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SN

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

SN/T 2592.2-2010

**Determination of organotin compounds in electrical and
electronic equipment. Part 2: Screening by Fourier transform
infrared spectrometry**

电子电气产品中有机锡化合物的测定 第2部分：傅立叶变换红外光谱筛选法
(English Translation)

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Foreword

SN/T 2592 "Determination of electrical and electronic products, organic tin compounds" is divided into five parts.

- Part 1. gas chromatography;
- Part 2. Fourier transform infrared spectroscopy screening method;
- Part 3. Inductively Coupled Plasma Mass screening;
- Part 4. Liquid chromatography - mass spectrometry;
- Part 5. gas chromatography - mass spectrometry.

This section SN/T 2592 Part 2.

This section Press GB/T 1.1-2009 given rule drafting.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This section is responsible for drafting unit. People's Republic of China Guangdong Entry Inspection and Quarantine Bureau, Nanjing, People's Republic of China Entry-Exit Inspection and Quarantine Bureau, People's Republic of China Shandong CIQ.

1 Scope

This section provides qualitative screening method of Fourier transform infrared spectroscopy (FT-IR) electrical and electronic products plastic parts organotin.

Infrared This section applies to electrical and electronic products plastic parts organotin qualitative screening.

2 Method summary

Collection of electrical and electronic products with a polymer material samples, frozen crushed sample was added hexane ultrasonic extraction of organic tin, filtered, and the the extract was concentrated. The extract is applied to the droplets of concentrated potassium bromide piece collection IR spectrum whether the observed organotin C-Sn Key to 630cm⁻¹ ~ 440cm⁻¹ between the characteristic absorption, in order to determine whether a sample contains an organic tin.

3 Reagents

Unless otherwise specified in this section use the gifted class pure reagents.

3.1

potassium bromide (KBr), pure spectrum.

3.2

tetrabutyl tin, 99.0% purity.

3.3

tetrapropyl tin, 99.0% purity.

3.4

tetraphenyl tin, 99.0% purity.

3.5

monobutyl tin trichloride, 96.0% purity.

3.6

dibutyl tin dichloride, 99.0% purity.

3.7

dipropyl tin chloride, 99.5% purity.

3.8

diphenyl tin dichloride, 97.0% purity.

3.9

tributyltin chloride, 96.5% purity.

3.10

tripropyl tin chloride, 99.0% purity.

3.11

triphenyltin purity of 96.0%.

3.12

hexane, AR.

4 Equipment and Materials

4.1

Fourier transform infrared spectrometer, wave number range. $4000\text{cm}^{-1} \sim 400\text{cm}^{-1}$, minimum resolution. 0.3cm^{-1} .

4.2

electronic scales, accurate to 0.1mg.

4.3

agate mortar.

4.4

IR tablet press.

4.5

rotary evaporator.

4.6

infrared fast drying oven.

4.7

blast oven, the temperature ($0\text{ }^{\circ}\text{C} \sim 120\text{ }^{\circ}\text{C}$).

4.8

Glass dryer.

4.9 200 mesh stainless steel sieve.