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中华人民共和国汽车行业标准

QC/T 943-2013

Test methods of lead and cadmium in automobiles materials

汽车材料中铅、镉的检测方法

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"*Methyl Butenol Polyether*" and other 811 industrial standards approved by the Ministry of Industry and Information Technology, which is shown as follows. Here are the announcements: Chemical industry standard: 149 items, non-ferrous industry standard: 105 items, gold industry standard: 5 items, metallurgical industry standard: 15 items, building materials industry standard: 3 items, machinery industry standard: 39 items, aviation industry standard: 69 items, shipbuilding industry standard 53 items, automobile industry standard: 42 items, textile industry standard: 63 items, light industry standard: 59 items, petrochemical industry standard: 42 items, civil explosive industry standard: 1 item, electronics industry standard: 50 items, communications industry standard: 116 items.

The above chemical industry standard is published by Chemical Industry Press; textiles, non-ferrous and gold industry standard is published by China Standard Press; metallurgical industry standard is published by Metallurgical Industry Press; building materials industry standard is published by the Building Materials Industry Press; machinery industry standard is published by Machinery Industry Press; the aviation industry standard is published by China Aviation Integrated Technical Institute Organization; the shipbuilding industry standard is published by China Shipbuilding Technology and Economy Institute Organization; the automobile industry standard is published by the China Planning Press; light industry standard is published by China Light Industry Press; the petrochemical industry standard is published by the China Petrochemical Press; civil explosive industry standard is published by China Ordnance Industry Standard Institute Organization; electronic industry standard is published by the Ministry of Industry and Information Technology and electronics industry Standardization Institute organization; communication industry standard is published by the people's Posts and Telecom Press.

Annex: This Standard number, standard name and initial implementation date of 42 automobile industries.

Ministry of Industry and Information Technology of the People's Republic of China

October 17, 2013

Attachment:

Number, Name and Implementation Date of 42 Automobile Professional Standards

S/N	Standard No.	Standard Name	Replaced Standard No.	Implementation Date
355	QC/T 253-2013	Preparation Methods for Engine Model used in Motorcycles and Mopeds	QC/T 253-1998	2014-03-01
356	QC/T 682-2013	Seats Used in Motorcycles and Mopeds	QC/T 682-2002	2014-03-01
357	QC/T 229-2013	Technical Conditions for Rotor Pump of Motorcycles and Mopeds	QC/T 229-1997	2014-03-01
358	QC/T 952-2013	Disc Wheels for Passenger Car — Dimensional of Attachment on Hub		2014-03-01
359	QC/T 953-2013	Commercial Road Vehicles－Flat Attachment Wheel Fixing Nuts		2014-03-01
360	QC/T 954-2013	Commercial Vehicles－Flat Attachment Fixing Nuts－Test Methods		2014-03-01
361	QC/T 258-2013	Test Methods for the Intensity of Vehicle Wheels and Screw Base	QC/T 258-1998	2014-03-01
362	QC/T 199-2013	Vehicle Wheels - Balance Weight	QC/T 199-1995	2014-03-01
363	QC/T 326-2013	Numbering Rules for Automobile Standardized Parts	QC/T 326-1999	2014-03-01
364	QC/T 955-2013	Auto Leveling Device of Special Purpose Vehicle		2014-03-01
365	QC/T 956-2013	Transport Vehicle for Dry-mixed Mortar		2014-03-01
366	QC/T 957-2013	Cleaning Sweeper Truck		2014-03-01
367	QC/T 29104-2013	Method for Coding the Level of Contamination by Solid Particles of Special Purpose Vehicle Hydraulic System	QC/T 29104-1992	2014-03-01
368	QC/T 29105.3-2013	Sampling Methods of Testing Particulate Contamination of Hydraulic Oil of Special Purpose Vehicle Hydraulic System	QC/T 29105.3-1992	2014-03-01
369	QC/T 718-2013	Truck Mounted Concrete Pump	QC/T 718-2004	2014-03-01
370	QC/T 439-2013	Swept-body Dump Truck	QC/T 439-1999 QC/T 440-1999	2014-03-01
371	QC/T 935-2013	Kitchen Garbage Vehicle		2014-03-01
372	QC/T 939-2013	Technical Qualifications of Front Discharge Truck		2014-03-01
373	QC/T 457-2013	Ambulance	QC/T 457-2002	2014-03-01
374	QC/T 936-2013	Detachable Container Garbage Collector		2014-03-01
375	QC/T 937-2013	Guardrail Repair Car		2014-03-01
376	QC/T 940-2013	Exhibition Vehicle		2014-03-01
377	QC/T 958-2013	Performance Requirements and Bench Test Methods of Automobile Vacuum Pump		2014-03-01
378	QC/T 592-2013	Performance Requirements and Bench Test Methods for Hydraulic	QC/T 592-1999	2014-03-01

		Brake Caliper Assembly		
379	QC/T 959-2013	Performance Requirements and Bench Test Methods for Mechanical Parking Brake Lever Assembly		2014-03-01
380	QC/T 960.1-2013	Road Vehicle- Hydraulic Braking Systems – Part 1: Double – Flare Pipes, Tapped Holes, Male Fittings and Tube Seats		2014-03-01
381	QC/T 961-2013	Performance Requirements and Bench Test Methods for Plastic Liquid Storage Tank of Hydraulic Braking Systems		2014-03-01
382	QC/T 949-2013	Specification for Audio Player on Board		2014-03-01
383	QC/T 951-2013	Circuits-breaker for Automobiles		2014-03-01
384	QC/T 490-2013	Drawings for Motor Vehicle Body	QC/T 490-2000	2014-03-01
385	QC/T 950-2013	Performance Requirement and Test of Heating Car Cushion		2014-03-01
386	QC/T 948-2013	Roof Load Carriers for Road Vehicles		2014-03-01
387	QC/T 946-2013	Strength Requirement and Test of Automobile Safe Belt Strap		2014-03-01
388	QC/T 945-2013	Passenger Vehicle Air-conditioning Unit		2014-03-01
389	QC/T 627-2013	Electronic Locks System for Motor Vehicles	QC/T 627-1999	2014-03-01
390	QC/T 662-2013	Vehicle Air Conditioner (HFC-134a) Receiver Dryer	QC/T 662-2000	2014-03-01
391	QC/T 947-2013	Technology Standards for Vehicle Auto-Dimming Rearview Mirror		2014-03-01
392	QC/T 941-2013	Test Methods of Mercury in Automobiles Materials		2014-03-01
393	QC/T 943-2013	Test Methods of Lead and Cadmium in Automotive Materials		2014-03-01
394	QC/T 942-2013	Test methods of Hexavalent Chromium in Automobiles Materials		2014-03-01
395	QC/T 944-2013	Determination of Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in Automobiles Material		2014-03-01
396	QC/T 938-2013	Test Specification of Protection for Pedestrians in the Event of a Collision		2014-03-01

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Foreword

This Standard is drafted in accordance with the provisions set out in the GB/T 1.1-2009 *Directives for Standardization-Part 1: Structure and Drafting of Standards*.

This Standard includes Method I, Method II and Method III.

This Standard Method I: "X-Ray Fluorescence Spectrometry for Rapid Screening of Lead, Cadmium in Automobiles Materials" is prepared referring to the GB / Z 21277-2007 *Rapid Screening of Lead, Mercury, Chromium, Cadmium and Bromine of Regulated Substances in Electrical and Electronic Equipment--X-Ray Fluorescence Spectrometry*.

This Standard Method II: "Photoelectric Direct Reading Spectrometry for the Determination of Lead, Cadmium in Steel, Copper and Copper Alloys, Aluminum and Aluminum-Alloys" is prepared referring to the GB / T 4336-2002 *Method for Spark Discharge Atomic Emission Spectrometric Analysis of Carbon and Low-Alloy Steel* (routine method), GB / T 7999-2007 *Optical Emission Spectrometric Analysis Method of Aluminum and Aluminum Alloys* and YS / T 482-2005 *Methods for Analysis of Copper and Copper Alloys—the Atomic Emission Spectrometry*.

This Standard Method III: ”Methods of atomic absorption spectrometry, inductively coupled plasma atomic emission spectroscopy, or inductively coupled plasma mass spectrometry for the determination of lead, cadmium in automobiles materials” is prepared referring to the IEC 62321:2008 Ed 1.0 Electrical and Electronic Equipment-Six Regulated Substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers) Content Determination.

Annex A of this Standard is the Informative Annex.

This Standard is proposed and centralized by the National Automotive Standardization Technical Committee (SAC/TC 114).

Main Participating drafting organizations of this Standard: Dongfeng Motor Co., Ltd, China Automotive Technology and Research Center, Centre Testing International Corporation, SGS-CSTC Standards Technical Services Co., Ltd, Pony Testing Technology Co., Ltd.

Main drafters of this Standard: Dong Yan, Liu Yanrong, Gao Junhua, Zhang Chunrong, Li Qiuyu, Xiang Yang, Ma Hong, Guo Miao, Guo Yong, Li Weidong, Song Wei.

Introduction

Lead does harm to the human body, which can cause capillaries damage and vasospasm, lead to dysfunction and pathological changes of the nervous system, digestive system, blood system and kidney; Cadmium interferes with the function of kidney, and inhibits the production of vitamin D, results in rarefaction and softening of bone. *Recycling Technology of Abandoned Automotive Material* was promulgated in 2006 It demanded restrictions on the use of lead, cadmium and other heavy metals in automotive products. GB / T 30512-2014 *Requirements for Prohibited Substances on Automobiles* demanded limits of lead, cadmium in automobiles materials and parts.

This Standard is promulgated for the testing of content of lead, cadmium content in automobiles materials and parts to determine whether they meet the requirements of *Requirements for Prohibited Substances on Automobiles*. Since its publication and implementation, this Standard is considered as a basis for the prohibited substances control on automobile quality inspection and automobiles materials and parts.

The personnel who use this Standard shall have practical experience in formal laboratory. This Standard does not point out any possible security issues, thus, users have the responsibility for taking appropriate safety and health practices and ensuring the practices compliance with the requirements of relevant national regulations.

Test methods of lead and cadmium in automobiles materials

1 Scope

This Standard specifies the test method of lead and cadmium content in automobiles materials.

"X-ray Fluorescence Spectrometry" applies to the screening and rapid determination of lead and cadmium content in automobiles materials.

"Photoelectric Direct Reading Spectrometry for the Determination of Lead, Cadmium in Steel, Copper and Copper Alloys, Aluminum and Aluminum-Alloys" applies to quantitative detection of the lead, cadmium content of steel, copper and copper alloys, aluminum and aluminum alloy rods or bulks in automobiles materials.

"Methods of atomic absorption spectrometry, inductively coupled plasma atomic emission spectroscopy, or inductively coupled plasma mass spectrometry for the determination of lead, cadmium content in automobiles materials" applies to the quantitative detection of lead, cadmium content in automobiles materials.

2 Normative references

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this Standard.

GB/T 602 Chemical reagent--Preparations of standard solutions for impurity

GB/T 4336-2002 Standard test method for spark discharge atomic emission spectrometric analysis of carbon and low-Alloy steel (routine method)

GB/T 7999-2007 Optical emission spectrometric analysis method of aluminum and aluminum alloys

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 20066 Steel and iron--Sampling and preparation of samples for the determination of chemical composition

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