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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 30515-2014

**Petroleum products -- Transparent and opaque liquids --
Determination of kinematic viscosity and calculation of
dynamic viscosity**

透明和不透明液体石油产品运动黏度测定法及动力黏度计算法
(English Translation)

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Foreword

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

This standard uses redrafted law revision using ISO 3104:1994 "Transparent and opaque liquid petroleum products - Determination of kinematic viscosity and Dynamic viscosity calculation. " this standard and ISO 3104:1994 and the technical differences for the following reasons.

--- In Chapter 2, "Normative references", increasing the GB/T 514-2005, GB/T 1885, SH/T 0173-1992, Reference SH/T 0526, SH/T 0604 and JJG155 standards and procedures;

--- In Chapter 6, "instrument", the capillary viscometer type increased in line with SH/T 0173-1992 requirements viscometer;

--- Increased by JJG155 for viscometer calibration and verification of the content in 6.1;

--- In Chapter 9, "transparent liquid viscosity measurement" in order to make the standard more workable, increased if the sample contains Water, dewatering filter content filter paper, if necessary;

--- 9.3 and 10.5, supplementary transparent and opaque liquid sample density measuring step, to improve methods;

--- Cancel the ISO 3104:1994 Annex C, the contents of which increased in 6.5.2, and delete the original Appendix C Notes.

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.

Introduction

The normal operation of many petroleum products and some non-petroleum-based material is used as a lubricant equipment, instruments and equipment typically depends on having A liquid lubricant suitable viscosity. In addition, many of the kinematic viscosity fuel oil for determining the optimum fuel storage, handling and operating conditions is very important. Thus, for many products, the precise determination of its kinematic viscosity is very necessary.

Transparent and opaque liquid petroleum products Kinematic viscosity Determination of dynamic viscosity and calculation Warning. The application of this standard may involve some hazardous materials, operations and equipment, but not all security related thereto ask Questions are recommendations. Users Before using this standard has the responsibility to develop appropriate security and protection measures, and determine the relevant regulatory restrictions applicable Versatility.

1 Scope

The method of using a glass capillary viscometer movement kinematic viscosity of liquid petroleum products specified in this standard, and its dynamic viscosity meter Calculation method.

This standard applies to transparent and opaque liquid petroleum products.

Note: The intrinsic viscosity of this sample results obtained in standard assay related mainly applied to shear stress and shear rate is proportional to the liquid (ie, Newtonian fluid body). However, if the viscosity of the liquid by the effect of shear rate is very significant, capillary viscometer results obtained with different diameters may be different.

This standard also includes under certain conditions exhibit non-Newtonian fluid properties of the fuel oil viscosity measurement test procedures and accuracy requirements.

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 514-2005 petroleum products Glass liquid thermometer technical conditions GB/T 1884 crude oil and liquid petroleum products - Laboratory determination of density (density meter method) (GB/T 1884-2000, eqv ISO 3675:1998) GB/T 1885 Petroleum Measurement Tables GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) GB/T 30514-2014 motion glass capillary viscometer operating instructions and specifications (ISO 3105:1994, MOD) JJG155 Working capillary viscometer test procedures SH/T 0173-1992 glass capillary viscometer technical conditions

SH/T 0526 Standard Oil Viscosity SH/T 0604 crude oil and petroleum products
densitometry (U-shaped vibrating tube method) (SH/T 0604-2000, eqv ISO 12185:1996)

3 Terms and Definitions

The following terms and definitions apply to this document.

Kinematic viscosity Resistance suffered a liquid flow under gravity.