

ICS 75.160.20

CCS E 31



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

GB 17411-2015

Replacing GB/T 17411-2012

Marine fuel oils

船用燃料油

Issued on: December 31, 2015

Implemented on: July 1, 2016

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

1	Scope
2	Normative references
3	Classification and designation
4	Requirements and test methods
5	Inspection Rules
5.1	Inspection Classification and test items
7	Security
25	References
	Appendix A
	Appendix B
	Appendix C
	Appendix D

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

China's national standard for marine fuel oils, a modified adoption of ISO 8217:2012 and the document against which bunkers are bought and tested in Chinese ports. It sets the classification and designation, the requirements with their test methods, the inspection rules, and the packaging, marking, transport, storage and safety provisions for the fuels made from petroleum, and it applies to the diesel engines and boilers of seagoing ships; fuels meeting it also suit stationary diesel engines and other shipborne machinery with the same or similar systems. Four distillate grades are defined - DMX, DMA, DMZ and DMB, DMX being reserved for emergency use - together with six residual grades, RMA, RMB, RMD, RME, RMG and RMK, following ISO 8216-1. Distillate fuels are then split into three sulfur classes, as are the RMA and RMB residual grades, while RMD, RME, RMG and RMK are split into two. The fuel must be a homogeneous blend of petroleum hydrocarbons, free of inorganic acid and used lubricating oil, free of anything that could make a ship's machinery fail, and free of any additive or chemical waste that would endanger the ship, harm health or increase air pollution; the distillate grades may carry no more than a trace of fatty acid methyl esters, and FAME may not be blended in deliberately. Issued on 31 December 2015 under State Standard Announcement 2015 No. 43 and in force since 1 July

2016, it replaces GB/T 17411-2012 and, in doing so, turns a recommended standard into a mandatory one: clauses 3, 4, 6 and 7 are compulsory. It also carries national amendment No. 1 of 2018. It is the companion to GB 17930-2016 on motor gasoline and GB 19147-2016 on automobile diesel, all three under SAC/TC 280/SC 1.

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, eqv ISO 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, eqv ISO 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, eqv ISO 3170. 1988)

GB/T 6986 Petroleum Determination of cloud point

GB/T 7304 Petroleum products - Determination of acid number potentiometric titration

3 Classification and designation

Accordance with the standards ISO 8216-1.2010 Group D into the marine fuel oil (distillate fuel) and the R group (residual fuel) two categories. its The distillate fuel is divided into four kinds of DMX, DMA, DMZ and DMB etc; residual fuel into RMA, RMB, RMD, RME, RMG and RMK other six species. According to the sulfur content of distillate fuel into I, II, III three levels; RMA and RMB according to the sulfur content of residual fuel categories are divided into I, II, III Three levels, RMD, RME, RMG and RMK residual fuel is divided into two levels.

4 Requirements and test methods

4.1 This standard specifies the test methods in accordance with the detection, marine fuel oil should be in accordance with Table 1 or Table 2 of performance requirements.

4.2 fuel oil should be homogeneous mixture made from petroleum hydrocarbons, do not rule out certain properties and characteristics to improve fuel oil and added added Agent. Fuel oil should be free of inorganic acids and used lubricants.

Note. See Appendix K.

4.3 fuel oil can not contain any substance that may cause a ship to use the exception.

4.4 DMX, DMA, DMZ, DMB distillate fuel oil should not exceed contain "trace" of the fatty acid methyl esters from biological materials (FAME) (FAME comply with GB/T 20828 requirements). It does not allow the incorporation of artificial FAME.

Note. See Appendix A.

4.5 fuel oil should not be artificially added to the following potential effects of any additives or chemical waste.

- a) endanger the safety of ships or adversely affect the mechanical properties;
- b) detrimental to health;
- c) increase in air pollution.

Note. See Appendix B.