



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

中华人民共和国出入境检验检疫行业标准

SN/T 0448-2011

Replace SN 0448-1995

**Import and Export Food Arsenic, Mercury,
Lead, Cadmium Detection Method
Inductively Coupled Plasma Mass
Spectrometry (ICP-MS)**

**进出口食品中砷、汞、铅、镉的检测方法 电感耦合等离子体
质谱（ICP-MS）法**

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Supervision, Inspection and Quarantine

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Foreword

This Standard is drafted according to the rules specified in GB/T 1.1-2009.

The standard replaces SN 0448-1995 Determination of *Mercury and Arsenic in Foods for Export*.

This Standard has the major changes as follows in comparison with SN 0448-1995:

——The name of standard is modified;

——The arsenic, lead, mercury cadmium residual digestion method is modified, which is changed to microwave digestion and closed high pressure digestion method.

——The arsenic, lead, mercury cadmium residual detection method is modified which is changed to ICP-MS method.

This standard is proposed and centralized by national certification and accreditation supervision and administration committee.

The standard is drafted by: Tianjin entry-exit inspection and quarantine bureau of the People's Republic of China.

The main drafters: Gao Jianhui, Xiao Yabing, Su Yi, Wang Wei, Zhao Ting and Wang Song.

The issuance situations of the previous versions of the standard replaced by this standard are as follows:

——SN 0448—1995。

Import and Export Food Arsenic, Mercury, Lead, Cadmium Detection Method

Inductively Coupled Plasma Mass Spectrometry(ICP-MS)

1 Scope

The standard specifies the determination method of arsenic, lead, mercury and cadmium contents in the import and export foods with inductively coupled plasma mass spectrometry (hereinafter referred to as ICP-MS method).

The standard applies to the determination of arsenic, lead, mercury and cadmium contents in the foods for import and export (not including food additives).

2 Normative references

The following documents are indispensable for the document. For references with date, only the version of the reference documents marked with the corresponding date are available..For references without date, the latest version (including all amendments) are applicable to this document.

GB/T 6682 Specifications and test method of the water for analysis laboratory

3 Method summary

The sample shall be determined with ICP-MS after digestion by nitric acid - hydrogen peroxide. ICPMS consists of two main parts, i.e. the ion source and mass spectrometer, the sample solution shall be sent to ICP torch flame by carrier gas after being atomized After evaporation, dissociation, atomization, ionization and other processes, they will be transformed into positively charged ions. They shall be send into the mass spectrometer via ion collection system and separated by the mass spectrometer according to the mass to charge ratio. For a given mass to charge ratio, the mass spectrum integration area is proportional to the number of ions in the mass spectrometer, i.e. the concentration of elements in the sample is proportional to the mass spectrum integration area. Quantitative comparison with the standard series.

4 Reagents and materials

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