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

GB 3150-2010

Replacing GB 3150-1999

National food safety standards -- Food additives -- Sulfur

食品添加剂 硫磺

(English Translation)

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Foreword

This standard replaces GB 3150-1999 "food additive sulfur." the main technical differences between standard and GB 3150-1999 are as follows.

- Added sulfide indicators and test methods;
- Increases the weight determination of organic content;
- Added diethyl dithiocarbamate silver spectrophotometric determination of arsenic content.

Appendix A of this standard is a normative appendix.

This standard replaces the standards previously issued as follows.

--GB/T 3150-1982, GB/T 3150-1999.

National Food Safety Standard Food additives sulfur

1 Scope

This standard applies to the use of industrial sulfur after processing, treatment, purification prepared food additive sulfur.

2 Normative references

The standard file referenced in the application of this standard is essential. For dated references, only the dated edition of fitness for this standard. For undated references, the latest edition (including any amendments) applies to this standard.

3 Formula and relative molecular mass

Formula 3.1

3.2 Relative molecular mass

32.065 (according to 2007 international relative atomic mass)

4 Technical Requirements

4.1

Sensory requirements. comply with Table 1.

Table 1 Sensory requirements

Project requires test methods Color yellow or yellowish take appropriate sample placed in 50mL beaker was observed under natural light color Chak and texture. Powder or flake state organization

4.2

Physical indicators. to comply with Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Sulfur (S), w /% ≥ 99.9 Appendix A A.4 Water, w /% ≤ 0.1 A.5 in Appendix A Ash, w /% ≤ 0.03 A.6 in Appendix A Acidity (H₂SO₄ dollars), w /% ≤ 0.003 Appendix A A.7 Organic, w /% ≤ 0.03 Appendix A A.8 Sulfide by examining Appendix A, A.9 Arsenic (As)/(mg/kg) ≤ 1 Appendix A A.10 Appendix A (Normative) Testing method A.1 Warning Reagents The standard test methods used for toxic or corrosive, the operation should be careful as the water splashed on the skin should immediately Flushing, severe cases should be treated immediately.

A.2 General Provisions the standard test methods and reagents used in water in the absence of other specified requirements, refer to analytically pure reagents and GB/T 6682-2008 in Regulation Given three water. Used in the test standard titration solution, impurity standard solution, preparations and products, did not indicate when the other requirements, according to HG/T 3696.1, HG/T 3696.2, HG/T 3696.3 regulations of preparation.

A.3 Identification Test A.3.1 Reagents and materials A.3.1.1 pyridine.

A.3.1.2 sodium bicarbonate solution. 35 g/L.

A.3.2 Analysis step

Identification of sulfur by the following method.

A.3.2.1 at 115 °C melt into yellow mobile liquid, and then heated to 160 °C, the black becomes sticky.

A.3.2.2 on a blue flame combustion of sulfur dioxide, and irritating odor.

A.3.2.3 Take about 1g sample was dissolved in 2 mL of pyridine hot, add 0.2mL solution of sodium bicarbonate, resulting in blue or green.

A.4 Determination of sulfur A.4.1 Method summary with GB/T 2449-2006 in 5.1.1.1.

A.4.2 Calculation Results Sulfur content of sulfur (S) mass fraction w_1 and its value is expressed in%, according to formula (A.1) Calculated.

) (0 54321 wwwww - = (A.1) where.

w_2 -- A.6 measured by ash content, expressed as a percentage;

w_3 -- Press A.7 measured acidity content, expressed as a percentage;

w_4 -- Press A.8 measured organic matter content, expressed as a percentage;

w_5 -- Press A.10 measured arsenic content, expressed as a percentage.

The results to one decimal place.

A.5 Determination of Moisture with the GB/T 2449-2006 5.2.

A.6 Determination of ash with the GB/T 2449-2006 5.3.

A.7 Determination of acidity with GB/T 5.4 in 2449-2006.

A.8 Determination of organic matter A.8.1 Titration (Arbitration Act) with GB/T 2449-2006 in 5.5.1.

A.8.2 gravimetric method with the GB/T 2449-2006 5.5.2.

A.9 Determination of sulfide A.9.1 Reagents and materials A.9.1.1 acetic acid solution. 13.

A.9.1.2 lead nitrate solution. 1.6g/L (carbon dioxide-free water prepared with boiled new).

A.9.1.3 sodium sulfide solution.

A.9.1.4 acetate buffer solution. pH 3.5.

A.9.1.5 Lead standard solution. 1mL solution containing lead (Pb) 0.010mg, using now.

Pipette 1.00mL lead standard solution according to HG/T 3696.2 prepared, placed in 100mL flask, diluted with water to the mark.

A.9.2 Analysis step

Weigh 5.0g sample accurate to 0.01g, beaker, add 50mL water placed 30min. Stirring frequently during placement, filter. Pipette 10.00mL filtrate, placed in 50mL colorimetric tube, add 2mL acetate buffer solution, 1mL lead nitrate solution was diluted with water to the mark. 5min place in the dark, their color can not be deeper than the standard colorimetric solution.

Standard colorimetric solution. Pipette 1.00mL lead standard solution, placed in 50mL

colorimetric tube, add 2mL acetate buffer solution, 10mL vulcanization Soda solution, diluted with water to the mark. 5min placed in the dark.

A.10 Determination of Arsenic A.10.1 diethyl dithiocarbamate silver spectrophotometry (Arbitration Act) with GB/T 2449-2006 in 5.6.1.

A.10.2 Gutzeit method with the GB/T 2449-2006 5.6.2.