Testing Center (Beijing)]. The main drafters of this standard .Lu Lin, Wu Yubo, Luo Xugang, bean loose square, Tian Jing, Zhang Liyang, Zhang Ling. Feed additive ferrous sulfate

1 Scope

China's mandatory standard for ferrous sulphate used as a feed additive - the commonest source of supplementary iron in animal nutrition, given above all to piglets, which are born with almost no iron reserve and, reared indoors without access to soil, become anaemic within days. It specifies the requirements, the test methods, the inspection rules and the labelling, packaging, transport, storage and shelf life of feed additive ferrous sulphate monohydrate. The requirements cover the assay expressed as the iron content, the appearance, the moisture, the pH and the particle size, and the impurity limits on the heavy metals - arsenic, lead, cadmium and mercury - which matter here more than in most additives because iron ores and the sulphuric acid route used to make the salt both carry them, and because iron is dosed in larger quantities than the trace elements beside it. The property that governs the rest of the document is oxidation. Ferrous iron is the form the animal absorbs; ferric iron is not, or far less. Ferrous sulphate oxidises to the ferric form on exposure to air and moisture, and a product that has oxidised in the bag looks much the same, assays close to the same on total iron, and does not work. That is why the standard specifies the monohydrate rather than the heptahydrate, why the moisture limit and the packaging requirement are as tight as they are, and why the shelf life is stated. The feed hygiene limits of GB 13078 apply throughout. Issued on 14 October 2017 and in force since 1 May 2018.

This standard specifies the feed additive ferrous sulfate monohydrate requirements, test methods, inspection rules, labeling, packaging, transportation, storage and insurance Quality of life. This standard applies to sulfuric acid method or titanium dioxide by-product feed additive ferrous sulfate monohydrate. Chemical name. Ferrous sulfate monohydrate. Molecular formula $\text{FeSO}_4 \cdot \text{H}_2\text{O}$. Relative molecular mass 169.92 (By International Relative Atomic Weight in 2007).

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 T6003.1-2012 test sieve - Technical requirements and testing - Part 1. Wire braid test sieve

GB/T 6682 analytical laboratory water specifications and test methods Ferrous lactate - food additive GB 6781-2007

GB 10648 feed label Determination of total arsenic in feedstuffs Feedstuffs - Determination of lead - Atomic Absorption Spectrometry

GB/T 13080-2004 Determination of cadmium in feedstuffs

GB/T 14699.1 feed sampling

3 Requirements

3.1 Appearance and traits Ferrous sulfate monohydrate product is off white powder.

3.2 Specifications Feed additives ferrous sulfate products should be consistent with the provisions of Table 1. Table 1 technical indicators Project Indicators Ferrous sulfate (calculated as $\text{FeSO}_4 \cdot \text{H}_2\text{O}$) /% $\geq$

91.3 Iron (calculated as Fe^{2+}) /% $\geq$

30.0 Ferric (calculated as Fe^{3+}) /% ≤ 0.2