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

GB/T 6532-2012

Replacing GB/T 6532-1986

Test method for salt in crude oils (Potentiometric method)

原油中盐含量的测定 电位滴定法

(English Translation)

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Foreword

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

This standard replaces GB/T 6532-1986 "crude oil and its products - Determination of salt", compared with the GB/T 6532-1986, in addition to knitting Series modifications outside the main technical changes are as follows.

- Standard name from "salt content of crude oil and its products - Determination" to "crude salt content by potentiometric titration";
- Measurement range from "0.002% to 0.02%" to "0.0005% to 0.15%" (see Chapter 1);
- Increasing the normative references (see Chapter 2);
- In the "Summary of Method" will "volumetric method" to "potentiometric titration" (see Chapter 3, Chapter 1, 1986 edition);
- Sample from the sample weight "80g $\pm$ 0.5g" changed to "40g $\pm$ 0.1g"; the sample is heated by the temperature "60 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C" is amended as "65 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C"; dissolving crude reagent from "toluene" to "xylene" (see 711, 1986, version 6.1.);
- Modify the precision of the method (see Chapter 9, 1986 edition of Chapter 8);
- Added "Quality Assurance and Control" (see Chapter 10);
- Added "Test Report" (see Chapter 11);
- Increased "efficiency homogenizing mixer" (see Appendix A).

This standard uses redrafted Law Amendment uses ASTM D6470-99 (2010) "crude salt content by potentiometric titration." this standard ASTM D6470-99 (2010) and the technical differences for the following reasons.

- On normative references, this standard has been adjusted technical differences, in order to adapt our technical conditions, the adjusted situation Focus is reflected in the status of

Chapter 2, "Normative references", the specific adjustments are as follows.

- with the GB/T 601 instead ASTM E200 (see 5.1.5 Note 1);
- use equivalent to international standards of GB/T 4756 instead ASTM D4057 (see 6.1);
- Modify with international standards of GB/T 6682 instead ASTM D1193 (see 4.2);
- Modify with international standards of GB/T 8929 instead ASTM D4006 (see Note 8.1);
- Modify with international standards of GB/T 11146 instead ASTM D4928 (see A.1);
- equivalents adoption of international standards SY/T 5317 instead ASTM D4177 (see 6.1);
- equivalents adoption of international standards SY/T 7552 instead ASTM D4377 (see A.1).

This standard made the following editorial changes.

- Removed ASTM D6470-99 (2010) of Chapter 4, "meaning and purpose";
- Removed ASTM D6470-99 (2010) Chapter 13, "keywords." this standard by the National Standardization Technical Committee of Oil and Gas (SAC/TC355) and focal points this standard was drafted. China Research Institute of Petroleum Corp. Petrochemical, Daqing Oilfield Engineering Co., Ltd., China Tarim Oilfield Quality Inspection Center, China Petroleum Pipeline Technology Centre.

Drafters of this standard. Ho Pei, Fandeng Li, Yao Shuhua, Qiao Jinling, Zhang Shuangfeng.

This standard replaces the standards previously issued as follows.

- GB/T 6532-1986.

Crude salt content by potentiometric titration Warning. Use of this standard shall have a person experiences regular laboratory work. This standard does not point out all possible security asked question. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

This standard specifies the determination of salt content in crude oil by potentiometric titration method.

This standard applies to the determination of salt content (mass fraction) in the range of 0.0005% to 0.15% of the oil and residual oil and heavy fuel oil, etc.

Petroleum products. This standard also applies to judgments turbine oil and marine fuel oil to be used in case of marine pollution.

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.

Preparation of GB/T 601 chemical reagent standard titration solution GB/T 4756 petroleum liquids hand sampling method (GB/T 4756-1998, eqv ISO 3170. 1988) GB/T 6682 analysis of experimental use - Specification and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) GB/T 8929 Determination of water content of crude oil distillation method (GB/T 8929-2006, ISO 9029:1990, MOD) GB/T 11146 Determination of water content of crude oil Karl Fischer coulometric titration method (GB/T 11146-2009, ISO 10337:1997, MOD) SY/T 5317 petroleum liquids pipeline automatic sampling (SY/T 5317-2006, ISO 3171. 1988, IDT) SY/T 7552 Determination of crude water Karl Fischer potentiometric titration (SY/T 7552-2005, ISO 10336:1997, IDT)

3 Methods Summary

After the sample mixed, weighed amount of sample, and dissolved in xylene in 65 °C. With ethanol, acetone and water at a specified Extraction apparatus were extracted. After the extract removal of sulfur compounds, which measured the total halide content by potentiometric titration, and then converted into chloride Sodium content.

4.1 Instrument

4.1.1

extraction apparatus shown in Figure 1. It consists of the following components.

- a) distillation flask, a 500 mL volume;
- b) a reflux condenser;
- c) a dropping funnel;
- d) heating pipe, built-in convection tube;
- e) heating wire;
- f) a variable resistor;
- g) Erlenmeyer flask.