



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

GB 23200.78-2016

Replacing SN/T 0641-2011

**Food safety national standard -- Meat and meat products --
Determination of the content of carbamate residues -- Gas
chromatographic method**

肉及肉制品中巴毒磷残留量的测定 气相色谱法

(English Translation)

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Table of Contents

Foreword	
1 Scope	
2 Normative reference documents	
3 Principle	
4 Reagents and materials	
4.1 Reagents	
4.2 Solution preparation	
4.3 Standards	
4.4 Standard solution preparation	
5 Instruments and equipment	
6 Preparation and storage of samples	
6.1 Preparation of the sample	
6.2 Sample storage	
7 Analysis steps	
7.1 Extraction	
7.2 Purification	
7.3 Determination	
7.4 Gas Chromatography - Mass Spectrum Confirmation	
7.5 Blank experiment	
8 Results are calculated and expressed	
9 Precision	
10.1 Quantitation limits	
10.2 Recovery rate	

Foreword

This standard replaces SN/T 0641-2011 "Method for the determination of the amount of carbazole in the import and export of meat and meat products".

Compared with SN/T 0641-2011, the main changes are as follows.

- Standard text format is modified to national standard text format for food safety;
- the name and scope of the "import and export of meat and meat products" to "meat and meat products";

- increase the "other food reference implementation" in the standard range.

This standard replaced the previous version of the standard release.

-SN 0641-1997.

National standards for food safety Meat and meat products - Determination of the content of carbamate residues - Gas chromatographic method

1 Scope

This standard specifies the determination of the amount of carbamate residues in meat and meat products this standard applies to pork, sausage and lunch meat and other meat and meat products in the determination of the residual amount of carbamylate, other food can refer to the implementation.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB 2763 National Standard for Food Safety - Maximum Residue Limit of Pesticides in Foodstuffs GB/T 6682 Analytical laboratory water specifications and test methods

3 Principle

The residual carbamate in the sample was extracted with a mixture of cyclohexane-ethyl acetate and the extract was purified by gel permeation chromatography.

Photometric detector gas chromatograph determination, external standard method quantitative. If necessary, can be confirmed by gas chromatography-mass spectrometry.

4 Reagents and materials

Unless otherwise specified, all reagents are of analytical grade and water is in accordance with the primary water specified in GB/T 6682.

4.1 Reagents

4.1.1

Acetone (C₇H₆O). Chromatographic purity.

4.1.2

Cyclohexane (C₆H₁₂). Chromatographic Purification.

4.1.3

Ethyl acetate (C₄H₈O₂). Chromatographic purity.

4.2 Solution preparation

4.2.1

cyclohexane-ethyl acetate (1:1, volume ratio). take 100 mL of cyclohexane, add 100 mL of ethyl acetate, shake back. The 4.2.2 anhydrous sodium sulfate. 650 °C burning 4 h, stored in a sealed container in reserve.

4.3 Standards

4.3.1

Bareto phosphorus standard (Crotoxyphos, C₁₄H₁₉O₆P, CAS. 7700-17-6). purity ≥ 99%.

4.4 Standard solution preparation

4.4.1

Batch phosphorus standard solution. accurately weighed the appropriate amount of standard phosphorus poisonants, with acetone prepared into a concentration of about 1.0 mg/mL standard reserve Liquid, and then need to use acetone diluted to the appropriate concentration of standard working solution. Standard stock solution in 0 ~ 4 °C refrigerator to save, valid for 12 Month, the standard working fluid in the 0 ~ 4 °C refrigerator to save, valid for 6 months.

5 Instruments and equipment

5.1

Gas Chromatograph. Flame photometric detector with phosphor filter (526nm).

5.2

gel permeation chromatography. equipped with unit pump, fraction collector.

5.3

Centrifuge. speed greater than 3000 r/min.

5.4

Electronic balance. accurate to 0.0001 g.

5.5

homogenizer.

5.6

Rotary evaporator.

5.7

Concentrated bottles. 100 mL.

5.8

Organic phase microporous membrane. 0.45 m.

5.9

anhydrous sodium sulfate column. length 7 cm, diameter 2 cm barrel funnel containing about 3 cm anhydrous sodium sulfate.

6.1 Preparation of the sample

Will take all the samples, shrink out with a representative sample of not less than 500g, the sampling site according to GB 2763 Appendix A, the mashed Machine fully mashed evenly, are divided into two, respectively, into a clean container, sealed, marked mark.

6.2 Sample storage

The sample was stored at -18 ° C or lower. During the operation of the sample preparation, the sample should be prevented from being contaminated or the content of the residue can be changed the

7.1 Extraction

Weigh the sample about 10.0 g (accurate to 0.1 g) in a 50 mL centrifuge tube, add 10 g of anhydrous sodium sulfate, stir with a glass rod and mixed with the sample, then add 20 mL of cyclohexane-ethyl acetate (1 1, volume ratio), homogeneous 2min, 3000r/min centrifugation 3 min, the upper organic phase was passed through an anhydrous sodium sulfate column and collected in a 100 mL concentration flask. The residue was washed with 40 mL of cyclohexane-ethyl acetate (11, Volume ratio) The extracts were extracted twice in the same manner as described above, concentrated to about 5 mL at 40 ° C, and the extract was transferred to a 10 mL scale test and the mixture was washed three times with 3 mL of cyclohexane-ethyl acetate (1 1, by volume), and the washing solution was combined in a graduated tube.

Cyclohexane-ethyl acetate (1 1, volume ratio) to 10 mL, over 0.45 m filter, to be gel permeation chromatography (GPC) purification.