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

GB 22610-2008

Carbosulfan granules

丁硫克百威颗粒剂

(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 417/GR/S/F (1991) "carbosulfan granules" (in English).

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

This standard FAO Specifications "carbosulfan granules" major technical differences.

1) The standard carbosulfan granules in two sizes, a mass fraction of 5% is 5.0% by mass 0.5-0.5, 10 + fraction was 10.0 + 1.0 to 1.0, FAO Specifications no specific concentration of the granules, indicating only the content of $\leq 100\text{g/kg}$ of granules predetermined allowable fluctuation range that is around $\pm 10\%$ of the marked content.

2) the actual situation overall quality of our products, pH values ranging from 7.0 to 9.0, while the FAO specification acidity indicators $\leq 0.5\text{g/kg}$ ($\leq 0.05\%$).

3) In addition the standard specifies the dropout rate control targets, while FAO specification defines bulk density range and 125 μm test sieve sieve Material control targets.

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. Hunan Haili Chemical Industry Co., Ltd., Zhejiang Hetian Chemical Co., Ltd., Jiangsu Changlong Chemical Co.

the company.

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.

Determination 1601 pH value pesticides GB/T GB/T 1604 pesticide regulations for acceptance of goods GB/T 1605-2001 sampling commercial pesticides GB 3796 pesticide packaging General GB T 19136 Determination of heat storage stability of pesticide /

3.1 Composition and Appearance. The product should meet the criteria of the drug and carbosulfan suitable auxiliaries, coating agents, coloring agents and carriers are made, should Dry, free-flowing particles, no visible foreign matter.

3.2 carbosulfan granules should meet the requirements of Table 1.

Table 1 carbosulfan Granules Item Index

project

index

5% 10%

Carbosulfan mass fraction /% 0.5-0.5 5.0 + 10.0 +1.0-1.0 Carbofuran mass fraction a /% <= 0.1 0.2 the pH range of 7.0 to 9.0 Particle size range (1680μm ~ 420μm diameter ratio <=1.4) >= 90 /% Off rate /% <= 3.0 Passing a heat storage stability a mass fraction of carbofuran, heat storage stability test under normal production conditions, at least once every 3 months test.

Test Method 4

4.1 Sampling

In accordance with GB/T 1605-2001 of "solid preparation sampling" approach. Determining Sample packages with a random number table method; Final sample the amount should be less than 600g.

4.2 Identification Test

4.2.1

Liquid Chromatography --- This identification test can be carried out simultaneously with the determination of the mass fraction of carbosulfan. In the same chromatographic operating conditions the lower member, carbosulfan peak of a peak retention time of a sample solution and the standard solution retention time, the relative difference should 1.5% or

less.

Determination of the mass fraction of 4.3 carbosulfan (carbofuran)

4.3.1 Method summary

Sample was dissolved in methanol, + water as the mobile phase, used as a filler AgilentTC-C18 stainless steel column and UV detector (280 nm), the sample carbosulfan reverse phase high performance liquid chromatography, external standard.

4.3.2 Reagents and solutions

Methanol. HPLC grade;

Water. The new secondary steam distilled water;

Carbosulfan Sample. A known mass fraction $\omega \geq 98.0\%$;

Carbofuran Sample. A known mass fraction $\omega \geq 99.0\%$;

Carbofuran Preparation of standard solution. Weigh 0.05 g of carbofuran standard (accurate to 0.0002g) was placed in a 50mL volumetric flask, washed with methanol Dissolved and diluted to the mark.

4.3.3 Instruments

HPLC. a variable wavelength UV detector;

Chromatographic data processor or workstation;

Column. 250mm x 4.6mm (. I.d) stainless steel column, built AgilentTC-C18,5 μ m filler (or with equivalent effect color Spectrum column);

Filter. membrane pore size of about 0.45 μ m;

Microsyringe. 50 μ L;

Quantitative sampling tube. 5 μ L;

Ultrasonic cleaning.

4.3.4 HPLC operating conditions

Mobile phase. [Psi] (methanol. water) = 88.12, by membrane filtration, and degassing;

Flow rate. 1.0mL/min;

Column temperature. room temperature (temperature change should be less than 2 deg.] C);

Detection wavelength. 280nm;

Injection Volume. 5 μ L;

Retention time. 3.6min carbofuran, carbosulfan 13.8min.

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.

A typical carbosulfan EC shown in Figure 1 HPLC.

1 --- carbofuran;

2 --- carbosulfan.

FIG FIG 1 HPLC carbosulfan granules

4.3.5.1 Preparation of standard solution

Weigh 0.1 g of carbosulfan standard (accurate to 0.0002g), a 50mL volumetric flask, dissolve and dilute to volume with methanol, Shake well. Pipette accurately pipetted solution is placed above another 10mL 50mL volumetric flask, and then another 2mL pipette take g Budweiser standard solution in the same volumetric flask, dilute to volume with methanol, shake.

4.3.5.2 Preparation of sample solution

Weigh containing 0.1 g of carbosulfan (accurate to 0.0002g) sample, placed in a 50mL volumetric flask, dilute to volume with methanol, the 15min shaking to dissolve the sample under ultrasound, shake. Pipette accurately pipetted solution is placed above another 10mL 50mL volumetric flask, Diluted with methanol, shaken with a pore size of 0.45 μ m membrane filter.

4.3.5.3 Determination

Under the above operating conditions, after the instrument is stable, the number of consecutive doses of the standard solution is injected until the needle carbosulfan two adjacent opposing peak area After the change is less than 1.0%, measured according to the standard solution, sample solution, the sample solution, the order of standard solution.

4.3.6 Computing

The two doses of the standard peak area was measured before and after the two needles in the sample solution and a sample carbosulfan (carbofuran peak area) were Averaged. Sample carbosulfan (carbofuran) mass fraction omega1 (%) according to equation (1).

$$1 = A2$$

Where.