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

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**Determination of formaldehyde in food for import and export.
Liquid chromatographic method**

进出口食品中甲醛含量的测定 液相色谱法

(English Translation)

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Foreword

Appendix A of this standard is an informative annex.

This standard is proposed and managed by the National Certification and Accreditation Administration.

This standard was drafted. Zhejiang Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China, Heilongjiang Entry and Exit Inspection of the People's Republic of China Epidemic situation.

1 Scope

This standard specifies the preparation of samples for the determination of formaldehyde in imported and exported foods and the method for determination of liquid chromatography.

This standard applies to the determination of formaldehyde content in import and export of aquatic products, vegetables (including mushrooms), and cereal products.

2.1 Sample preparation

A representative sample of about 1 kg was taken from all the samples taken, and the edible portion was fully mashed and divided into two portions by a masher.

Do not put it in a clean container as a sample. Seal and mark the mark.

2.2 Sample storage

Aquatic samples were stored frozen below -18 °C. Vegetables (including shiitake mushrooms) and cereal products were refrigerated at 4 °C. Sampling and sample preparation During the process, the sample should be protected from contamination or changes in content.

3.1 Method summary

The formaldehyde in the sample is extracted with water, filtered, and derivatized with 2,4-dinitrophenylhydrazine, and determined by liquid chromatography at a wavelength of 365 nm, external standard Method of quantification.

3.2 Reagents and materials

The water used was ultrapure water cooled after boiling for 10 minutes. The vessel used was washed with water and then baked in an oven at 130 ° C for 1 h to 3 h.

3.2.1

Acetonitrile. Liquid chromatography grade solvent.

3.2.2 2,4-Dinitrophenylhydrazine. purity $\geq$ 99%.

3.2.3 2,4-Dinitrophenylhydrazine solution. Weigh 2,4-dinitrophenylhydrazine 300 mg dissolved in acetonitrile and dilute to 100 mL.

3.2.4

Formaldehyde standard solution. GSB07-1179.

3.2.5

Formaldehyde standard working solution. Pipette an appropriate amount of formaldehyde standard solution and dilute to the appropriate concentration with ultrapure water.

3.3 Instruments and equipment

3.3.1

High Performance Liquid Chromatograph. equipped with a diode array detector or UV detector.

3.3.2

Crusher.

3.3.3

Constant temperature oscillator.

3.4.1 Extraction and purification

Weigh about 5g (accurate to 0.01g) of the mashed sample, place it in a 150mL stoppered conical flask, and accurately add 50.0mL~100mL the water was placed in a 40 ° C constant temperature shaker and shaken at 15 r/min for 2 h. After taking out the cooling, it was filtered and derivatized.

3.4.2 Preparation of formaldehyde calibration working solution

Add formaldehyde standard working solution to the sample (try to select the same sample with the lowest formaldehyde content as the test sample matrix), add 5 files.

Or different concentrations above. According to 3.4.1 extraction and purification operations.