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

SN/T 1877.6-2017

Replacing SN/T 1877.6-2009

**Determination of polycyclic aromatic hydrocarbons in
coatings,printing ink and its products**

涂料、油墨及其制品中多环芳烃的测定

(English Translation)

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and Quarantine**

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Foreword

The SN/T 1877 series of standards is divided into 8 parts.

- Determination method of polycyclic aromatic hydrocarbons in the release agent;
- Method for determination of polycyclic aromatic hydrocarbons in plastic raw materials and their products;
- Method for determination of polycyclic aromatic hydrocarbons in mineral oils;
- Determination of polycyclic aromatic hydrocarbons in rubber and its products;
- Determination of polycyclic aromatic hydrocarbons on the surface of metal vessels;
- Determination of polycyclic aromatic hydrocarbons in coatings, inks and their products;
- Determination of polycyclic aromatic hydrocarbons in old tyres - Gas chromatography - mass spectrometry;
- Determination of polycyclic aromatic hydrocarbons in wood and wood products - Gas chromatography - mass spectrometry.

This part is the sixth part of SN/T 1877.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section replaces SN/T 1877.6-2009 "Determination of Polycyclic Aromatic Hydrocarbons in Coatings, Inks and Their Products".

Compared with SN/T 1877.6-2009, the main technical changes in this section are as follows.

- Increased methods for the determination of benzo[e]pyrene and benzo[j]fluoranthene in polycyclic aromatic hydrocarbons in paints, inks and their products;
- Revised the way the method summary is stated;

- Detailed description of PAHs mixed standard stock solution and intermediate solution, Perylene-d12 internal standard stock solution and intermediate Preparation method of solution and standard working solution;
- Changed the elution solvent during purification;
- Modified the instrument parameters of gas chromatography mass spectrometry;
- Modified the method of determining the low limit statement;
- Increased precision;
- Put Table 1 in Appendix A, adding benzo[e]pyrene and benzo[j]fluoride in Appendix A, Appendix B, Appendix C, Appendix D and Appendix E Information on two kinds of polycyclic aromatic hydrocarbons.

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

This section drafted by. Guangdong Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China.

1 Scope

This part of SN/T 1877 specifies the gas phase color of 18 polycyclic aromatic hydrocarbons (see Table A.1 in Appendix A) in coatings, inks and their products.

Spectrometry-HPLC and high performance liquid chromatography methods, wherein gas chromatography-mass spectrometry is an arbitration method.

This section applies to the determination of 18 polycyclic aromatic hydrocarbons in coatings, inks and their products.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 Analytical laboratory water specifications and test methods

3 Terms and definitions

The following terms and definitions apply to this document.

Polycyclic aromatic hydrocarbons (polycyclicaromatichydrocarbons); PAHs an aromatic hydrocarbon containing two or more benzene rings may also have a short alkyl or cycloalkyl

substituent.

First gas chromatography-mass spectrometry (Arbitration Law)

4 Method summary

The dry sample is extracted by solvent, the extract is concentrated, purified by silica gel column, concentrated by nitrogen blowing, and determined by gas chromatography-mass spectrometry.

Determination, internal standard method quantitative.

5 Reagents and materials

All reagents were of analytical grade unless otherwise stated.

5.1

Hexane. chromatographically pure.

5.2

n-Pentane. Chromatographically pure.

5.3

Dichloromethane. chromatographically pure.

5.4

Cyclohexane. chromatographically pure.

5.5

n-hexane dichloromethane (3 2, by volume).

5.6

n-Pentane dichloromethane (32, volume ratio).

5.7

Nitrogen. Purity greater than 99.99%.

5.8

PAHs reference material. purity $\geq$ 98%.