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

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GB/T 21928-2008

**Determination of phthalate esters in food plastic
packaging materials**

食品塑料包装材料中邻苯二甲酸酯的测定

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Foreword

Annex A, B, C and D of this Standard are informative.

This Standard is proposed by China National Institute of Standardization (CNIS).

This Standard is under the jurisdiction of National Standardization Workgroup of Food Safety Emergency.

Draft unit of this Standard: Beijing Haidian District Institute of Products Quality Supervision and Inspection (National Food Quality Supervision and Inspection Center).

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Determination of phthalate esters in food plastic packaging materials

1 Scope

This standard specifies the gas chromatographic – mass spectra (GC – MS) method to determine the contents of phthalate esters in food plastic packaging materials.

This standard applies to determination of contents for phthalate esters (16 variants totally, see Annex A) in food plastic packaging materials.

In this standard, the detection limit of each phthalate ester compound shall be 0.05 mg/kg.

2 Principle

The extracted and purified food plastic packaging materials are determined with GC – MS. In characteristic selective ion monitoring scanning mode (SIM), qualitative analysis is carried out by abundance ratio of fragment and quantitative analysis is performed in quantitative ion external standard method of standard sample.

3 Reagents

In this standard, all of the water mentioned is redistilled water obtained from all – glass distiller and the reagents are chromatographically pure (or redistilled analytically pure) , stored in glass bottle.

3.1 N-hexane

3.2 Acetone.

3.3 16 variants phthalate esters standards: Dimethyl phthalate (DMP), diethyl phthalate (DEP), diisobutyl phthalate (DIBP), dibutyl phthalate (DBP), bis(2-methoxyethyl) phthalate (DMEP), bis(4-methyl-2-pentyl) phthalate (BMPP), bis(2-ethoxyethyl) phthalate (DEEP), dipentyl phthalate (DPP), dihexyl phthalate (DHXP), benzyl butyl phthalate (BBP), bis(2-n-butoxyethyl) phthalate (DBEP), dicyclohexyl phthalate (DCHP), Bis (2-ethylhexyl) phthalate (DEHP), diphenyl phthalate - di-n-octyl phthalate (DNOP), dinonyl phthalate (DNP), the purity see Annex B.

3.4 Standard stock solution: Weigh to take the above – mentioned standard items



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