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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 39560.301-2020

Determination of certain substances in electrical and electronic products - Part 3-1: Screening lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry

Issued on: December 14, 2020 **Implemented on: July 1, 2021**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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Foreword

GB/T 39560 "Determination of Certain Substances in Electrical and Electronic Products" is currently divided into the following parts:

---Part 1: Introduction and overview;

---Part 2: Disassembly, disassembly and mechanical sample preparation;

---Part 3-1: Screening of lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry;

---Part 4: CV-AAS, CV-AFS, ICP-OES and ICP-MS determination of mercury in polymers, metals and electronic parts;

---Part 5: AAS, AFS, ICP-OES and ICP-MS determination of cadmium, lead and chromium in polymers and electronic parts and metals

Cadmium and lead;

---Part 6: Determination of polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry (GC-MS);

---Part 7-1: Determination of hexavalent chromium in colorless and colored anticorrosive coatings on metals by hexavalent chromium colorimetry [Cr(VI)];

---Part 7-2: Determination of hexavalent chromium in polymers and electronic parts by hexavalent chromium colorimetry [Cr(VI)];

---Part 8: Gas Chromatography-Mass Spectrometer (GC-MS) and Gas Chromatography-Mass Spectrometer (Py/T D-GC-

MS) Determination of phthalates in polymers:

This part is Part 3-1 of GB/T 39560:

This section was drafted in accordance with the rules given in GB/T 1:1-2009:

The translation method used in this part is equivalent to the IEC 62321-3-1:2013 "Determination of Certain Substances in Electrical Products Part 3-1: X-ray

Screening of lead, mercury, cadmium, total chromium and total bromine by linear fluorescence spectroscopy:

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows:

---GB/T 39560:1-2020 Determination of Certain Substances in Electrical and Electronic Products Part 1: Introduction and Overview

(IEC 62321-1:2013, IDT)

---GB/T 39560:2-2020 Determination of certain substances in electrical and electronic products Part 2: Disassembly, disassembly and mechanical sample preparation

(IEC 62321-2:2013, IDT)

This section also made the following editorial changes:

---In order to be consistent with my country's existing standard series, the standard name is changed to "Determination of Certain Substances in Electrical and Electronic Products Part 3-1

Sub: Screening of lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry:

This part is proposed and managed by the National Environmental Standardization Technical Committee of Electrical and Electronic Products and Systems (SAC/TC297):

Drafting organizations of this section: China Electronics Standardization Institute, Shenzhen Saixi Information Technology Co:, Ltd:, Lanzhou 3D Big Data Standard

Chemical Research Institute Co:, Ltd:, China Household Electrical Appliances Research Institute, China Test Testing and Certification Group Co:, Ltd:, Guangdong Institute of Electronics and Electrical Appliances, Shenzhen

Shenzhen Huawei Metrology Technology Development Co:, Ltd:, Zhejiang Qixing Electronics Co:, Ltd:, Guangdong Shengwei Electronic Products Co:, Ltd:, Shimadzu Corporation

Management (China) Co:, Ltd:, Shenzhen Lixianda Technology Co:, Ltd:, Shenzhen Customs Industrial Products Testing Technology Center, Guangzhou Customs Technology Center, China

National Institute of Information and Communication Technology, Ningbo Institute of Inspection and Quarantine Science and Technology, Nayou Technology (Beijing) Co:, Ltd:, Electronic Section of the Ministry of Industry and Information Technology

Five Research Institutes, Weikai Testing Technology Co:, Ltd:, BOE Technology Group, Jiangsu Electronic Information Product Quality Supervision and Inspection Institute, Belimo

Automatic Control Equipment (Shanghai) Co:, Ltd:, TCL Huaxing Optoelectronics Technology Co:, Ltd:, Chengdu Product Quality Inspection and Research Institute Co:, Ltd:

1 Scope

This part of GB/T 39560 stipulates the screening and analysis of lead, mercury, cadmium, total content in homogeneous materials of electronic and electrical products by X-ray fluorescence spectrometry:

Procedures for five substances of chromium and total bromine:

This section applies to polymers, metals and ceramic materials: This section also applies to raw materials, single materials taken from products, and

A homogenized mixed material composed of more than one material: Any XRF spectrometer that meets the performance specified in this section can be used for sample screening:

However, not all types of XRF spectrometers are suitable for screening and analyzing samples of all sizes and shapes, so they should be carefully selected for specific

XRF spectrometer for screening analysis:

The performance of the testing method in this part has passed the following substances in the content ranges listed in the different matrix materials listed in Table 1~Table 5:

verification:

Table 1 The lead content range of the verified base material