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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 28157-2011

Acephate emulsifiable concentrates

乙酰甲胺磷乳油

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Table of Contents

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 content of this document may involve patents, the issuing authority of this 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. This standard is drafted by: Shenyang Chemical Research Institute Co., Ltd. Participated in the drafting of this standard. Hubei Sanonda Co., Ltd., Zhejiang Jia Group Co., Ltd., Jiangsu Blue abundance of chemical Co., Ltd., Hangzhou Agrochemical Co., Ltd. Qingfeng. The main drafters of this standard. High Scenic, Dong, Lee Yuan Liao Yan, Zhang Shurong, India Xie Gang, He Hongdong. Acephate EC

1 Scope

GB 28157-2011 is the Chinese national standard on acephate emulsifiable concentrates, in the field of agriculture. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 30 December 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's

Republic of China; Standardization Administration of China, and has been in force since 15 April 2012. Classification: ICS 65.100.10, CCS G25. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the acephate EC requirements, test methods and marking, labeling, packaging, storage and transportation, the guarantee period. This standard applies to the original drug acephate formulated with an emulsifier dissolved in a suitable solvent from the acephate EC. NOTE. acephate and impurities acetamide Other names methamidophos, O, O, S- trimethyl phosphorothioate, structural formula and basic physicochemical parameters, see Appendix A.

1.0 O, O, S- trimethyl phosphorothioate mass fraction a /% <= 0.1

0.2 Table 1 (continued) project index 30% EC 40% EC Moisture content /% <=

0.6 Acidity content (in terms H2SO4) /% <=

0.5 Emulsion stability (200 times) Qualified Low temperature stability a qualified Thermal storage stability of a qualified When a normal production, O, O, S- trimethyl phosphorothioate content, low temperature storage stability and thermal stability test was measured at least once every three months. Test Method

4 Safety Tips. Use of this standard shall have practical experience of laboratory personnel work. This standard does not point out all of the safety issues. Make With those who have the responsibility to take appropriate safety and health practices and to ensure compliance with the relevant national regulations.

4.1 General provisions This standard reagents and water in the absence of other requirements specified, refers to three analytical reagent and GB/T 6682-2008 specified in water. The test standard titration solution, did not indicate when the other requirements, according to GB/T 601 requirements preparation and calibration. test result Determination of GB/T 8170-2008

4.3.3 Rounding the value comparison method.

4.2 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.

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. Preparation of

GB/T 601 chemical reagent standard titration solution

GB/T 1600 Determination of Water Pesticides

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 6682-2008 analytical laboratory use specifications and test methods (ISO 3696. 1987, MOD)

GB/T 8170-2008 revised value represents about rules and limit values and judgment

GB/T 19136 Determination of Pesticide Thermal storage stability

GB/T 19137 Pesticide cryogenic stability Determination

2.0 Acetamide mass fraction /% <= 0.3

0.4 Methamidophos mass fraction /% <= 0.8

3 Requirements

3.1 Appearance This product should meet the standards of the original drug acephate made of a stable homogeneous liquid, free from visible suspended matter and sediment.

3.2 Technical Specifications Acephate EC shall comply with the requirements of Table 1. Table 1 acephate EC Control Project Index project index 30% EC 40% EC Acephate mass fraction /% 30.0 40.0 4.0-2.7 3.0-

4.3 Identification Test Liquid chromatography

--- The identification test can be carried out simultaneously with the determination of the mass fraction of acephate. In the same chromatographic operating conditions , The sample solution to a chromatographic retention time and acephate standard solution peak retention time, the relative difference should 1.5% or less.

4.4 Determination of acephate, methamidophos acetamide and mass fraction

4.4.1 Method summary Sample dissolved in mobile phase, acetonitrile and water (pH = 3) as the mobile phase, use as filler to C18 stainless steel column and UV detector (210nm), the sample of acephate, methamidophos acetamide and reverse phase high performance liquid chromatography, external standard.

4.4.2 Reagents and solutions Acetonitrile. HPLC grade; Water. The new secondary steam distilled water; Phosphoric acid; Acephate standard. a known mass fraction w>=99.0%; Acetamide standard. a known mass fraction w>=98.0%; Methamidophos standard. a known mass fraction w>=98.0%; Sample preparation and methamidophos acetamide standard solution. Weigh acetamide standard 0.06g, methamidophos standard 0.1g (accurate to 0.0002g) placed in 50mL volumetric flask, add the mobile phase dissolved and diluted to the mark.

4.4.3 Instruments High performance liquid chromatography. a variable wavelength UV detector; Chromatographic data processor or workstation; Column. 250mm x 4.6mm (id) stainless steel column, built C18,5μm filler (or with equivalent effect column); Filter. filter pore size of about 0.45μm; Micro injector. 250μL; Ultrasonic cleaner.

4.4.4 HPLC operating conditions Mobile phase. Psi. after (acetonitrile, water) =

10.90 adjusted to pH with phosphoric acid to water is 3, mixed, filtered through a filter membrane, and Degassing; Flow rate. 1.0mL/min; Column temperature. room temperature (temperature change should not exceed 2 °C); Detection wavelength. 210nm; Injection volume. 20μL; Retention time. acetamide 3.6min, methamidophos 5.0min, acephate 5.7min. 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 acephate EC HPLC is shown in Figure 1. 1

--- acetamide; 2

--- methamidophos; 3

--- acephate. Figure 1 acephate EC HPLC diagram

4.4.5 Measuring step

4.4.5.1 Preparation of standard solution Weigh acephate standard 0.06g (accurate to 0.0002g) placed in 50mL volumetric flask, with a pipette Pipette 2.0mL acetyl Amine standards and methamidophos standard solution in the same volumetric flask, dissolved in mobile phase and dilute to the mark.

4.4.5.2 Preparation of sample solution Weigh containing acephate 0.06g (accurate to 0.0002g) sample, placed in 50mL volumetric flask, dissolved in mobile phase and diluted To the mark.

4.4.5.3 Determination Under these operating conditions, after the instrument is stable, continuous injection of several doses of the standard solution until the two adjacent needles acephate relative peak area After the change is less than 1.2%, according to the solution, the sample solution, the sample solution and standard sequence of the standard solution was measured.