



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

GB 23200.105-2016

Replacing SN/T 0122-2011

**Food safety national standard -- Meat and meat products --
Determination of carbazate residues -- Liquid chromatography
-- Post-column derivatization fluorescence detection**

肉及肉制品中甲萘威残留量的测定 液相色谱-柱后衍生荧光检测法

(English Translation)

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Foreword

This standard replaces SN/T 0122-2011 "Determination of Carbendazim Residue in Import and Export Meat and Meat Products Liquid Chromatography - Post-column Derived Fluorescence Light detection method".

Compared with SN/T 0122-2011, the main changes are as follows.

- Standard text format is modified to national standard text format for food safety;
- the name 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 0122-1992;

-SN/T 0122-2011.

National standards for food safety Determination of Carnosilvine Residue in Meat and Meat Products Liquid Chromatography - Post - column Derivative Fluorescence Detection

1 Scope

This standard specifies the liquid and liquid chromatography-post-column derivatization fluorescence detection method for the removal of carbaryl residues in meat and meat products.

This standard applies to the import and export of beef, chicken, shrimp, fish and ham in the determination of the residual amount of decamethrin, other food can refer to carried out.

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 2763-2014 National Standard for Food Safety - Maximum Residue Limits for Pesticides in Foodstuffs Analysis of laboratory water specifications and test methods GB/T 6682-2008

3 Principle

The residue of the decamethrin in the sample was extracted with a mixture of acetone and petroleum ether. After purification by gel column, the mixture was concentrated and analyzed by high performance liquid chromatography Separation, after column derivatization, with the fluorescence detector detection, external standard quantitative.

4 Reagents and materials

Unless otherwise specified, all reagents are analytical reagent and water is a Class I water specified in GB/T 6682.

4.1 Reagents

4.1.1

Acetonitrile (CH₃CN). Chromatographically pure.

4.1.2

Ethyl acetate (C₄H₈O₂). Chromatographic purity.

4.1.3

Cyclohexane (C₆H₁₂). Chromatographic Purification.

4.1.4

Acetone (CH₃COCH₃). Chromatographic pure.

4.1.5

petroleum ether. boiling range 30 °C ~ 60 °C.

4.1.6

anhydrous sodium sulfate (Na₂SO₄). 650 °C burning 4 h, in the dryer to cool to room temperature, stored in a sealed bottle in reserve.

4.1.7

Sodium chloride (NaCl).

4.1.8

post-column derivatization reagents.

4.1.9

o-phthalaldehyde (C₈H₆O₂, O-Phthalaldehyde, OPA).

4.1.10

mercaptoethanol (C₂H₆OS, Thiofluor).

4.2 Solution preparation

4.2.1

NaOH solution (0.2%, m/v). take 2 g NaOH, the volume of water to 1000 mL.

4.2.2

O-phthalaldehyde diluent. borax solution (0.4%, m/v).

4.2.3

O-phthalaldehyde test solution. 945 ml of OPA diluent was injected into the solvent tank and purged with inert gas (nitrogen) for at least 10 min, 100 mg of OPA solids were dissolved in about 10 mL of chromatographic pure methanol and the OPA solution was added to the deoxygenated OPA diluent to dissolve 2 g of mercaptan Base ethanol solids in 5 mL OPA diluent, added to the tank, covered with cap, open airflow, and then continue to purge for a few minutes, the valve is gently agitated to make it completely mixed.

4.2.4

Ethyl acetate-cyclohexane mixed solution (1:1, v/v). Take 100 mL of ethyl acetate, add 100 mL of cyclohexane and shake well.

4.3 Standards

4.3.1

Carbaryl. Molecular formula $C_{12}H_{11}NO_2$, CAS 63-25-2, purity > 99.5%.

4.4 Standard solution preparation

4.4.1

Monazalose standard stock solution. accurately weighed the right amount of methacon standard, dissolved in acetonitrile, 4 °C refrigerator, valid for 6 month. Store in 4 °C refrigerator.

4.4.2

Carbaryl standard working solution. take a certain amount of standard stock solution, diluted with acetonitrile to the appropriate concentration, 4 °C refrigerator, valid for 1 week. Store in 4 °C refrigerator.

4.5 Materials

4.5.1 0.45 µm nylon filter.

5 Instruments and equipment

5.1

Liquid Chromatography. equipped with fluorescence detectors and post-column derived units.

5.2

Analysis of balance. 0.01 g and 0.0001 g.

5.3

Fully automatic gel chromatograph (with fraction collection concentrator).

5.4

Rotary Evaporator.

5.5

nitrogen blowing instrument.