ICS 71.100.40
CCS G 72

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5561-2012

Replacing GB/T 5561-1994

Surface active agents -- Determination of viscosity and flow properties using a rotational viscometer

Issued on: December 31, 2012 **Implemented on: August 1, 2013**

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

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Foreword

This standard rule according to GB/T 1.1-2009 given draft.

This standard replaces GB/T 5561-1994 "surfactant using a rotary viscometer viscosity and flow properties", and

GB/T 5561-1994 compared to the main changes are as follows.

--- Increasing the foreword;

--- Remove the model and measurement equipment, range and error rotary viscometer (see 6.1,1994 version 5.1).

The standard reference method using redrafted ISO 6388. 1989 "surfactant with a rotary viscometer liquidity" preparation, and

ISO 6388. 1989 is non-equivalent.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee Chemistry (specialty) surfactant Technical Committee (SAC/TC63/SC8) centralized.

This standard was drafted. Zhejiang Real Technology Co., Ltd., Zhejiang Textile Co., Ltd. mountains.

1 Scope

This standard specifies the use of a rotational viscometer with coaxial cylinder measuring system to measure the non-solid surfactant mobility

Qualitative methods.

This standard applies to single or mixed surfactants, also applies to major surfactant-containing products.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1

Viscosity viscosity

Between two parallel planes by fluid shear, in which a plane in its own plane relative to the other plane with a straight line uniform

The resistance generated when the viscosity of the fluid motion is called Newtonian viscosity equation can be used (1) to represent.

eta =

(1)

Where.

eta --- Viscosity (dynamic);

tau --- shear stress;

The D --- shear rate.

When independent of shear rate and viscosity of the fluid to be measured when, it is considered that the fluid is a Newtonian fluid.

The apparent viscosity of non-Newtonian fluid is a function of shear rate, depending on the thermal hysteresis of the sample in the instrument and rheological lag.

Viscosity is measured in Newton seconds per square meter (N . s/m2) or Pascal seconds (Pa . s).

2.2

Rheological phenomena rheologicalphenomena

Rheological behavior is defined by the shear stress to describe.

Note. The flow pattern of the fluid in Appendix A.

2.2.1

Shear thinning shearthinning

Under isothermal reversible condition, without apparent viscosity with increasing shear rate lag is reduced.

2.2.2

Expandable dilatancy

Reversible under isothermal conditions, the apparent viscosity without a hysteresis with increasing shear rate increases.

2.2.3

The viscosity change with time time-dependentviscosity

Reversible under isothermal conditions, when the size of the shear rate is constant, the apparent viscosity changes with time.

2.2.3.1

Thixotropic thixotropy

Reversible under isothermal conditions, due to the shearing action to reduce the viscosity or consistency of the final value from zero (start of shear moment) (depending on the cut