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SN

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

SN/T 2592.5-2011

**Determination of organotin compounds in electrical and
electronic equipment. Part 5: Gas chromatography-mass
spectrometry**

气质联用测定电子电气产品中的有机锡

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Method summary
4 Reagents and materials

Foreword

"Determination of electrical and electronic products of organic tin compounds" SN/T 2592 series of standards is divided into six 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;
- Part 6. Inductively coupled plasma atomic emission spectrometry.

This section "Measurement of electrical and electronic products, organic tin compounds" SN/T 2592 series of standards Part 5.

This section drafted in accordance with GB/T 1.1-2009 given rules.

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

1 Scope

This section SN/T 2592 specifies the electrical and electronic products of 9 organotin compounds (see Appendix A) gas chromatography - mass spectrometry (GC-MS) test methods.

This section applies to electrical and electronic products plastic parts monomethyl tin (MMT), dimethyl tin (DMT), monobutyltin (MBT), Dibutyltin (DBT), tributyltin (TBT), a octyl tin (MOT), dioctyltin (DOT), trioctyl tin (TOT), triphenyltin (TPhT) measurement.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Laboratory use specifications and test methods GB/T 6682 Analysis

3 Method summary

After the sample is dissolved in tetrahydrofuran, at pH4.0 acidity to tetraethyl borohydride derivatization of the sample solution are Organotin derivatized, and an organic tin derivative hexane as the extraction solvent to GC-MS measurement and validation, external standard.

4 Reagents and materials

Unless otherwise specified, use only analytical reagents, test water should be consistent with a water GB/T 6682 stipulated.

4.1

Methanol. chromatographically pure.

4.2

tetrahydrofuran. chromatography.

4.3

hexane. chromatographically pure.

4.4

tetraethyl borohydride. content of 98% or more.

4.5

organotin Standard. Purity $\geq 98\%$, see Appendix A.

4.6

filter. 0.22 μ m, nylon.

4.7

acetate buffer solution. 1mol/L sodium acetate solution was adjusted with glacial acetic acid to pH4.0.

4.8

anhydrous sodium. Take appropriate amount of anhydrous sodium sulfate, burning at 650 °C 4h, cooled storage in a desiccator.

4.9

tetraethylammonium borohydride solution. concentration of 2% by mass, under air-free conditions with deionized water configuration, placed in a brown flask, active Now with, at 4 °C stored.

WARNING. Flammable tetraethyl borohydride, sodium borohydride on tetraethyl safe operation please refer to the relevant chemical safety manual or safety supplier Full warning indicator.

4.10

organotin standard stock solution. the standard concentration of the stock solution concentration of organotin cation. Accurately weighed amount of organotin standard Products, with a small amount of methanol dissolved and diluted to volume in a brown flask, the concentration of 1000µg/mL, configuration method, see Appendix B. Mark Quasi stock solution should be placed in refrigerator at 4 °C dark preservation using valid for six months.