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

**GB/T 10726-2007**

Replacing GB/T 10726-1989

**Chemical reagent - General method for the determination of  
metals by solvent extraction followed by AAS**

化学试剂 溶剂萃取-原子吸收光谱法测定金属杂质通用方法

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### Foreword

This standard replaces GB/T 10726-1989 "chemical solvent extraction reagent - General method for the determination of metal impurities by atomic absorption spectrometry." This standard compared with GB/T 10726-1989 main changes are as follows:

- Modify the reagents and materials (1989 edition, Chapter 4, Chapter 4 of this edition);
- Supplementary instrument a chapter on the contents (1989 edition Chapter 5, Chapter 5 of this edition);
- Adjust the formula for calculating the symbol (1989 edition, Chapter 6, Section 6 of this edition);
- Modify the precision of a chapter (1989 edition, Chapter 7, Chapter 7 of this edition). The standard proposed by China Petroleum and Chemical Industry Association. This standard by the National Standardization Technical Committee Chemistry Chemicals Branch (SAC/TC63/SC3) centralized. This standard was drafted. Shanghai Institute of chemical reagents. The main drafters of this standard. Sheng Xiaohua, Suiqi Ying. This standard was first published in 1989. Chemical Reagents Solvent Extraction - Atomic Absorption Spectrometry General method for the determination of metal impurities

### 1 Scope

GB/T 10726-2007 is the Chinese national standard on chemical reagent - general method for the determination of metals by solvent extraction followed by aas, in the field of chemical technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 26 September 2007 by the General Administration of Quality Supervision, Inspection and Quarantine of

the People's Republic of China; Standardization Administration of China, and has been in force since 1 April 2008. Classification: ICS 71.040.30, CCS G60. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the use of chemical agents after solvent extraction of metal impurities using atomic absorption spectrometry requires the content and method. This standard applies to the measurement sensitivity difference or a serious disturbance in the absorption of metal impurities in chemical reagents.

## 2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 602 Determination of impurities in chemical reagents prepared standard solution ( GB/T 602-2002,

ISO 6353-1. 1982, NEQ) with

GB/T 6682 analytical laboratory use specifications and test methods ( GB/T 6682-1992, neq ISO 3696. 1987)

GB/T 9723-2007 Chemicals flame atomic absorption spectrometry General

## 3 PRINCIPLE OF THE METHOD

Trace metal ions in the acidic solution of pH 3 to 6 with ammonium pyrrolidine dithiocarbamate (or pyrrolidine dithiocarbamate Ammonium) to generate a hydrophobic chelate to 4-methyl-2-pentanone extracted chelates into the organic phase, the organic phase was measured by atomic absorption spectrometry Enriched content after the metal impurities.

## 4 Reagents and materials

This standard is used in the standard solution according to GB/T 602 provisions of preparation, the test water should be consistent with GB/T 6682 water in two specifications, Analytical reagents should be above the gas should be high purity gases.

## 5 Instruments

With the provisions of GB/T 9723-2007 in Chapter 6.

## 6 Determination

6.1 Determination Conditions In addition to the use of low-flow type flame acetylene flame oxidation, other conditions with GB/T 9723-2007 Chapter 7 provisions.

### 6.2 Determination

6.2.1 working curve method Blank test solution was prepared by product standards, test solution and standard solution proportional to the concentration of the three, were placed in 125mL liquid separation Funnel, add 40mL water, with acetic acid or sodium hydroxide solution (200g/L) of test solution adjusted to pH 3 to 6, 1mL was added pyrrolidine dithiocarbamate Substituting ammonium formate (APDC) solution (10g/L), mix well and let stand 5min, plus 10mL 4-methyl-2-pentanone, shaking 1min, standing stratified abandoned The aqueous phase. The organic phase was transferred to a 10 mL volumetric flask, with "Ethanol (95%)" dilute to the mark. Zero water, press GB/T 9723-2007

7.2.1 Determination of requirements. In the mass concentration of standard solution as abscissa and the absorbance of the standard solution minus empty