

Translated English of Chinese Standard: GB18351-2017

www.ChineseStandard.net

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

ICS 75.160.20

E 31

GB 18351-2017

Replacing GB 18351-2015

Ethanol gasoline for motor vehicles (E10)

GB 1831-2017 How to BUY & immediately GET a full-copy of this standard?

1. www.ChineseStandard.net;
2. Search --> Add to Cart --> Checkout (3-steps);
3. No action is required - Full-copy of this standard will be automatically & immediately delivered to your EMAIL address in 0~60 minutes.
4. Support: Sales@ChineseStandard.net. Wayne, Sales manager

Issued on: September 07, 2017

Implemented on: September 07, 2017

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

Standardization Administration of the People's Republic of China.

Table of Contents

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 Product classification.....	8
5 Requirements and test methods.....	8
6 Sampling	9
7 Marking, packaging, transportation and storage.....	9
8 Safety	9
9 Implementation of standard	9
Appendix A (Normative) Technical requirements and test methods for No.98 ethanol gasoline for motor vehicles (E10).....	14
References	17

Foreword

Chapter 5 of this standard is mandatory and the rest is recommended.

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

This standard replaces GB 18351-2015 “Ethanol gasoline for motor vehicles (E10)”.

As compared with GB 18351-2015, the main technical changes of this standard are as follows:

- MODIFY the second paragraph of Chapter 1 Scope from “This standard is applicable to the ethanol gasoline for motor vehicles (E10) which is manufactured by adding a certain amount of denatured fuel ethanol and the performance improvement additive into the liquid hydrocarbons without adding oxygenated compounds” into “This standard is applicable to the ethanol gasoline for motor vehicles (E10) which is manufactured by adding a certain amount of denatured fuel ethanol and the performance improvement additive into the vehicle ethanol gasoline blending component oil without adding oxygenated compounds” (SEE Chapter 1; Chapter 1 of 2015 version);
- DELETE the technical requirements and test methods (Table 1 of 2015 version) of the ethanol gasoline for motor vehicles (E10) (IV); ADD the technical requirements of the phase IV ethanol gasoline for motor vehicles (E10), and DIVIDE it into phase VI A and phase VI B based on the differences of olefin content (SEE Table 2, Table 3);
- In the vapor pressure requirements, ADD that “During seasonal change, it is allowed for the refueling station to have a 15-day replacement period” (SEE Table 1, Table 2, Table 3, Table A.1, and footnote b to Table A.2 in Appendix);
- DELETE the technical requirements for quantitative determination of mercaptan sulfur (Table 2 Table A.1 in the Appendix of 2015 version);
- MODIFY the Chapter 9 “Implementation of standard” (SEE Chapter 9; Chapter 9 of 2015 version);
- ADD the Table A.2 in Appendix A (SEE Table A.2 in Appendix A).

This standard was proposed by the National Energy Board.

This standard shall be under the jurisdiction of the National Standardization Technical Committee for Petroleum Products and Lubricants (SAC/TC 280).

Ethanol gasoline for motor vehicles (E10)

WARNING - If proper precautions are not taken, the products in this standard may be hazardous during the production, storage and use. This standard is not intended to advise on all safety issues related to this product. It is the responsibility of the user to adopt appropriate safety and health measures and to ensure compliance with the conditions set forth in the relevant national regulations.

1 Scope

This standard specifies the terms and definitions, product classification, requirements and test methods, sampling, marking, packaging, transportation and storage, safety and standard implementation of the ethanol gasoline for motor vehicles (E10).

This standard is applicable to the ethanol gasoline for motor vehicles (E10) which is manufactured by adding a certain amount of denatured fuel ethanol and the performance improvement additive into the vehicle ethanol gasoline blending component oil without adding oxygenated compounds.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB 190 Labels for packages of dangerous goods

GB/T 259 Determination of water-soluble acids and bases in petroleum products

GB/T 503 Determination of the gasoline octane number – Test method for motor octane number

GB/T 511 Petroleum products and additives – Determination of mechanical impurities

GB/T 1884 Crude petroleum and liquid petroleum products – Laboratory determination of density – Hydrometer method

GB/T 1885 Petroleum measurement tables

GB/T 4756 Method for manual sampling of petroleum liquids

GB/T 5096 Test method for corrosiveness to copper from petroleum products by copper strip test

GB/T 5487 Determination of gasoline octane number – Test method for research octane number

GB/T 6536 Standard test method for distillation of petroleum products at atmospheric pressure

GB/T 8017 Standard test method for vapor pressure of petroleum products (Reid method)

GB/T 8018 Determination of oxidation stability of gasoline - Induction period method

GB/T 8019 Standard test method for gum content in fuels – By jet evaporation

GB/T 8020 Determination of lead in gasoline - Atomic absorption spectrometry

GB/T 11132 Standard test method for hydrocarbon types in liquid petroleum products by fluorescent indicator absorption

GB/T 11140 Standard test method for sulfur in petroleum products by wavelength dispersive X-ray fluorescence spectrometry

GB 18350 Denatured fuel ethanol

GB/T 22030 Blendstocks of ethanol gasoline for motor vehicles

GB/T 28768 Determination of hydrocarbon types and oxygenates in automotive-motor gasoline by multidimensional gas chromatography method

GB 30000.7-2013 Rules for classification and labelling of chemicals – Part 7: Flammable liquids

GB/T 30519 Determination of hydrocarbon types and benzene in light petroleum distillates and products – Multidimensional gas chromatographic method

SH/T 0164 Rules for the packing, storage and delivery acceptance of petroleum products

NB/SH/T 0174 Tests of thiols and other sulfides in petroleum products and hydrocarbon solvents – Doctor test method

SH/T 0246 Determination method of water content in light petroleum products (colorimetric method)

SH/T 0253 Determination method for total sulfur content in light petroleum products (colorimetric method)

SH/T 0604 Crude petroleum and petroleum products – Determination of density – Oscillating U-tube method

NB/SH/T 0663 Standard test method for determination of certain alcohols and ethers in gasoline by gas chromatography

SH/T 0689 Standard test method for determination of total sulfur in light hydrocarbons motor fuels and oils by ultraviolet fluorescence

SH/T 0693 Standard test method for determination of benzene, toluene, ethylbenzene, p/m-xylene, o-xylene, C9 and heavier aromatics, and total aromatics in finished gasoline by gas chromatography

SH/T 0711 Standard test method for manganese in gasoline by atomic absorption spectroscopy

SH/T 0712 Standard test method for iron in gasoline by atomic absorption spectroscopy

SH/T 0713 Standard test method for determination of benzene and toluene in finished motor and aviation gasoline by gas chromatography

SH/T 0720 Standard test method for determination of oxygenates in gasoline by gas chromatography and oxygen selective flame ionization detection

NB/SH/T 0741 Standard test method for determination of hydrocarbon types composition in gasoline by multidimensional gas chromatography

SH/T 0794 Standard test method for vapor pressure of petroleum products (mini method)

ASTM D7039 Standard test method for sulfur in gasoline, diesel fuel, jet fuel, kerosene, biodiesel, biodiesel blends, and gasoline-ethanol blends by monochromatic wavelength dispersive X-ray fluorescence spectrometry

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Antiknock index

A half of the sum of the research octane number (RON) and the motor octane number (MON).

[GB 17930-2016, definition 3.1]

3.2

6 Sampling

Sampling is made in accordance with GB/T 4756, AND 4 L is taken for the purposes of inspection and sample retention. It shall avoid light when taking sample.

7 Marking, packaging, transportation and storage

7.1 Marking, packaging, transportation and storage and delivery acceptance shall be carried out in accordance with SH/T 0164, GB 30000.7-2013 and GB 190.

7.2 The refueling machine which is used to dispense the ethanol gasoline for motor vehicles (E10) which complies with the requirements of this standard shall be clearly indicated of the product name, designation, and grade (V, VI A, and VI B), for example, No.89 ethanol gasoline for motor vehicles (E10) (V), No.92 ethanol gasoline for motor vehicles (E10) (VI A), and No.95 ethanol gasoline for motor vehicles (E10) (VI B), etc. AND such indications shall be visible to the consumers.

7.3 The ethanol gasoline for motor vehicles (E10) complying with standard shall use the special purposes pipelines, vessels, and pumps in the transportation and storage process. In the transportation and storage process, the entire system shall be clean and free of water. If phase separation occurs, the separated water shall be sent to a dedicated wastewater treatment plant for disposal.

Note: The sealing pieces and materials of the storage tank, pump, pipeline, and meter which are used in the transportation and storage process of the ethanol gasoline for motor vehicles (E10) shall not have an impact on product quality.

8 Safety

In accordance with GB 30000.7-2013, ethanol gasoline for motor vehicles (E10) is a flammable liquid, AND its hazard description and precautionary statement are described in Appendix D of GB 30000.7-2013.

9 Implementation of standard

This standard has been implemented since the date of publication AND the gradually introduced transitional period requirements will be implemented. The transitional period of the technical requirements as specified in Table 2 and Table A.2 will be end on December 31, 2018, AND these technical requirements will be abolished from January 01, 2019. The transitional period of the technical requirements as specified in Table 3 will be end on December 31, 2022, AND these technical requirements will be abolished from January 01, 2023.

Manganese content ^a / (g/L), not more than	0.002	SH/T 0711
---	-------	-----------

Table A.1 (continued)

Item	Quality indicators	Test methods
Iron content ^a / (g/L), not more than	0.010	SH/T 0712
Density ⁱ (20 °C) / (kg/m ³)	720 ~ 775	GB/T 1884, GB/T 1885
^a In the ethanol gasoline for motor vehicles (E10), it is not allowed to artificially add the additives containing lead, iron, or manganese. ^b It may also follow SH/T 0794 to make determination; AND the method of GB/T 8017 shall prevail in case of objection. In case of seasonal change, it is allowed for the refuelling station to have a 15-day transitional period. ^c Guangxi follows this requirement throughout the year. AND the districts in Guangdong and Hainan wherein the ethanol gasoline for motor vehicles (E10) is used shall follow this requirement throughout the year. ^d It may also follow the requirements in GB/T 11140, SH/T 0253, or ASTM D7039 for determination, AND the method in SH/T 0689 shall prevail in case of objection. ^e It may also use the visual observation method: PLACE the sample in a 100 mL measuring cylinder for observation, AND it shall be transparent and free from suspended or settled mechanical impurities or delamination. AND the method in GB/T 511 shall prevail in case of objection. ^f It is not allowed for artificial addition. It may also follow the requirements of SH/T 0720. AND the method in NB/SH/T 0663 shall prevail in case of objection. ^g It may also follow the requirements of SH/T 0713, GB/T 28768, or GB/T 30519 for determination. AND the method in SH/T 0693 shall prevail in case of objection. ^h For the No.95 ethanol gasoline for motor vehicles (E10), the maximum content of aromatics is allowed to be 42% (volume fraction) under the preconditions that the total content of olefins and aromatics are constant. It may also follow the requirements of GB/T 28768, GB/T 30519, and NB/SH/T 0741 for determination. AND the method in GB/T 11132 shall prevail in case of objection. ⁱ It may also follow the requirements of SH/T 0604 for determination. AND the method in GB/T 1884 and GB/T 1885 shall prevail in case of objection.		

Table A.2 -- Technical requirements and test methods of ethanol gasoline for motor vehicles (E10) (VI A)/(VI B)

Item	Quality indicators	Test methods
Antiknock performance:		
Research octane number (RON), not less than	98	GB/T 5487
Antiknock index (RON + MON)/2, not less than	93	GB/T 503, GB/T 5487
Lead content ^a / (g/L), not more than	0.005	GB/T 8020
Distillation range:		
10% evaporation temperature / °C, not more than	70	GB/T 6536
50% evaporation temperature / °C, not more than	110	
90% evaporation temperature / °C, not more than	190	
Final distillation point / °C, not more than	205	
Residue (volume fraction) / %, not more than	2	
Vapor pressure ^b /kPa		
November 01 to April 30	45 ~ 85	GB 8017
May 01 to October 31	40 ~ 65 ^c	
Glue content / (mg/100 mL), not more than		
Unwashed glue content (before adding detergent)	30	GB/T 8019
Solvent washed glue content	5	
Induction period / min, not less than	480	GB/T 8018
Sulfur content ^d / (mg/kg), not more than	10	SH/T 0689
Thiols (Doctor test)	Pass	NB/SH/T 0174

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----