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

GB 23552-2009

Replacing HG 2462.2-1993

Thiophanate-methyl wettable powders

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(English Translation)

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Foreword

This standard in Chapter 3, Section 5 is mandatory, the rest are recommended.

This modification uses standard FAO Specification 262/WP/S/P (1993) "thiophanate-methyl wettable powders" (Thiophanate-methyl WettablePowders).

This standard modification method using foreign advanced standards for the redrafted law.

This standard FAO "thiophanate-methyl wettable powders" (Thiophanate-methylWettablePowders) the main technical difference.

This standard specifies --- 70%, 50% in two sizes DAP (2,3- diamino phenazine) mass fraction $\leq 4.0\text{mg/kg}$, $\leq 3.0\text{mg/kg}$, FAO Specifications predetermined DAP (2,3- diamino phenazine) mass fraction $\leq 0.4\text{mg/kg}$, $\leq 0.3\text{mg/kg}$;

--- This standard specifies a pH range of 6.0 ~ 9.0, FAO Specifications predetermined pH range 4.0 to 7.0;

--- This standard suspension rate $\geq 70\%$, FAO Specifications predetermined suspension ratio $\geq 60\%$;

--- FAO specifications lasting foam control volume indicators, this standard does not control the indicators;

--- This standard specifies the wetting time $\leq 90\text{s}$, FAO specifications prescribed wetting

time ≤60s.

The date of implementation of this standard, the former Chemical Industry Standard HG2462.2-1993 "thiophanate-methyl WP" void.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Pesticide Standardization Technical Committee (SAC/TC133).

This standard is drafted. Shenyang Chemical Research Institute.

Participated in the drafting of this standard. Jiangsu abundance of blue and Chemical Corporation, Haili Guixi Chemical Pesticide Co., Ltd., Jiangsu dragon of Studies Limited.

2 Normative references

Terms of the following documents become provisions of this standard by reference in this standard. For dated reference documents, all later Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to agreements based on this standard Whether the latest versions of these documents. For undated references, the latest version applies to this standard.

GB/T 1601 method for measuring the pH of pesticides GB/T 1604 pesticide regulations for acceptance of goods GB/T 1605-2001 sampling commercial pesticides GB 3796 pesticide packaging General GB/T 5451 method for measuring the wettability of agrochemical wettable GB/T 14825 Method for determination of pesticide suspension GB/T 16150 pesticide powders, wettable powder fineness measurement method GB T 19136 Determination of heat storage stability of pesticide /

3.1 Composition and appearance

This product should meet the criteria of thiophanate-methyl of the drug and appropriate processing auxiliaries and fillers are made as loose powder uniformly, there should be Clumps.

3.2 Technical Specifications

Thiophanate-methyl wettable powder should meet the requirements of Table 1.

Table benomyl wettable powder Item Index 1 control methylsulfanyl

project

index

70% 50%

Thiophanate-methyl mass fraction /% 70.0 + 50.0 + 2.5-2.5 2.5-2.5 HAP (2-

amino-3-hydroxy-phenazine) mass fraction $a/(mg/kg) \leq 0.4$ 0.3 DAP (2,3- diamino phenazine) mass fraction $a/(mg/kg) \leq 4.0$ 3.0 pH range 6.0 to 9.0 Fineness (45 μ m standard sieve) /% ≥ 98 Suspension rate /% ≥ 70 Wetting time/s ≤ 90 Thermal storage stability test a /% passing when a normal production, the mass fraction of HAP, the mass fraction of the DAP, the thermal storage stability test for detecting at least every 3 months once.

Test Method 4

4.1 Sampling

Carried out in GB/T 1605-2001 of "solid preparation sampling" approach. Determining Sample packages with a random number table method; final sample size not less than 300g.

4.2 Identification Test

HPLC --- This identification test can be conducted simultaneously measuring the mass fraction of benomyl and thiophanate-methyl. In the same chromatographic operating conditions the lower member, and the retention time of peaks benomyl solution of methylthio the retention time of a standard sample peak relative difference in the sample solution should be 1.5% or less.

When using the above method of identification of active components in doubt, other effective means may be employed for authentication.

4.3.1 Method summary

Sample was dissolved in methanol, + water as the mobile phase, used Hypersil-ODS filler stainless steel column and UV detector (269 nm), thiophanate-methyl of the sample were separated by HPLC, external standard.

4.3.2 Reagents and solutions

Methanol. HPLC grade;

Water. The new secondary steam distilled water;

Thiophanate-methyl Sample. thiophanate-methyl known mass fraction $\geq 98.0\%$.

4.3.3 Instruments

HPLC. a variable wavelength UV detector;

Chromatographic data processor;

Column.200mm x 4.6mm (. I.d) stainless steel column, built-Hypersil-ODS, 5 μ m packing;

Filter. membrane pore size of about 0.45 μ m;

Microsyringe. 50 μ L;

Quantitative sampling tube. 10 μ L;

Ultrasonic cleaning.

4.3.4 HPLC operating conditions

Mobile phase. [Phi] (methanol. water) = 60:40, by membrane filtration, and degassing;

Flow rate. 1.0 mL/min;

Column temperature. room temperature;

Detection wavelength. 269 nm;

Injection volume. 10 μ L;

Retention time. thiophanate-methyl about 10.4 min.

Are typical operating parameters of the above, according to the characteristics of different instruments, for a given operating parameters appropriately adjusted to obtain the best result.

Typical thiophanate-methyl wettable powder shown in Figure 1 HPLC.

1 --- thiophanate-methyl.

Figure 1 HPLC thiophanate-methyl wettable powder

Under the above operating conditions, after the instrument is stable, the number of consecutive doses of the standard solution is injected, the needle until two adjacent thiophanate methyl pk area opposite After the change is less than 1.2%, measured according to the standard solution, sample solution, the sample solution, the order of standard solution.

4.3.5.1 Preparation of standard solution

Thiophanate-methyl Weigh 0.1 g of standard sample (accurate to 0.0002 g), a 50 mL volumetric flask, dissolve and dilute to volume with methanol, Shake well. A pipetted sample solution was diluted to 5 mL above another in methanol 50 mL volumetric flask to the mark.

4.3.5.2 Preparation of sample solution

Thiophanate-methyl, said sample is taken containing 0.1 g (accurate to 0.0002 g), a 50 mL volumetric flask, dissolved in methanol and diluted to Mark and shake. A pipetted sample solution was diluted to 5 mL above another in methanol 50 mL volumetric flask to the mark.