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

SN/T 2639-2010

**Standard practice for conversion of kinematic viscosity to
saybolt universal viscosity**

运动粘度换算至赛波特通用粘度标准方法

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Method summary
4 Saybolt Universal Viscosity conversion step

Foreword

This standard is identical with the American Society for Testing Materials Standards ASTM D2161-05 "Conversion to kinematic viscosity or Saybolt Universal Viscosity Cup Porter heavy oil viscosity standard method "in terms of kinematic viscosity to Saybolt Universal Viscosity part.

For ease of use of this standard, the following editorial changes made.

- Conversion to the use of kinematic viscosity Saybolt Universal viscosity part;
- According to our country to join Fahrenheit and Celsius temperature conversion formulas;
- Formula (2) will change centistokes kinematic viscosity value (mm²/s);
- Delete Chapter 4. Significance and Use section.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Liaoning Province Exit Inspection and Quarantine.

1 Scope

This standard specifies the petroleum and petroleum products in either a temperature kinematic viscosity (mm²/s), the use of tables and equations converted to the corresponding temperature Under Saybolt Universal viscosity (SUS) conversion method. Kinematic viscosity value of water to 20 °C kinematic viscosity values 1.0034mm²/s (cSt) to Benchmark.

NOTE: To determine the kinematic viscosity can be GB/T 265 or GB/T 11137. Recommendations adopted kinematic viscosity mm²/s (cSt) instead of the Saybolt Universal Viscosity (SUS).

This standard applies to swap between Saybolt Universal viscosity (SUS) and the kinematic

viscosity of the International System of Units calculations.

This standard kinematic viscosity using the International System of Units mm²/s, temperature °F.

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 265 Petroleum products - Determination of kinematic viscosity and dynamic viscosity calculation
GB/T 11137 Black petroleum products - Determination of kinematic viscosity (reverse - flow method) and dynamic viscosity calculation

3 Method summary

3.1

Determination of Saybolt Universal viscosity at a temperature equal to the temperature at which the kinematic viscosity. It is given in Table 1 at 100 °F and 210 °F by the condition Saybolt Universal viscosity value in terms of the basic terms of kinematic viscosity. Viscosity at any temperature conversion can be calculated. In terms of its use value International System of Units.

3.2

Examples of tables in Appendix A.

NOTE: Fahrenheit and Celsius temperature conversion relation is. $t_C\text{ }^{\circ}\text{C} = t_F\text{ }^{\circ}\text{F} () - 32$

4 Saybolt Universal Viscosity conversion step

Kinematic viscosity at 4.1 100 °F conditions between 1.81mm²/s ~ 500mm²/s (cSt) corresponding to the terms of Saybolt Universal Viscosity and a kinematic viscosity at 210 °F conditions between 1.77mm²/s ~ 139.9mm²/s corresponding to Saybolt Universal viscosity conversion, A look-up table (see A.1).

NOTE: In Table 1 are not included in the numerical range can be obtained by linear interpolation.

4.2

For running viscosity at 100 °F 210 °F conditions or exceeding the upper limit of Table 1, which corresponds to Saybolt Universal Viscosity according to equation (1) into Line calculation (see A.3).

$$S = \nu \times B \quad (1)$$

Where.

The S --- Saybolt Universal viscosity (SUS), seconds (S);

nu --- kinematic viscosity in square millimeters per second (mm²/s).