



JAPAN P&I NEWS

To the Members

THE 2020 GLOBAL SULPHUR CAP – Precaution of “Compatibility” and “Cold flow properties” for compliant fuel oils

On 1 January 2020, the MARPOL permitted limit for Sulphur content in ships' bunker fuel oil will be reduced from 3.50% mass by mass (m/m) to 0.50% m/m (compliant fuel oils) for ships operating outside designated emission control areas. Regarding the outline of The 2020 Global Sulphur Cap, please refer to our circular [No.19-008](#) dated 1 July 2019. It is recommended that you would take the following precautions to prevent accidents when using compliant fuel oils.

1. Concern

Since the production method of the compliant fuel oils would become more diverse than at present, there are the following five properties of residual fuel oils that should be further paid attention when using compliant fuel oils.

- Compatibility
- Cold flow properties
- Low viscosity
- Cat-fine (contents of Aluminum and Silicon)
- Ignition and combustion quality

In particular, the issues of “Compatibility” and “Cold flow properties” would directly cause the adverse influence for engine operation due to excessive sludge formation and wax crystal formation as follows;

“Difficulty of transferring fuel oil and engine stop due to the blockage and chock of fuel oils in the pipe lines” and “Operation inability of fuel oil purifiers due to the capture and/or accumulation of sludge and/or wax in purifier bowls.”

2. Preventive measures

The following are effective in view of the fundamental of fuel management.

● Compatibility: Measure for preventing sludge formation

Fundamental actions: Never mix the fuel oils in storage tanks and pipe lines, or Minimise the mixing ratio as low as possible among different types of oils.

Treatment:

- (1) If the incompatibility is found, please add sludge dispersants or sludge solubilisers to the storage tanks.
- (2) Please keep cleaning and take action on the oil purifier management in order to avoid sludge accumulation; reducing the flow rate, shortening the interval of discharge of sludge, maintaining a high temperature of oil flow, and shortening the maintenance interval of separator disc.
- (3) It is recommended to store the reserve of sludge dispersant on board.

● **Cold flow properties: Measure for preventing wax crystal formation.**

Fundamental actions: Keep or heat the fuel oil temperature at least 10°C above the cold plugging point (CFPP+10°C).

Treatment:

- (1) If the temperature of sea water, surrounded temperature of pipe lines, engine room, ambient temperature can't be 10°C above the cold plugging point (CFPP+10°C), please add additives to mitigate any wax formation on board before wax crystal formation
- (2) The treatment for both strainers and purifiers are the same as above measure for preventing sludge formation.
- (3) It is recommended to store the reserve of additives to mitigate any wax formation on board.

ClassNK has recently published a booklet, which includes technical information from manufacturers that provide the sludge dispersants and sludge solubilizers, to let crew members on board ships know "compatibility" and "cold flow properties" of such fuels as well as the risks associated with such fuels and the measures to be taken to mitigate such risks. Please refer to the attachment for more details.

Yours faithfully,

The Japan Ship Owners' Mutual Protection & Indemnity Association

Attachment: ClassNK Technical Information No. TEC-1190

Subject

Issuance of "Precautions concerning change-over to 0.50% sulphur compliant fuel oils"

ClassNK

Technical Information

No. TEC-1190

Date 30 September 2019

To whom it may concern

In order to comply with the new sulphur limit for fuel oil used on board ships taking effect from 1 January 2020, fuel oils with a sulphur content of 0.50% or less (hereafter, referred to as "compliant fuel oils") will be distributed globally for bunkering. Consequently, the number of occasions where fuels for main engines or auxiliary engines are changed from conventional fuel oils to compliant fuel oils and used will increase.

ClassNK has released a booklet containing precautions concerning the change-over to compliant fuel oils with an aim to provide crew members on board ships going to bunker and use compliant fuel oils with information focusing on the "compatibility" and "cold flow properties" of such fuels as well as the risks associated with such fuels and the measures to be taken to mitigate such risks.

The booklet can be downloaded free of charge from the "SOx·PM regulations" page on the ClassNK website.

URL: <http://www.classnk.or.jp/hp/en/activities/statutory/soxpm/index.html>

For any questions about the above, please contact:

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