

ICS 31.020

CCS L 10



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

**GB/Z 21277-2007**

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**Rapid screening of lead, mercury, chromium, cadmium and  
bromine of regulated substances in electrical and electronic  
equipment -- X-ray fluorescence spectrometry**

电子电气产品中限用物质铅、汞、铬、镉和溴的快速筛选 X射线荧光光谱法

**(English Translation)**

**Issued on: December 20, 2007**

**Implemented on: June 1, 2008**

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**Issued by: General Administration of Quality Supervision, Inspection and  
Quarantine of the People's Republic of China, China National  
Standardization Administration**

## Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and definitions

### Foreword

Appendix A of this guidance technical document is a normative appendix, and Appendix B, Appendix C and Appendix D are informative appendices.

This guidance document is presented by the Environmental Standardization Technical Committee (SAC/TC297) of the National Electrical and Electronic Products and Systems.

Return to the mouth.

This guiding technical document drafting unit. Guangdong Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China, China Quality Certification Center.

### 1 Scope

This guidance document specifies the use of X-ray fluorescence spectrometry for rapid screening of restricted substances such as lead, mercury, and chromium in electrical and electronic products.

A method for determining cadmium and bromine, wherein the measured chromium and bromine refer to total chromium and total bromine in the sample.

The X-ray fluorescence spectra specified in this guidance document include energy dispersive X-ray fluorescence spectroscopy (EDXRF) and wavelength dispersion.

X-ray fluorescence spectroscopy (WDXRF) is also suitable for portable or portable X-ray spectroscopy.

### 2 Normative references

The terms in the following documents become the terms of this standard by reference to this guidance technical file. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this guidance document, however, the parties to the agreed technical documentation have investigated whether the latest versions of these documents can be used. Any undated reference document, the most the new

version applies to this guidance document.

GB/T 8170 numerical rounding rules GB/T 15000.5 standard sample working guide (5)  
chemical composition standard sample technical general rules GB/T 16597 Methods of  
analysis of metallurgical products - General rules for X-ray fluorescence spectrometry  
Accuracy (accuracy and precision) of ISO 5725 measurement methods and results

### **3 Terms and definitions**

The following terms and definitions apply to this guidance document.

Using primary X-ray photons or other microscopic ions to excite atoms in the substance to be detected, causing them to produce fluorescence (secondary X-rays) Method of material composition analysis and chemical state study.

Energy dispersive X-ray fluorescence spectroscopy (EDXRF) and wavelength dispersive X-rays are classified according to excitation, dispersion and detection methods.

Fluorescence spectroscopy (WDXRF).

Refers to a sample that can be placed in the sample chamber of the instrument for X-ray intensity measurement.

The sample is made into a powder of a specific fineness, and then obtained by pressure molding under specific conditions, has a certain strength and the analysis surface is flat.

A test piece with slip, no obvious cracks, etc.

A detection unit that is uniformly composed of one or more substances and can no longer be mechanically separated into different materials.