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

GB 13650-2009

Replacing GB 13650-1992

Fenitrothion emulsifiable concentrates

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(English Translation)

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Foreword

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

This standard uses redrafted law revision using FAO specifications 35/EC/S (1988) "fenitrothion EC." the FAO standards and specifications 35/EC/S (1988) The main technical differences are as follows.

--- This standard specifies the moisture is not more than 0.3%, FAO specifications prescribed water no more than 2g/kg;

--- This standard specifies the acidity of not more than 0.3%, FAO specifications prescribed acidity of not more than 2g/kg.

This standard replaces GB 13650-1992 "fenitrothion EC." this standard compared with GB 13650-1992, the main differences are.

--- Fenitrothion EC specifications from 45% to 45% and 50%;

--- Increase S- methyl fenitrothion control targets.

Appendix A of this standard is an informative annex.

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 fenitrothion EC requirements, test methods and marking, labeling, packaging, storage and transportation.

This standard applies to the original drug fenitrothion formulated with an emulsifier dissolved in a suitable solvent from the fenitrothion EC.

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.

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 19136 Determination of Pesticide Thermal storage stability GB/T 19137 Pesticide cryogenic stability Determination

3.1 Composition and appearance

This product should be compliant fenitrothion original drug is made, it should be pale yellow to dark brown stable homogeneous liquid, free from visible suspended and precipitates.

3.2 Technical Specifications

Fenitrothion EC shall comply with the requirements of Table 1.

Table 1 Fenitrothion EC Control Project Index

project

index

45% 50%

Fenitrothion content /% $\geq 45.0 + 2.2-2.2$ 50.0 + 2.5-2.5 S- methyl fenitrothion mass fraction /% ≤ 1.0 Moisture /% ≤ 0.3 Acidity (H₂SO₄ meter) /% ≤ 0.3 Emulsion stability

(diluted 200 times) Qualified Low temperature stability a qualified Thermal storage stability of a qualified when a normal production, low-temperature storage stability and thermal stability test, every three months, at least once.

Test Method 4

4.1 Sampling

According to GB/T 1605-2001 5.3.2 in "liquid formulation sampled" in. Determining sample package using a random number table method, the final sample the amount of not less than 200mL.

4.2 Identification Test

Gas Chromatography --- The identification test can be carried out simultaneously with the determination of fenitrothion (S- methyl fenitrothion) mass fraction. In the same Chromatographic operating conditions, the sample solution to a chromatographic retention time and standard solutions fenitrothion (S- methyl fenitrothion) peaks Retention time, the relative difference should be less than 1.5%.

4.3.1 Method summary

Sample was dissolved in acetone to diallyl phthalate esters as internal standard, using a HP-5 capillary column and a flame ionization detector, Sample of fenitrothion, S- methyl fenitrothion and measured by gas chromatography, internal standard. You can also use a packed column gas chromatography Determination of spectrum, chromatographic operating conditions, see Appendix A.

4.3.2 Reagents and solutions

Acetone. AR;

Fenitrothion standard. a known mass fraction $\geq 98.0\%$;

Internal standard. dimethyl phthalate, propylene carbonate, should not interfere with the analysis of impurities;

Internal standard solution. Weigh diallyl phthalate esters 2.5g, placed in 500mL volumetric flask, dissolved in acetone and diluted to the mark, Shake well.

4.3.3 Instruments

Gas chromatograph. with a hydrogen flame ionization detector, split/splitless inlet;

Chromatographic data processor or chromatography workstation;

Column. 30m x 0.32mm (i.d.) HP-5 capillary column, film thickness 0.25 μ m;

Micro injector. 10 μ L.

4.3.4 GC operating conditions

Temperature ($^{\circ}$ C). Room 210 column, the gasification chamber 230, detection chamber 270;

Gas flow rate (mL/min). carrier gas (N₂) 1.5, makeup gas (N₂ of) 30, hydrogen gas 30, air 300;

Split ratio. 50.1;

Injection volume. 1.0 μ L;

Retention time. fenitrothion 4.9min, S- methyl fenitrothion 6.4min, diallyl phthalate esters 3.2min.

The above operating conditions, the Department of typical operating parameters, according to the characteristics of different instruments and columns for a given operating parameters to make appropriate adjustments to to obtain the best results. Typical fenitrothion EC gas chromatography is shown in Figure 1.

1 --- internal standard (diallyl phthalate esters);

2 --- fenitrothion;

3 --- S- methyl fenitrothion.

Figure 1 Fenitrothion EC gas chromatogram

4.3.5.1 Preparation of standard solution

Weigh fenitrothion standard 0.1g (accurate to 0.0002g), placed in 15mL stoppered glass bottle with a pipette accurately added 10mL Internal standard solution, shake well.

4.3.5.2 Preparation of sample solution

Weigh the sample containing fenitrothion 0.1g of (accurate to 0.0002g), placed in 15mL stoppered glass vial with 4.3.5.1 with the same A pipette accurately added internal standard solution 10mL, shake.

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 fenitrothion and the internal standard peak area After the change of the relative volume ratio is less than 1.2%, according to the solution, the sample solution, the sample solution and standard sequence of the standard solution was measured.