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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

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GB/T 18881-2017

Replacing GB/T 18881-2009

Catalyst for light-duty petrol vehicle exhaust purification

轻型汽油车排气净化催化剂

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 18881-2009 "Catalyst for petrol vehicle exhaust purification".

Compared with GB/T 18881-2009, in addition to the editorial modifications, the main technical changes are as follows:

- added the pollutant emission limit and measurement method of light-duty petrol vehicle (China V-stage) (see Clause 2);
- modified the hole density value in product classification table 1 (see Clause 4);
- modified the engine bench performance conversion rate requirements of fresh catalyst (see 5.6);
- added the terms and definitions of space velocity, precious metal content, coating weight loss ratio, back pressure, nominal back pressure, percentage of plugged hole of catalyst (see 3.5~3.10);
- added the requirements and test methods of precious metal content and proportion (see 5.3, 6.3);
- added the requirements and test methods of coating weight loss ratio (see 5.4, 6.4);
- added the product requirements and test methods of back pressure (see 5.5, 6.5).

This Standard shall be under the jurisdiction of National Technical Committee on Rare Earth of Standardization Administration of China (SAC/TC 229).

The drafting organizations of this Standard: Kunming Guiyan Catalyst Co., Ltd., Nonferrous Metals Technology and Economic Research Institute, Wuxi Weifu Environmental Protection Catalyst Co., Ltd., Youyan Rare Earth New Material Co., Ltd.

Main drafters of this Standard: Zheng Tingting, Xia Wenzheng, Zheng Yi, He Xiaokun, Yang Dongxia, Song Guanyu, Cui Meisheng, Jia Liwei, Zhang Yongqi.

The historical version substituted by this Standard is:

- GB/T 18881-2009.

Catalyst for light-duty petrol vehicle exhaust purification

1 Scope

This Standard specifies the requirements, test methods, inspection rules, marks, packaging, transport, storage and quality certificate of catalyst for light-duty petrol vehicle exhaust purification.

This Standard is applicable to the catalyst for light-duty petrol vehicle exhaust purification which uses cordierite honeycomb ceramic carrier as matrix and loads with rare earth, precious metal or other metal and other active components.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 2828.1, *Sampling procedures for inspection by attribute - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

GB/T 5181, *Automotive emission - Terms and definitions*

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

GB/T 17803, *Designation system for rare earth products*

GB 18352.3, *Limits and measurement methods for emissions from light-duty vehicles*

GB 18352.5, *Limits and measurement methods for emissions from light-duty vehicles (CHINA 5)*

GB/T 18377, *Requirements and measurement methods of catalytic converters for petrol vehicles*

GB/T 23277, *Chemical analysis methods of catalysts containing precious metals - Determination of platinum palladium and rhodium in automobile exhaust-purifying catalysts - Spectrophotometry*

6.5 Back pressure

Test air flow rate setting at 328 kg/h, 656 kg/h, two working conditions. Test method is according to the provisions in Annex A.

6.6 Catalytic performance

Test method of catalyst engine stand is according to the provisions of GB/T 18377.

6.7 Overall vehicle performance and durability

Test methods of overall vehicle performance and durability are in accordance with the provisions of GB 18352.5.

6.8 Physical properties

Test method for physical properties of the catalyst is according to the provisions of XB/T 505.

6.9 Numerical rounding

Numerical rounding is in accordance with the provisions of GB/T 8170.

7 Inspection rules

7.1 Inspection and acceptance

7.1.1 The product shall be inspected by the supplier's quality and technical supervision department to ensure that the product quality meets the requirements of this Standard. And fill in the quality certificate.

7.1.2 The purchaser shall test the received product according to the provisions of this Standard. If the test result does not comply with the provisions of this Standard, it shall be submitted to the supplier within 3 months from the date of receipt of the product, and shall be settled by the supplier and the purchaser. If arbitration is required, the sampling shall be conducted by both parties, at the purchaser's site.

7.2 Batching

Products shall be submitted in batches. Each batch shall consist of the products of the same designation, the same production process, the same specification, the same batch number.

7.3 Inspection item

7.3.1 Before leaving factory, each batch of products shall be subject to the

unqualified items, the product shall be determined as unqualified.

7.5.3 When the inspection results of precious metal content and proportion, coating weight loss ratio, back pressure and catalytic performance engine bench are unqualified, take double samples for re-inspection of failed items. If there are still unqualified items, the product shall be determined as unqualified.

7.5.4 When the inspection results of overall vehicle performance and durability are unqualified, it shall be settled by the supplier and the purchaser via negotiation.

8 Marks, packaging, transport, storage and quality certificate

8.1 Marks, packaging

8.1.1 The following information shall be printed on the product packaging box:

- a) supplier name;
- c) supplier address;
- c) product name;
- d) product specifications;
- e) batch number;
- f) quantity;
- g) exit-factory date;
- h) waterproof, anti-acid, anti-pressure, anti-drop and other signs.

8.1.2 The packaging box design shall consider the product waterproof, anti-collision, to ensure that the product is not damaged during transport.

8.2 Transport

Do not vibrate strongly during transport to prevent the infiltration of water or other liquids.

8.3 Storage

The product shall be stored in a ventilated, dry, non-corrosive warehouse.

8.4 Quality certificate

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