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

GB 23556-2009

20% Buprofezin emulsifiable concentrates

20%噻嗪酮乳油

(English Translation)

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Foreword

The standard Chapter 3, Chapter 5 are mandatory, the rest are recommended.

Since the implementation of this standard, HG2463.3-1993 "buprofezin EC" abolished.

Appendix A of this standard is the data appendix.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee on Pesticides (SAC/TC133) centralized.

1 Scope

This standard specifies 20% buprofezin EC requirements, test methods and marking, labeling, packaging, storage and transportation.

This standard applies to the buprofezin original drug and preparation of the emulsifier is dissolved in a suitable solvent, 20% buprofezin EC.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 1600 Determination of Water Pesticides Determination of GB/T 1601 Pesticides pH value GB/T 1603 Determination of emulsion stability of pesticide GB/T 1604 Goods pesticide regulations for acceptance GB/T 1605-2001 Sampling Method commercial pesticides GB 4838 EC pesticide packaging GB/T 19136 Determination of Pesticide Thermal storage stability GB/T 19137 Pesticide cryogenic stability Determination

3.1 Composition and appearance

This product should be compliant buprofezin original drug is made, it should be stable homogeneous liquid, free from visible suspended matter and sediment.

3.2 Technical Specifications

20% buprofezin EC shall comply with the requirements of Table 1.

Table 1 20% buprofezin EC Control Project Index

Item Index

Buprofezin mass fraction/20.0 + 1.2-1.2% Moisture /% ≤ 0.5 pH range of 5.0 to 9.0
Emulsion stability (diluted 200 times) Qualified Low temperature stability a qualified
Thermal storage stability of a qualified a low-temperature stability, thermal storage stability
test was performed under normal production conditions, measured at least once every
three months.

Test Method 4

4.1 Sampling

Carried out according to GB/T 1605-2001 in "liquid formulations sampling" method.
Determining sample package using a random number table method; the final sample the
amount of not less than 200mL.

4.2 Identification Test

Gas Chromatography --- The identification test can be carried out simultaneously with the
determination of the mass fraction of buprofezin. Under the same chromatographic
operating conditions, the test A sample solution peak retention time compared with

standard sample solution bupropfenzin chromatographic retention time, the relative difference should be less than 1.5%.

You can also use packed column gas chromatography, chromatographic conditions in Appendix A.

4.3.1 Method summary

Sample was dissolved in chloroform, dicyclohexyl phthalate esters as internal standard, using the 5% HP-5 capillary column coated walls and hydrogen Flame ionization detector, the sample of bupropfezin gas chromatography separation and determination. You can also use packed column gas chromatography, strip Member See Appendix A.

4.3.2 Reagents and solutions

Chloroform;

Bupropfenzin standard. a known mass fraction $\geq 98.0\%$;

Dicyclohexyl phthalate esters. interference analysis should not contain impurities;

Internal standard solution. Weigh 4.0g dicyclohexyl phthalate esters, placed in 500mL flask with chloroform dissolved and diluted to the mark Degree, shake.

4.3.3 Instruments

Gas chromatograph. with a hydrogen flame ionization detector;

Chromatographic data processor or chromatography workstation;

Column. 30m x 0.32mm (i.d.) Capillary column, wall coated with 5% HP-5 (5% + 95% diphenyl dimethyl silicone), the film thickness 0.25 μ m;

Micro injector. 10 μ L.

4.3.4 GC operating conditions

Temperature ($^{\circ}$ C). 230 column temperature, the gasification chamber 270, the detector chamber 280;

Gas flow rate (mL/min). carrier gas (N₂) 2.0, hydrogen gas 30, air 300, the compensation gas (N₂) 25;

Split ratio. 20.1;

Injection volume (μ L). 1.0;

Retention time (min). 3.8 bupropfezin, internal standard 7.0.

GC operating conditions described above, the Department of typical operating parameters.

According to the characteristics of different instruments, given operating parameters adjusted as appropriate, in order to obtain the best results. A typical 20% buprofezin EC as measured by capillary gas chromatography is shown in Figure 1.

1 --- solvent;

2 --- buprofezin;

3 --- internal standard (phthalate, dicyclohexyl phthalate).

1 20% buprofezin EC and the internal standard capillary gas chromatogram

4.3.5.1 Preparation of standard solution

Weigh buprofezin standard 0.08g (accurate to 0.0002g) in 15mL stoppered glass bottle with a pipette accurately transferred within 10mL Standard solution, and shake.

4.3.5.2 Preparation of the sample solution

Weigh about 0.08g sample containing buprofezin the (accurate to 0.0002g) in 15mL stoppered glass vial, with the use of 4.3.5.1 with a pipette accurately transferred to the internal standard solution 10mL, shake.

4.3.5.3 Determination

Under these operating conditions, the instrument until a stable baseline, the number of continuous injection doses of the standard solution, calculated for each needle buprofezin and the internal standard peak area the ratio of repeatability to be two adjacent needles buprofezin relative change and the internal standard peak area ratio of less than 1.2%, the standard solution in accordance with the sample solution Solution, sample solution, the order of the standard solution was measured.

4.3.6 Calculation

The two needle sample solution and measured before and after the two doses of the standard sample solution buprofezin and the internal standard peak area ratios are averaged.

1 sample mass fraction (%) of buprofezin according to formula (1).

$1 = \gamma_2$

Where.

γ_1 --- standard solution, buprofezin and the internal standard peak area ratio of the average;

γ_2 --- sample solution, buprofezin and the internal standard peak area ratio of the