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

**GB/T 8927-2008**

Replacing GB/T 8927-1988

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**Petroleum and liquid petroleum products -- Temperature  
measurement -- Manual methods  
(English Translation)**

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## Foreword

This revised standard adopts ISO 4268:2000 "Petroleum and liquid petroleum products - Temperature Measurement --- Hand Law" (in English), as well as reference According to the use of the "American Petroleum Measurement Standards Chapter 7 --- Temperature Measurement" technology content.

This standard is based on ISO 4268:2000 re-drafted. The standard lists the reg number in Appendix A and ISO 4268:2000 reg Control list numbered.

Taking into account China's national conditions, in the use of ISO 4268:2000, the standard of this made some technical amendments. This standard and ISO 4268.

The main difference is 2000.

--- In the scope of application, supplemented with "In the sampling method should be used in preference box filled thermometer to measure the temperature" of the content;

--- As a reference document, ISO 4266 has been divided into six parts, this standard also made corresponding changes. Which Part 4 GB/T 21451.4 instead of the other five parts have not yet developed national standards still refer to international standards;

--- Refers to the standard ISO 386. 1977, ISO 3170. 1988 and ISO 4512 respectively GB/T 514, GB/T 4756 and GB/T 13894 in place, while increasing the GB/T 19779 as a reference standard;

--- Increase in special security measures regarding benzene terms "For other hazardous liquid petrochemical products, should also adopt the same Measures. ";

--- For glass thermometer accuracy and resolution, this standard specifically directly in the text, "the resolution of not less than glass thermometer 0.2 °C ";

--- Thermometer should clearly state calibration cycle calibrated to suit the actual situation in China;

--- The "indication when the temperature stabilized at 0.1% up to 30s, then the equilibrium has been established." International Standard 7.5.4d) was changed to "When the indication Temperature changes stabilize within 0.1 °C reached the 30s, the equilibrium has been established. ";

--- International standards 7.5.6h) in "Before calculating the average, should receive additional temperature measurement data in the intermediate liquid deep position." the words "Otherwise, in the middle of two points adjacent liquid deep position and then turn and supplementary temperature, and then calculate the average temperature.";

--- Reference to American Petroleum Measurement Standards Manual, the exposed glass thermometer liquid column were amended grounds supplement;

- Increase "reading and reporting" as in Chapter 5 of this standard, the international standard of the clauses relating to the thermometer readings and average temperature Report as of this chapter;
- Table 3 "15 °C Density" is replaced by "20 °C Density", where at the same time remove the clause "wooden box back Cup thermometer" and "wood back" Word;
- Reference to American Petroleum Measurement Standards Manual, rail tankers for temperature measurement under normal temperature and pressure, how to choose the part of the increased tanker Temperature measurements of the content;
- For oil tankers under normal temperature and pressure measurements, referring to American Petroleum Measurement Standards Manual, increased cabin temperature base oil or resid method;
- Reference to American Petroleum Measurement Standards Manual, added "Appendix B ambient temperature measurement." this standard replaces GB/T 8927-1988 "Petroleum and liquid petroleum products - Temperature measurement." the main changes in the standard of GB/T 8927-1988 compared to the performance in the following areas.
- Reference standards by the API2543 "Petroleum and liquid petroleum products - Temperature measurement" to ISO 4268 "Petroleum and liquid petroleum products Temperature Measurement --- Hand Law ";
- Technologies including thermometer, technical specifications, test equipment, measurement methods, measurement conditions and other more detailed and specific;
- Portable electronic thermometer to measure the oil temperature as the first;
- Fixed thermometer to measure the average temperature of the oil pipeline and manual temperature measurement is no longer used in the present standard content;
- Supplementary tests using a portable electronic thermometer stationary technical content;
- Adjust the temperature inside the tank location and choose the way of the oil;
- Improve the resolution and accuracy of the thermometer, improving the calculation method of the average temperature, calculated results are accurate to 0.1 °C.

Appendix A of this standard and Appendix B is an informative annex.

This standard by the National Standardization Technical Committee on Petroleum Products and Lubricants made.

The standard by the China Research Institute of Petroleum Corp. petrochemicals.

## Introduction

In all calculations involving the number of oil and petroleum products, regardless of volume at standard temperature representation, or use or air quality the apparent quality representation, we need to determine the average temperature of the oil. This standard method of measuring tanks in oil temperature measurements have help Under conditions known to the average temperature of the most reliable and relevant tank also includes a road tanker, rail tank and oil cabin.

Temperature measurement errors constitute the greater part of oil and liquid petroleum products - Measurement of the total number of errors, which are nothing but emphasize that no matter how Points, so the choice and use of the temperature measuring device should be particularly careful. If you want the final measurement results with the smallest error, then We should be careful to do according to standards.

In the application of this standard, the measured temperature response measurement staff to conduct a comprehensive training, coaching them to report any deviations can not be avoided.

Petroleum and liquid petroleum products - Temperature measurements - Manual methods

## 1 Scope

This standard specifies the manual measurement of petroleum and petroleum products in the tank temperature methods, procedures and equipment.

This standard specifies the preferred portable electronic thermometer to measure the temperature given in 4.1, but can also use other methods. These ones the method comprises fixed single-point and a thermometer to measure the temperature by using a sampling cup for thermometer, a thermometer and a box full of press GB/T 4756 after sampling into a thermometer to measure the temperature inside the vial, but the sampling method should be used in preference box filled thermometer temperature.

This standard includes only the manual method of measuring the temperature does not include automatic metering system constitute a part of the average thermometer. Fixed self Moving average thermometer to measure atmospheric temperature of the oil tank contents see GB/T 21451.4, and the measurement of tankers with cabin pressure tank oil temperature Content see ISO 42661) of the section.

## 2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to