

Technology

# Shippers Fear Engine Failures as Industry Forced to Upgrade Fuel

By [Ellen Milligan](#)

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- ▶ Blending of incompatible fuels could cause engines to stop
- ▶ Odfjell and Frontline are among shipping companies concerned

## In this article

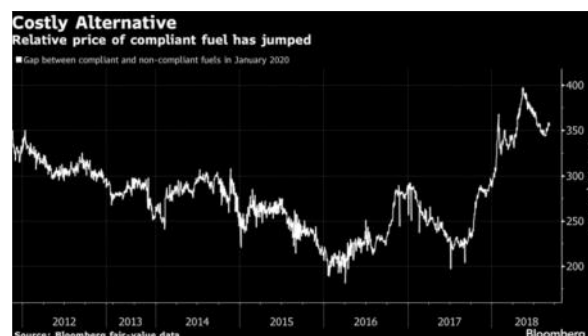
CL1  
**WTI Crude**  
 67.70 USD/bbl.  
 ▲ +0.16 +0.24%

ASC  
**ARDMORE SHIPPING**  
 6.80 USD  
 ▲ +0.00 +0.00%

ODF  
**ODFJELL SE-A SH**  
 29.60 NOK  
 ▼ -0.90 -2.95%

Add oil tankers breaking down at sea to the list of things shipping companies are worrying about as they brace for a once-in-a-generation overhaul to the kind of fuel the industry must consume.

From Jan. 1, 2020, the vast majority of the world's merchant fleet will have to use fuel containing no more than 0.5 percent sulfur, down from 3.5 percent in most parts of the world today. The change is expected to upend both shipping and refining industries, with analysts forecasting higher oil prices, slower-sailing ships, and some observers even warning of risks to world trade.



Now more and more of the world's largest shipping companies and trade groups, already mindful of spiraling costs, are saying there's a safety risk too. Their primary worry is the lack of a single fuel type that complies with the rules. Since refineries across the world are coming up with different solutions to meet the sulfur-reduction target,

owners say their ships' engines could be damaged by inadvertently mixing incompatible products.

"This is of course a concern, and the marine fuels that can be used when the 2020 regulation is implemented are believed to be more unstable and contain other compounds than what is the case today," said Harald Fotland, Chief Operating Officer at Odfjell SE, one of the world's largest shippers of chemicals. "Therefore, we have to be even more cautious in selecting fuels."

After years of deliberating, the 2020 start date for the new rules was set in October 2016 by the International Maritime Organization, the United Nations' shipping agency. Vessels must lower sulfur emissions. Those with exhaust-gas cleaning systems that remove the pollutant will be able to keep burning existing products that are cheaper, but the equipment is expensive and takes up cargo space.

### **Dangerous Mix**

The International Association of Independent Tanker Owners, the largest trade group for operators of ships moving everything from oil to gas to chemicals, is among those concerned.

While individual fuels may not be problematic, mixes could be dangerous, according to Dragos Rauta, technical director at the trade group better known as Intertanko.

"The way the different products work together can produce instability of fuel which can create sediments that can damage the pumps and engines eventually," he said.

The issues could ultimately stop a ship's engine, something that would be particularly dangerous in bad weather in busy shipping lanes close to land, according to Rauta.

Shipowners say extensive -- and more frequent -- testing will need to take place to ensure fuels are trusted, but that would take time and money at a time when fuel bills may well be rising anyway.

"This fuel oil will be sold under a specification which in theory should be okay but it appears there may be impurities in them, and these are damaging to our engines," said Flemming Carlsen, Chief Operating Officer of d'Amico International Shipping SA, which runs a fleet of 57 vessels. "We would need to be content that the analysis has proven that this bunker fuel is okay to burn in the main engine."

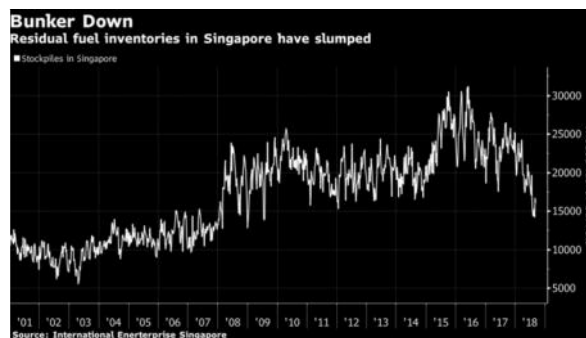
### **Supply Doubts**

There's also uncertainty about whether there will be enough blended fuel to go round. Some smaller ports may not have access to it, meaning companies including d'Amico will have to use a combination of diesel-like products and

low-sulfur fuel oil on their journeys, taking care to ensure the two aren't mixed.

The IMO's rules are meant to curb a pollutant that has been linked to environmental issues like acid rain and health concerns including asthma. Shipping groups already complained about the non-standard nature of fuels, and their costs are expected to spiral. A.P. Moller-Maersk A/S, the world's biggest container shipping line, anticipates a \$2 billion increase in its annual fuel bill.

The IMO is in the process of producing guidelines to help the shipping industry with risk assessment and mitigation as well as procurement of compliant fuel, a spokesman said. There should be no risk from compliant fuels, he said.



The shipping industry got a taste of what the future might look like this year -- albeit for unrelated reasons.

Hundreds of tankers in Houston, Malaysia and Singapore suffered damage since March as tainted fuel clogged filters and jammed injection pumps, Intertanko reported in August. Both Odfjell and Ardmore Shipping Corp. say they were affected.

In two cases, Odfjell had to remove the fuel on its ships, due to the impact the sludge had on their ability to inject fuel into the engines. The filters and purifiers became clogged on two of Ardmore's vessels, one in Singapore and one off the U.S. Gulf. No material damage was done to the ships. Ardmore said it has stepped up testing as a result.

### Cause for Concern

"This particular case does raise questions and concern towards the 0.5 percent quality discussion come 2020," said Robert Hvide Macleod, chief executive officer at Frontline Management AS, the oil tanker business of Norway-born billionaire John Fredriksen. Frontline has been exposed to current contamination issues to a "minimal degree so far."

The cause of this year's issues was the combination of phenol and styrene contaminants which cause a very sticky form of deposit that can damage purifiers, heaters, filters, fuel pumps and injectors, according to the Standard Club, a

provider of insurance. This can ultimately cause the main propulsion systems to stop.

Contamination issues which could happen with blending would likely be caused in a different way, with incompatible fuels mixing to become hazardous. But both are dangerous.

Paul Dean, a lawyer who specializes in marine issues at Holman Fenwick Willan in London, says the fuel-related damage this year shows there are vulnerabilities in fuel-testing systems, and that those issues will become more acute when refineries are selling new products in 2020.

“With the fuel that is available at the moment, and the problems which have come out of places like Singapore and Houston, there is concern about the expected increase in blending that’s due to take place and its increased potential for contaminated fuel to be imported,” said Dean.

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