

ICS 65.100.10
CCS G 25



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

GB 28131-2011

Deltamethrin technical material

溴氰菊酯原药

(English Translation)

Issued on: December 30, 2011

Implemented on: April 15, 2012

Issued by: Standardization Administration of China

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Foreword

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

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

This draft standard method using the reformed modified using FAO Specifications 333/TC (May2005) "deltamethrin original drug" (Deltamethrin Technical differences and the reasons are as follows.

--- This standard increased the loss on drying and control of pH in the range of two indicators, technical indicators is more comprehensive, FAO specifications uncontrolled Made these two indicators.

Please note that some of the content of this document may involve patents. The issuing authority of this document does not assume responsibility to identify these patents.

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 Co., Ltd.

Participated in the drafting of this standard. Yangzhou Agricultural Chemical Corporation.

1 Scope

This standard specifies the requirements of the original drug deltamethrin, Test Method for marking, labeling, packaging, storage, and acceptance period.

This standard applies to impurities derived from the production of the composition and deltamethrin original drug.

Note: The other name, structural formula and basic physicochemical parameters of deltamethrin see Appendix A.

2 Normative references

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

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

3.1 Appearance

White crystal powder.

3.2 Technical Specifications

Deltamethrin original drug should also meet the requirements of Table 1.

Table 1 deltamethrin original drug control project indicators

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Deltamethrin content /% ≥ 98.5 Drying loss mass fraction /% ≤ 0.5 the pH range of 4.0 to 7.0 Test Method 4

4.1 Sampling

Carried out in GB/T 1605-2001 of "original drug product sampling" approach. Determined by sampling a random number table method packages, the amount of the final sample not less than 100g.

4.2 Identification Test

HPLC --- This identification test can be carried out simultaneously with the determination of the mass fraction of deltamethrin. In the same chromatographic operating conditions , The sample solution of a retention time of peaks and the standard solution deltamethrin

retention time, the relative difference should be less than 1.5%.

Infrared spectroscopy --- deltamethrin standard sample and the infrared in the range of 4000cm⁻¹ ~ 400cm⁻¹ absorption spectrum should ignore significant differences.

Deltamethrin standard infrared spectra of Figure 1.

FIG 1 deltamethrin standard IR spectrum

4.3.1 Method summary

Sample dissolved in mobile phase, isooctane dioxane as the mobile phase, used as a filler ZorbaxRX-Sil stainless steel column and purple Outer detector (254nm), deltamethrin sample of normal phase high performance liquid chromatography, external standard.

4.3.2 Reagents and solutions

Iso-octane;

Dioxane;

Deltamethrin Sample. deltamethrin known mass fraction $w \geq 99.0\%$.

4.3.3 Instruments

HPLC. a variable wavelength UV detector;

Chromatographic data processor;

Column. 250mm x 4.6mm (id) stainless steel column, built ZorbaxRX-Sil, 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. [Psi] (isooctane. dioxane) = 90.10, by membrane filtration, and degassing;

Flow rate. 1.0mL/min;

Column temperature. room temperature;

Detection wavelength. 254nm;

Injection volume. 10 μ L;

Retention time. deltamethrin about 5.4min.

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.

Deltamethrin typical normal phase HPLC TC shown in Figure 2.

1 --- deltamethrin.

FIG normal phase high performance liquid chromatography of the original drug deltamethrin 2

4.3.5.1 Preparation of standard solution

Sample Weigh 0.05 g of deltamethrin (accurate to 0.0002g), was placed in a 50mL volumetric flask, add the mobile phase is shaken to dissolve, stream the mobile phase was diluted to the mark.

4.3.5.2 Preparation of sample solution

Weigh 0.05g of deltamethrin-containing sample (accurate to 0.0002g), was placed in a 50mL volumetric flask, add the mobile phase solvent shaken so Solution, dilute to the mark with the mobile phase, shake.

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 peak area of the adjacent two pins is relatively deltamethrin After less than 1.2% of, measured according to the standard solution, sample solution, the sample solution, the order of standard solution.

4.3.6 Computing

The two needle and the sample solution was measured before and after the two doses of the standard sample solution and peak areas were averaged deltamethrin. Sample Deltamethrin Permethrin mass fraction according to formula (1).

$$w1 = A2$$

$$\cdot M1 \cdot w$$

$$A1 \cdot m2$$

Where.

W1 --- deltamethrin sample content, expressed in%;

A2 --- sample solution deltamethrin average peak area;

M1 --- deltamethrin standard mass in grams (G);