

ICS 65.120

CCS B 46



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

**GB 34468-2017**

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**Feed additive - Manganese sulphate**

饲料添加剂 硫酸锰

**Issued on: October 14, 2017**

**Implemented on: May 1, 2018**

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**Issued by: General Administration of Quality Supervision, Inspection and  
Quarantine;  
Standardization Administration of the PRC**

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- 5 Cadmium (Cd)/(mg/kg)  $\leq 10$

### 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, Chengdu, Sichuan Shu Xing feed there Limited company. The main drafters of this standard .Lu Lin, Luo Xu Gang, Xie Jing Jing, Wu Chunqing, Su Shenglan, Wang Shaohui, Zhang Liyang, Zhang Ling. Feed additives manganese sulfate

### 1 Scope

China's mandatory standard for manganese sulphate used as a feed additive - the usual source of supplementary manganese in animal nutrition. Manganese is a trace element, required in milligrams rather than grams, but a deficiency in poultry produces perosis, the slipped tendon that leaves a bird unable to stand, and in breeding stock it reduces hatchability; cereals are low in it and the requirement cannot be met from the ration alone. It specifies the requirements, the test methods, the inspection rules and the labelling, packaging, transport, storage and shelf life of feed additive manganese sulphate monohydrate. The requirements cover the assay expressed as the manganese content, the appearance, the moisture, the pH and the particle size, together with the impurity limits on the heavy metals - arsenic, lead, cadmium and mercury. Those limits are the reason a feed grade standard exists separately from an industrial one. A trace element is dosed at a few tens of parts per million of the finished feed, so the additive is diluted enormously; but it is fed every day for the whole life of the animal, and the heavy metals that come with it accumulate in the liver and the kidney rather than passing through. An impurity that would be immaterial in a single dose is not immaterial over a production cycle, and part of it ends up in the food chain. The particle size matters for a different reason: an additive used at this dilution has to disperse uniformly in the mixer, and a coarse or segregating product delivers the trace element to some animals and not to others. 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 manganese sulfate monohydrate requirements, test methods, inspection rules, labeling, packaging, transportation, storage and insurance Quality of life. This standard applies to manganese ore as the main raw material feed additive manganese sulfate monohydrate. Molecular formula  $\text{MnSO}_4 \cdot \text{H}_2\text{O}$ . Relative molecular mass 169.01 (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 6003.1-2012 Test sieves - Technical requirements and testing - Part 1. Wire mesh sieve test sieves

GB/T 6682 analytical laboratory water specifications and test methods

GB 10648 feed label Determination of total arsenic in feedstuffs Feedstuffs - Determination of lead - Atomic Absorption Spectrometry GB/T 13080-2004

GB/T 13081 Determination of mercury in feed Determination of cadmium in feedstuffs

GB/T 14699.1 feed sampling

## 3 Requirements

3.1 Appearance and traits Manganese sulfate monohydrate product is a slightly pink crystalline powder.

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

98.0 Manganese (Mn) /%

31.8 Total arsenic (As)/(mg/kg)  $\leq$