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

GB/T 17411-2012

Replacing GB/T 17411-2012

**Marine fuel oils
(English Translation)**

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Foreword

The standard Chapter 3, Section 4, Chapter 6 and Chapter 7 are mandatory, the rest are recommended.

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

This standard replaces GB/T 17411-2012 "marine fuel oil." This standard and GB/T 17411-2012 compared to major technological changes as follows.

--- Standard recommended by the Switch mandatory;

- Chapter 1 applies a predetermined range of the sea [ocean] marine diesel engine and boiler fuel;
- According to the sulfur content of distillate fuel is divided into three grades, and an increase in the sulfur content of the relevant detection method (see Chapters 3 and Table 1);
- Distillate fuel flash point by the DMZ is not lower than 43 °C modifications not lower than 60 °C (see Table 1);
- Distillate fuels DMA and DMZ sulfur content of not more than 1.5% from the index revised to 1.0% (see Table 1);
- RMA10 RMB30 and residual fuel oil in accordance with the number of divided sulfur content of not more than 3.5%, 0.5% and 0.1% three grades, other grades according to the sulfur content of not more than 3.5% into, two levels of 0.5% (see Table 2);
- Increasing the net calorific value indicators and the corresponding detection methods (see Table 2);
- Increased cleanliness and compatibility with residual fuel oil informative annex (see Annex L).

This revised standard adopts ISO 8217:2012 "Petroleum products - Fuels (F Class) marine fuel oil specifications.

This standard and ISO 8217:2012 as compared to, in technical content and structure adjustment, Appendix M shows the structure and corresponding technical differences and their causes.

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.

This standard was drafted. China Research Institute of Petroleum Corp. Petrochemical, China Sinopec Fuel Oil Sales Co., Ltd., China Sinotrans Group Co., China's ship fuel limited liability company, Technical and Economic Research Institute of China Shipbuilding Industry.

Drafters of this standard. dragon Li, Xiang Xiaomin, when Xin Wei, Hu Wei, Song Yanyuan.

This standard replaces the standards previously issued as follows.

- GB/T 17411-1998, GB/T 17411-2012.

Marine fuel oil

Warning. If you do not observe proper precautions, this product may be hazardous to your standard in the production, storage and use of the process.

This standard is not intended to present all of the safety issues related to the product recommendations. Before using this standard has the responsibility to establish appropriate safety Full and preventive measures, and determine the applicability of regulatory limitations related.

1 Scope

This standard specifies made from petroleum and marine fuel oil classification code, requirements and test methods, inspection rules, packaging, labeling, transportation Transport, storage and security.

This standard applies to the sea [ocean] marine diesel and fuel oil boiler. Fuel complying with this standard also applies to the same or a similar system Stationary diesel engines and other vessels made machinery.

This standard specifies four distillate fuel oil for ships and 6 residual fuel oil. Wherein the distillate fuel for diesel emergency DMX when in use.

Note 1: The purpose of this standard, "oil" is a term including tar sands and oil shale oil.

NOTE 2: Marine Gas Turbine Fuel technical requirements are specified in GB/T 29114 [1] in.

Note 3: The standard "sea [ocean] ship" means GB/T 7727.1-2008 [2] in 3.1. suitable for sailing boats in the ocean area.

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 190 packaging and marking of dangerous goods GB/T 260 Petroleum products - Determination of water content GB/T 261 Flash Point by Pensky - Martens closed cup method (GB/T 261-2008, ISO 2719:2002, MOD) GB/T 265 Petroleum products - Determination of kinematic viscosity and dynamic viscosity calculation GB/T 384 Petroleum products - Determination of calorific value GB/T 387 Black petroleum products - Determination of sulfur content (tube furnace method) GB/T 508 Petroleum products - Determination of ash (GB/T 508-1985, eqvISO 6245. 1982) 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 1885-1998, eqvISO 91-2.1991) GB/T 3535 Petroleum products - Determination of pour point (GB/T 3535-2006, ISO 3016-1994, MOD) GB/T 4756 petroleum liquids hand sampling method (GB/T 4756-1998, eqvISO 3170. 1988) GB/T 6986 Petroleum Determination of

cloud point GB/T 7304 Petroleum products - Determination of acid number potentiometric titration GB/T 11137 Black petroleum products - Determination of kinematic viscosity (reverse - flow method) and calculation of dynamic viscosity GB/T 11140 Petroleum products - Determination of sulfur content wavelength dispersive X-ray fluorescence spectrometry GB/T 12575 Determination of vanadium content of liquid fuel (flameless atomic absorption spectrometry) GB 13690 chemical classification and hazard communication General GB/T 17040 Petroleum and petroleum products Determination of sulfur content - Energy Dispersive X-ray Fluorescence Spectrometry GB/T 17144 Petroleum products - Determination of carbon residue (micro method) (GB/T 17144-1997, eqvISO 10370.1993) GB/T 20828 diesel fuel transfer combination biodiesel (BD100) GB/T 23801 middle distillate oil fatty acid methyl ester content - Infrared Spectroscopy GB 30000.7-2013 Classification and Labelling of chemicals - Part 7. Flammable liquid SH0164 petroleum product packaging, storage and delivery acceptance rules SH/T 0172 Petroleum products - Determination of sulfur content (high temperature method) SH/T 0175 Determination of oxidation stability of distillate fuel (acceleration method) SH/T 0253 light petroleum products - Determination of total sulfur (power law) SH/T 0604 crude oil and petroleum products densitometry (U-tube vibration method) (SH/T 0604-2000, eqvISO 12185.

1996)

SH/T 0689 and light hydrocarbon fuel and other oil products - Determination of total sulfur (UV fluorescence) SH/T 0694 middle distillate fuel cetane index calculation method (four variable equation) (SH/T 0694-2000, eqvISO 4264.1995) SH/T 0701 total residual fuel oil precipitate assay (hot filtration) (SH/T 0701-2001, eqvISO 10307-1.1993) SH/T 0702 total residual fuel oil precipitate assay (aging method) (SH/T 0702-2001, eqvISO 10307-2.1993) SH/T 0706 aluminum and silicon content of fuel oil assay (inductively coupled plasma atomic emission spectrometry and atomic absorption spectrometry) (SH/T 0706-2001, eqvISO 10478.1994) SH/T 0715 crude oil and residual fuel oil, nickel, vanadium, iron determination method (inductively coupled plasma atomic emission spectrometry) SH/T 0765 diesel lubricity evaluation method (high-frequency reciprocating rig method) (SH/T 0765-2005, ISO 12156-1:1997, MOD) NB/SH/T 0842 gasoline and diesel sulfur content single wavelength dispersive X-ray fluorescence spectrometry ISO 8216-1:2010 Petroleum products - Fuels (F category) classification - Part 1. Marine fuel type (Petroleum products-Fuels (classF) classification-Part 1. Categoriesofmarinefuels) ISO 14597 Petroleum products - Determination of vanadium and nickel (Wavelength Dispersive X-ray fluorescence spectrometry) (Petroleumproducts-Determinationofvanadiumandnickelcontent-WavelengthdispersiveX-rayfluorescencespectrometry) IP501 residue fuel oil, aluminum, silicon, vanadium, nickel, iron, sodium, calcium, zinc and phosphorus measured ashing, fusion and inductively coupled plasma emission Spectroscopy (Determinationofaluminium, silicon, vanadium, nickel, iron, sodium, calcium, zincand-phosphorusinresidualfueloilbyashing,