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PEOPLE'S REPUBLIC OF CHINA**

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Imidacloprid micro-emulsion

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(English Translation)

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5.1 Marking, labeling, packaging
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Foreword

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

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

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 the imidacloprid microemulsion requirements, test methods and marking, labeling, packaging, storage, security and guarantee period.

This standard applies to imidacloprid by a micro-emulsion, water and additives made of.

Note: Other name, structural formula and basic physicochemical parameters of imidacloprid in Appendix A.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

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 14825 method for determination of pesticide suspension 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 imidacloprid, water and suitable additives made, should be transparent or translucent homogeneous liquid without visible suspended Float and precipitates.

3.2 Technical Specifications

Imidacloprid microemulsion should meet the requirements of Table 1.

Table 1 imidacloprid microemulsion quality control program indicators

Item Index

Imidacloprid mass fraction /% 20.0 10.0 1.0 to 1.0 1.2-1.2 pH range of 5.0 to 8.0
Transparent test temperature range (0 °C ~ 50 °C) qualified Emulsion stability (diluted 500 times) Qualified (After 1min) Persistent foaming/mL <= 25 Thermal storage stability of a qualified Low temperature stability a qualified when a normal production, thermal storage stability, low-temperature stability test was measured at least once every three months.

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 200mL.

4.2 Identification Test

Liquid chromatography --- The identification test can be carried out simultaneously with the determination of the mass fraction of imidacloprid. Under the same chromatographic operating conditions, the test the retention time of the sample solution and the standard solution to a peak of imidacloprid chromatographic retention time, the relative difference should be 1.5% Fewer.

4.3.1 Method summary

Sample dissolved in mobile phase, methanol and water as the mobile phase, use as filler to C18 stainless steel column and UV detector at a wavelength 260nm, the sample of imidacloprid reverse phase HPLC separation and determination of external standard.

4.3.2 Reagents and solutions

Methanol. HPLC grade;

Water. The new secondary steam distilled water;

Imidacloprid standard. a known mass fraction $w \geq 99.0\%$.

4.3.3 Instruments

High performance liquid chromatography. a variable wavelength UV detector;

Chromatographic data processor or chromatography workstation;

Column. 250mm x 4.6mm (id) stainless steel column contents C18, 5 μ m filler;

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) = 40.60, by membrane filtration, and degassing;

Flow rate. 0.8mL/min;

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

Detection wavelength. 260nm;

Injection volume. 5μL;

Retention time. about imidacloprid 6.0min.

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 imidacloprid microemulsion HPLC is shown in Figure 1.

1 --- imidacloprid.

Figure 1 imidacloprid microemulsion HPLC diagram

4.3.5.1 Preparation of standard solution

Weigh 0.1g (accurate to 0.0002g) imidacloprid standard in 100mL flask, dissolved in methanol and diluted to the mark, ultrasonic Oscillation 5min make sample dissolution, cooled to room temperature and shake well. Using a pipette to take the above solution 5mL to 50mL volumetric flask, with the mobile Phase and dilute to the mark.

4.3.5.2 Preparation of sample solution

Weigh containing imidacloprid 0.1g (accurate to 0.0002g) sample in 100mL flask, dissolved in methanol and diluted to the mark, ultra Acoustic oscillations 5min make sample dissolution, cooled to room temperature and shake well. Using a pipette to take the above solution 5mL to 50mL volumetric flask Mobile phase and dilute 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 Imidacloprid peak area relative change After less than 1.2%, according to the solution, the sample solution, the sample solution and standard sequence of the standard solution was measured.

4.3.5.4 Calculation

Imidacloprid sample mass fraction according to formula (1).

$$w_1 = A_2$$

$$\cdot M_1 \cdot w$$

$$A_1 \cdot m_2$$