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

GB 22169-2008

Fomesafen aqueous solution

氟磺胺草醚水剂

(English Translation)

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Foreword

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

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee on Pesticides (CSBTS/T C133) centralized.

1 Scope

This standard specifies the fomesafen agent requirements, test methods and marking, labeling, packaging, storage and transportation.

This standard applies to the original drug fomesafen agent and water and a suitable additive composition.

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.

Determination of GB/T 1601 Pesticides pH value GB/T 1604 Goods pesticide regulations for acceptance GB/T 1605-2001 Sampling Method commercial pesticides GB 3796 pesticide packaging General GB/T 4472 chemical product density, relative density measurement General 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 fomesafen original drug is made, the appearance of a homogeneous liquid, no suspended solids and sediment.

3.2 Technical Specifications

Fomesafen agent shall comply with the requirements of Table 1.

Table 1 fomesafen agent control program indicators

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250g/L 25%

Fomesafen mass fraction a /% or concentration (20 °C) / (g/L) 22.0 + 1.3-1.3 + 15-15 250 25.0 + 1.5-1.5 Water insoluble /% ≤ 0.3 pH range of 6.0 to 9.0 Dilution stability (20 times) Qualified Low temperature stability Qualified b Thermal storage stability b qualified when a dispute arises, to fomesafen mass fraction of arbitration.

B when normal production, low-temperature storage stability and thermal stability test at least every three months, once measured.

Test Method 4

4.1 Sampling

According to GB/T 1605-2001 in "liquid formulations sampling" approach. Determining sample package using a random number table method; the final sample size not less than 250mL.

4.2 Identification Test

HPLC --- The identification test can be carried out simultaneously with the determination of the content of fomesafen. In the same chromatographic operating conditions , The sample solution to a chromatographic retention time and standard solution fomesafen

chromatographic retention time, the relative difference should 1.5% or less.

4.3.1 Method summary

Sample was dissolved in methanol, + water + phosphoric acid as the mobile phase, to use as filler HypersilODS stainless steel column and ultraviolet detection Detector (230nm), the sample of fomesafen reverse phase high performance liquid chromatography, external standard.

4.3.2 Reagents and solutions

Methanol. HPLC grade;

Phosphoric acid;

Water. The new secondary steam distilled water;

Fomesafen Sample. Known fomesafen mass fraction $\geq 98.0\%$.

4.3.3 Instruments

High performance liquid chromatography. a variable wavelength UV detector;

Chromatographic data processor;

Column. 200mm x 4.6mm (. I.d) stainless steel column, built HypersilODS, 5 μ m filler (or with equivalent effect color the column);

Filter. pore size of about 0.45 μ m;

Micro injector. 50 μ L;

Quantitative sample line. 5 μ L;

Ultrasonic cleaner.

4.3.4 HPLC operating conditions

Mobile phase. [Psi] (methanol. water. phosphoric acid) = 600.400.0.2, filtered through a filter membrane and degassed;

Flow rate. 1.0mL/min;

Column temperature. room temperature (temperature change should not exceed 2 °C);

Detection wavelength. 230nm;

Injection volume. 5 μ L;

Retention time. fomesafen 7.8min.

It said operating parameters are typical, according to the characteristics of different

instruments, given operating parameters adjusted as appropriate, in order to obtain the best results.

Typical fomesafen agent HPLC is shown in Figure 1.

1 --- fomesafen.

1 fomesafen agent HPLC diagram of FIG.

4.3.5.1 Preparation of standard solution

Weigh fomesafen standard 0.1g (accurate to 0.0002g), a 50mL volumetric flask, dissolved in methanol and diluted to the mark, Shake well. Pipette accurately pipette 5mL above solution was placed in another 50mL volumetric flask, diluted with methanol to the mark.

4.3.5.2 Preparation of sample solution

Weigh fluorine fomesafen 0.1g (accurate to 0.0002g) sample, placed in 50mL volumetric flask, dilute to the mark with methanol, shake uniform. Pipette accurately pipette 5mL above solution was placed in another 50mL volumetric flask, diluted with methanol to the mark.

4.3.5.3 Determination

Under these operating conditions, after the instrument is stable, continuous injection of several doses of the standard solution until the two adjacent needles fomesafen relative peak area After the change is less than 1.0%, according to the solution, the sample solution, the sample solution and standard sequence of the standard solution was measured.

4.3.6 Calculation

The two needle sample solution measured before and after the peak area of the sample and two doses of the standard solution of fomesafen were averaged. Specimen (1) Calculation fomesafen mass fraction of 1 (%) according to the formula; (2) to calculate the concentration of rho1 (g/L) by the formula.

$$1 = A2$$

$$\rho_1 =$$

$$10 (2)$$

Where.

A1 --- the standard solution, the average fomesafen peak area;

A2 --- sample solution, the average fomesafen peak area;

--- Standard samples fomesafen mass fraction, expressed as a percentage;