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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 1792-2015

Replacing GB/T 1792-1988

Determination of mercaptan sulfur in gasoline,kerosine,jet,and distillate fuels - Potentiometric method

汽油、煤油、喷气燃料和馏分燃料中硫醇硫的测定 电位滴定法

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Standardization Administration of China

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Foreword

This standard was drafted in accordance with the rules of GB/T 1.1-2009 given. This standard replaces GB/T 1792-1988 "Determination of mercaptan sulfur distillate fuel (potentiometric titration)", and GB/T 1792-1988 phase Technology than the main changes are as follows:

--- Standard name was changed to "gasoline, kerosene, jet fuel and distillate fuel mercaptan sulfur by potentiometric titration";

--- Increasing the measurement method using automatic titration system (see 4.1,

--- Increased in relation to light gasoline sample containing methyl mercaptan or methanethiol above mercaptan (see 6.2,

--- Alternative methods for increasing the non-quorum purpose of removing hydrogen sulfide (see

8.2.2 and Appendix A);

--- Increasing the titration end point is reached nearly 300mV content (see 8.3.4, Chapters 9 and 10);

--- Increasing the blank titration content to improve the measurement accuracy (see 8.4);

--- Increase the formula to calculate the volume of the sample mercaptan sulfur content and measurement results is calculated after dilution of the sample (see 9.1);

--- Modify the provisions of the titration curve end point; GB/T 1792-1988 the provisions on end were as follows: each of the titration curve The maximum value "turning point" for the steepest at the end; the end of this standard regarding amended as follows: In each of the titration curve "mutation" most Inflection point as the end of the steep part (see 101, 1988 edition 6.1.);

--- Increasing the quality assurance/quality control of content (see Chapter 11 and Appendix B);

--- Modify the content of the report; GB/T 1792-1988 details about the report. taking repeated measurements arithmetic mean of the two results Value, as mercaptan sulfur content in the sample; this standard on contents of the report amended as follows: report measurement results are accurate to the mass fraction 0.0001%, or 1mg/kg (see Chapter 12, Section 9 of the 1988 edition). This standard by the National Standardization Technical Committee on products and lubricant oil (SAC/TC280) proposed. This standard by the National Petroleum Products and Lubricants Standardization Technical Committee of petroleum fuels and lubricants Technical Committee (SAC/TC280/SC1) centralized. This standard was drafted. China Petroleum & Chemical Corporation Research Institute of Petroleum. The main drafters of this standard. Pan Guangcheng. This standard replaces the standards previously issued as follows:

--- GB/T 1792-1979; GB/T 1792-1988.

Mercaptan sulfur has an unpleasant odor, harmful to the fuel system of an elastic material, and fuel system component corrosion. Gasoline, kerosene, jet fuel and distillate fuel Mercaptan sulfur by potentiometric titration WARNING

1 Scope

GB/T 1792-2015 is the Chinese national standard on determination of mercaptan sulfur in gasoline,kerosine,jet,and distillate fuels - potentiometric method, in the field of petroleum and related technologies. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2016. Classification: ICS 75.160.20, CCS E31. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the determination of mercaptan sulfur content of the fuel by potentiometric titration method. This standard applies to gasoline, kerosene, jet fuel and distillate fuel, mercaptan sulfur content measurement range from 0.0003% 0.01%. Organic sulfur compounds such as sulfides, disulfides and thiophenes, do not interfere with the determination. The mass fraction of less than 0.0005% of the elemental sulfur is not Interfere with the determination. If the removal of hydrogen sulfide measured interference, see the removal of hydrogen sulfide 8.2.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 1884 crude oil and liquid petroleum products - Laboratory determination of density (density meter method)

GB/T 1885 Petroleum Measurement Tables

GB/T 4756 petroleum liquids hand sampling method Laboratory use specifications and test methods GB/T 6682-2008 Analysis

GB/T 27867 liquid petroleum pipeline automatic sampling SH/T 0604 crude oil and petroleum products densitometry (U-shaped vibrating tube method)

3 Method Summary

The hydrogen sulfide-free sample was dissolved in isopropyl alcohol titration of sodium acetate solvent to a glass reference electrode and a silver/silver sulfide directions between the electrodes Potential as directed by alcohol standard solution of silver nitrate titration meter through potential. During the titration, mercaptan sulfur precipitate as silver mercaptan, and drops By the end of a given mutation on the potential of the battery is displayed.

4.1 Potentiometric titration instrument see

4.2 to 4.5. Or, as long as the use of electrodes in line with the requirements of

4.3 and may require dropping Chapter

8 Fixed end point in line with the provisions of 10.1, and its measurement accuracy meets or exceeds the requirements of Chapter 13, any automatic titration system can be used.

4.2 Instrument. Electronic voltmeter, less than 9 x 10-12A current input operation, the range of at least ± 1V, accuracy ± 2mV. Table should Antistatic protective housing and protective housing should be grounded.

4.3 Battery system. the reference electrode and the indicator electrode composition ratio. The reference electrode should be sturdy pen glass electrode having a grounded shield conductor line. Indicator electrode fixed in the insulating housing having a diameter of 2mm or thicker than the silver material. You can also use silver bullion electrodes.