

ICS 65.100.10
CCS G 25



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

GB 29386-2012

Deltamethrin emulsifiable concentrates

溴氰菊酯乳油

(English Translation)

Issued on: December 31, 2012

Implemented on: July 1, 2013

Issued by: Standardization Administration of China

Table of Contents

Foreword
1 Scope
2 Normative references
3.1 Composition and appearance
3.2 Technical Specifications
4.1 General provisions
4.2 Sampling
4.3 Identification Test
4.4 Determination of the mass fraction of deltamethrin
4.5 Determination of moisture content
4.6 PH value measured
4.7 Emulsion stability test
4.8 Low temperature stability test
4.10 Product inspection and acceptance
5 Marking, labeling, packaging, storage, security and guarantee period
5.1 Marking, labeling, packaging
5.2 Storage
5.3 Security
5.4 Warranty Period

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/EC (May2005) "Deltamethrin." this standard and FAO specification "Deltamethrin" The main technical differences and reasons.

--- This standard is to control the moisture content $\leq 1.0\%$, FAO specifications not control the indicators, EC water is too high, it will affect product quality the amount should be controlled;

--- the FAO controlling the pH range of 4.5 to 7.5, the standard control pH range 4.0 to 7.0. Deltamethrin in neutral and weakly acidic Medium stable;

--- FAO specifications lasting foam control amount $\leq 50\text{mL}$ (after 1min), this standard does not control the indicators. EC lasting domestic product A small amount of foam, does not affect the product.

Please note that some of the content of this document may involve patents, the issuing authority of this document does not assume responsibility for identifying these patents.

The standard proposed by China Petroleum and Chemical Industry Federation.

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. Bayer CropScience Co., Ltd., Yangzhou Agricultural Chemical Corporation.

1 Scope

This standard specifies the requirements deltamethrin EC, test methods and marking, labeling, packaging, storage and warranty.

This standard applies to the formulated in a suitable solvent Deltamethrin the drug and the deltamethrin dissolved emulsifiers.

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.

GB/T 1600 Pesticide Method Moisture Determination 1601 pH value pesticides GB/T GB/T 1603 Determination of emulsion stability of pesticide GB/T 1604 pesticide regulations for acceptance of goods GB/T 1605-2001 sampling commercial pesticides GB/T 4472-1984 Chemical density, relative density General GB 4838 EC pesticide packaging GB/T 6682-2008 analytical laboratory use specifications and test methods (ISO 3696. 1987, MOD) GB/T 8170-2008 rounding off means about rules and determining limiting values GB T 19136 Determination of heat storage stability of pesticide /GB/T 19137 Pesticide low temperature stability determination

3.1 Composition and appearance

This product shall be made deltamethrin standard original drug, a stable homogeneous liquid, no visible precipitate or suspension.

3.2 Technical Specifications

Deltamethrin EC should also meet the requirements of Table 1.

Table 1 deltamethrin EC Control Project Index

project

index

25g/L 50g/L

Deltamethrin mass fraction a /% Deltamethrin or mass concentration (20 °C) / (g/L) 2.8
0.3-0.3 253-3 5.0 0.5-0.5 505-5 Moisture content /% ≤ 1.0 TABLE 1 (cont.) project index
25g/L 50g/L the pH range of 4.0 to 7.0 Emulsion stability (200-fold dilution) Eligible Low
temperature stability Qualified b B qualified thermal storage stability Mass fraction
measurement results to arbitration when a dispute occurred when the quality.

B When normal production, low temperature stability test, the thermal storage stability test
was measured at least once every three months.

Test Method 4

Safety Tips. to use this standard shall have practical experience of laboratory work. This
standard does not indicate any safety issues. Make with those who have the responsibility
to take appropriate safety and health practices and to ensure compliance with the
provisions of relevant state laws and regulations.

4.1 General provisions

This standard reagent in the absence of water and other requirements stated, refer to three
predetermined analytical reagents and GB/T 6682-2008 of water. The test results
performed by determining 4.3.3 rounding value in comparison 8170-2008 GB/T .

4.2 Sampling

Carried out in GB/T 1605-2001 of "liquid formulation sampling" approach. Determined by
sampling a random number table method packages, the amount of the final sample not less
than 200mL.

4.3 Identification Test

HPLC --- This identification test can be carried out simultaneously with the determination of
the content of deltamethrin. Chromatography under the same operating conditions,
Deltamethrin peaks in the sample solution for a retention time of peaks and the retention
time of the standard solution, the relative difference of 1.5% should be or less.

4.4.1 Method summary

Sample dissolved in mobile phase, isooctane dioxane as the mobile phase, used as a filler ZorbaxRX-Si1 stainless steel column and purple Outer detector (254nm), deltamethrin sample of normal phase high performance liquid chromatography, external standard.

4.4.2 Reagents and solutions

Iso-octane;

Dioxane;

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

4.4.3 Instruments

HPLC. a variable wavelength UV detector;

Chromatographic data processor;

Column. 250mm x 4.6mm (id) stainless steel column, built ZorbaxRX-Si1,5 μ m filler;

Filter. membrane pore size of about 0.45 μ m;

Microsyringe. 50 μ L;

Quantitative sampling tube. 10 μ L;

Ultrasonic cleaning.

4.4.4 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 is shown in Figure 1.

1 --- deltamethrin;