



# Beyond Specification: Bunker Claims Insights in early 2026

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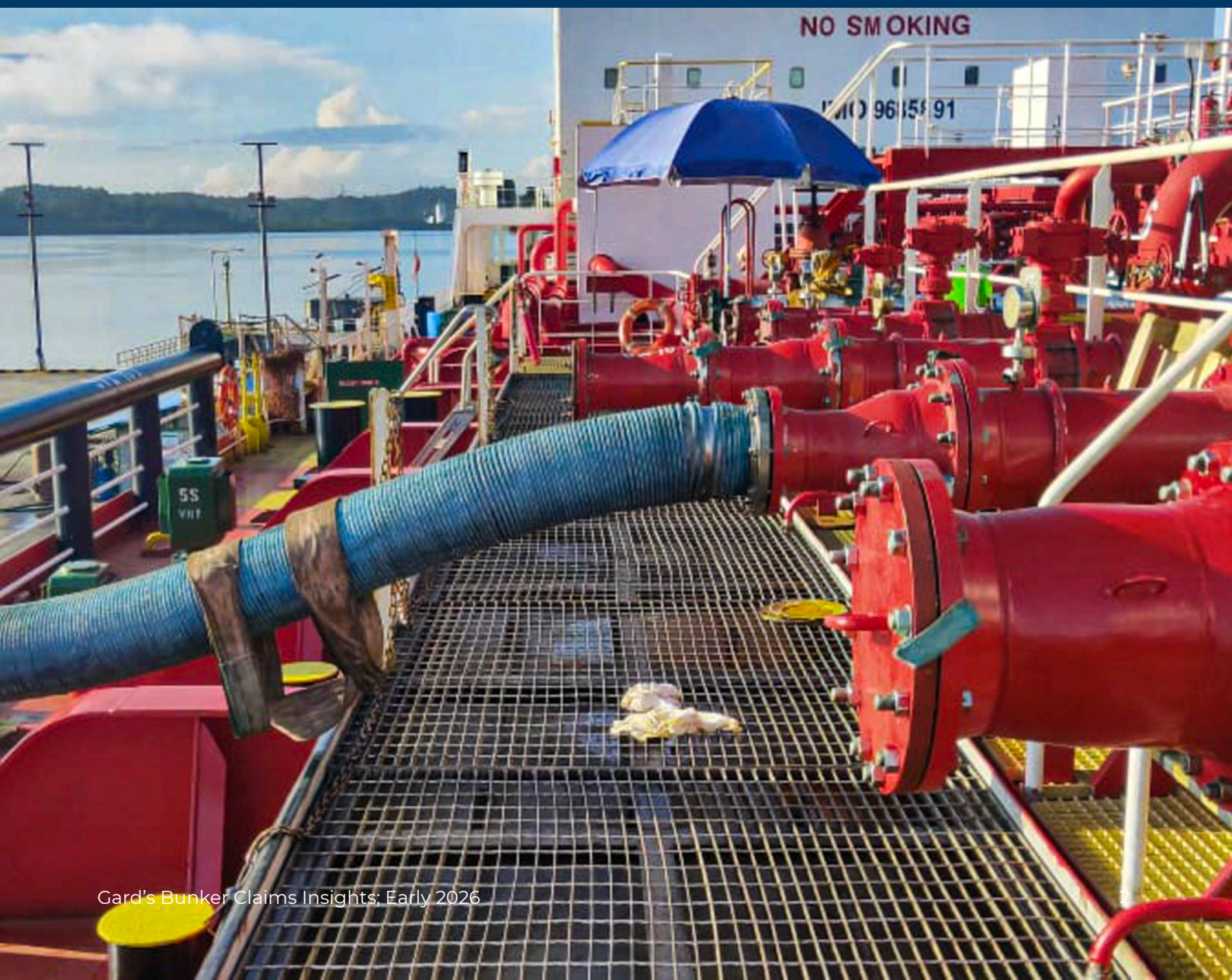
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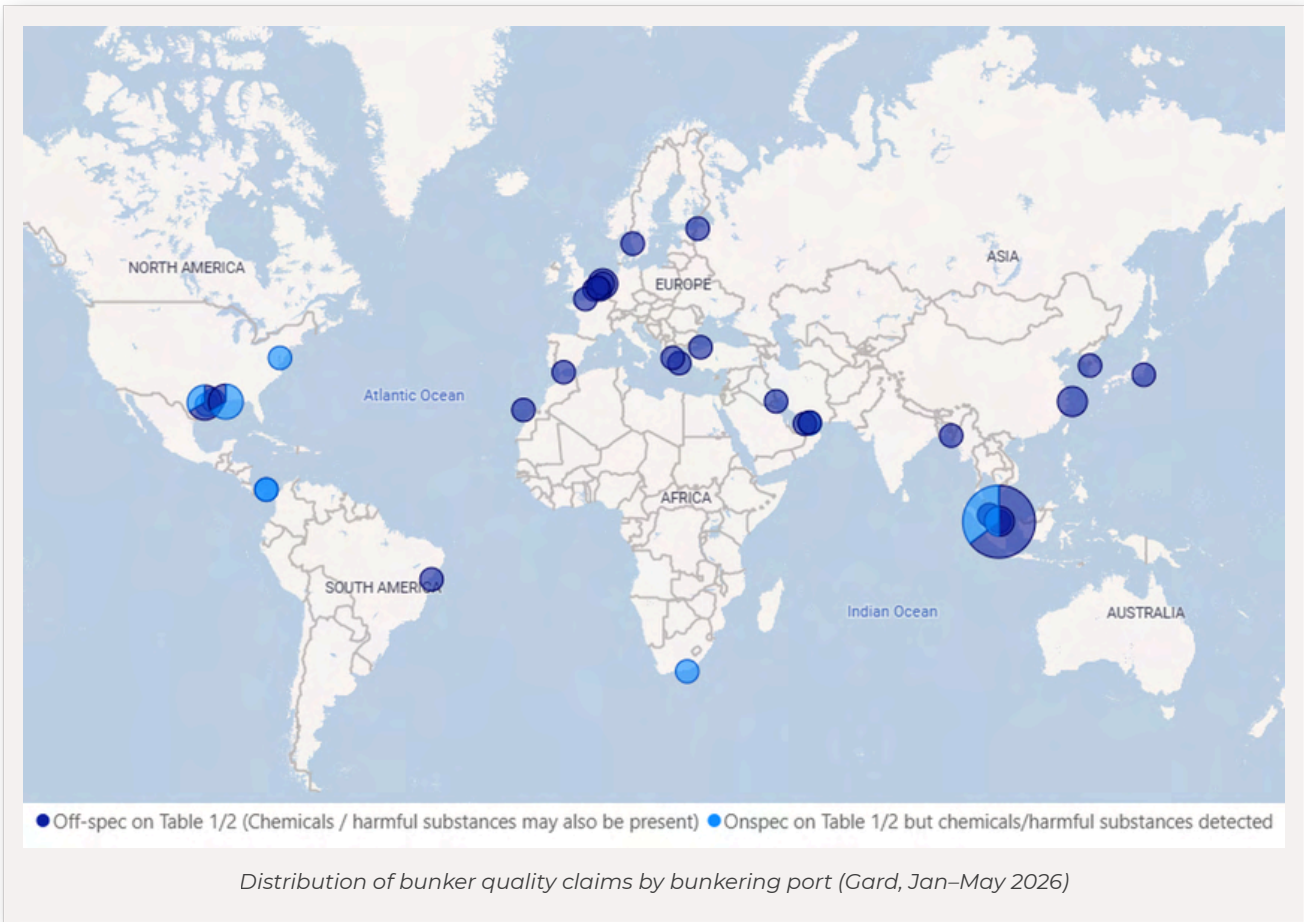
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Between January and May 2026, Gard handled over 70 bunker-related claims - a 50% increase on the same period last year. Almost all involved fuel quality, and the pattern has sharpened since the Middle East conflict escalated in late February.

This report shares practical observations from these recent cases, highlighting recurring challenges and essential considerations for managing fuel quality issues effectively.





### Distribution of poor quality bunker claims by bunkering port

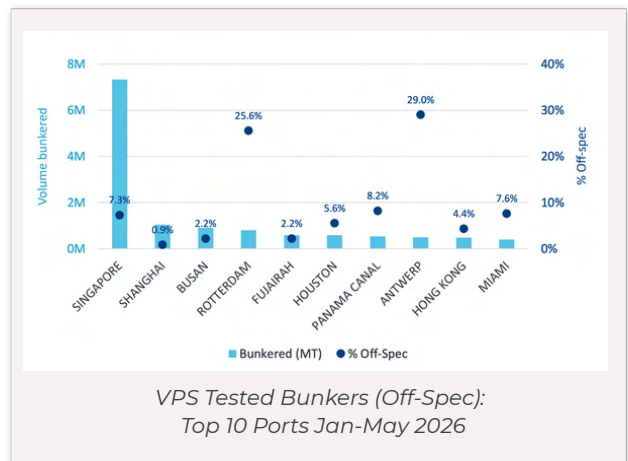
The map above illustrates the geographic distribution of bunker-related cases recorded during the first five months of 2026, based on the stem location (the port where the vessel was bunkered). While the data indicates a broadly dispersed risk profile, these incidents appear across multiple regions, reflecting established global supply patterns.

While a high number of cases were recorded at major bunkering hubs such as Singapore, Houston, and the ARA region, this is largely reflective of their substantial supply volumes. As the claims data only captures quality issues and not the total volume of fuel supplied, it is not indicative of a higher number of bunker quality issues at these locations as a proportion of the overall fuel stemmed.

### Ports with the highest off-spec rate

According to VPS data, reflecting all fuel analyses whatever the result, ports such as Antwerp and Rotterdam record some of the highest off-specification rates, at 25.6% and 29.0% respectively.

In contrast, Singapore, the world's largest bunkering port, reported an off specification rate of 7.3%, which is below the global average of 8.8% as of May 2026.



## Comparing with 2025 and impact of Middle East conflict

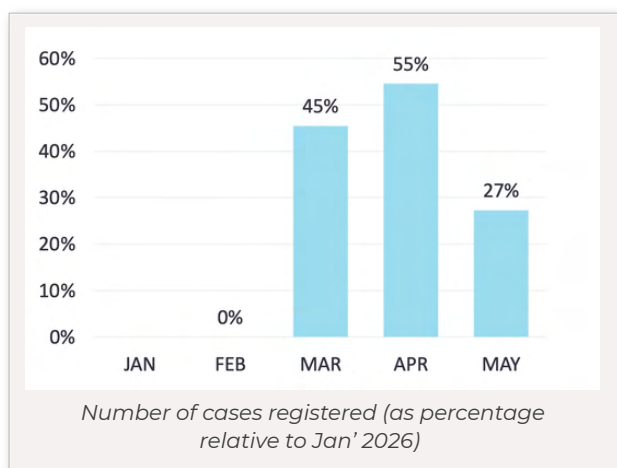
Data from the first five months of 2026 indicates a rise in both the volume and complexity of bunker related claims. We recorded approximately 70 such cases between January and May 2026, representing an increase of approximately 50% compared to the same period in 2025.

Furthermore, our data for 2026 shows a distinct upward trend when comparing the early months of the year (January and February) to the subsequent period (March through May), which coincides with the escalation of regional tensions in the Middle East.

The following graph illustrates this month-by-month distribution, highlighting the increased number of cases registered following the onset of the conflict.

While this uptick does not definitively prove that regional tensions in the Middle East are the primary driver, it is consistent with a market facing heightened operational and supply-chain pressures.

Factors such as evolving fuel-blending practices, shifts in sourcing, and constrained availability likely contribute to this risk environment. Although claims data alone cannot establish direct causation, industry experts and testing laboratories have noted that current conditions may incentivise the use of cheaper, lower quality blend stocks, potentially fueling a global surge in bunker quality incidents.



## VPS on impact of Middle East conflict on bunker quality

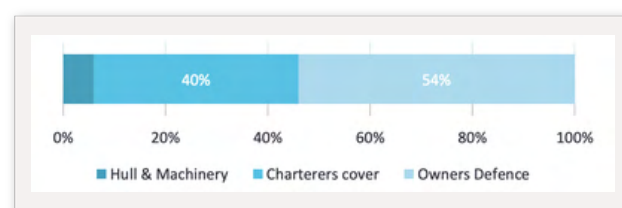
Over the first five months of 2026, VPS reported an increase in bunker alerts, issuing 20 alerts since the onset of the Middle East conflict at the end of February, covering 11 locations worldwide. While it is difficult to directly attribute these issues to the conflict, supply chain disruptions have led refineries to adjust crude slates and optimize production based on economic factors, with some also operating below capacity.

This has contributed to a rise in off-specification parameters, particularly Total Sediment Potential (TSP) and catalytic fines (Al+Si), on a largely global basis. At the same time, higher feedstock costs and rising bunker prices have influenced blending practices, increasing the use of cutter stocks to manage costs, which may further impact fuel quality.

Furthermore, as noted in the VPS circular 'Fuel Quality Management for Vessels in Extended Idle: Arabian Gulf, Gulf of Oman & Adjacent Anchorages', vessels remaining idle in the region for extended periods face an increased risk of fuel degradation. This is particularly critical for vessels carrying biofuel blends; for instance, FAME (UCOME) blends may exhibit reduced storage stability when subjected to extended periods of inactivity.

## Claims by insurance cover

Over half of the claims registered were filed under Owners' Defence cover, followed by 40% under Charterers' P&I and 6% under Hull and Machinery. While most cases involved operational difficulties or machinery damage, a significant number of owners demonstrated proactive risk management by promptly notifying their charterers or suppliers (given the short contractual time bars) upon receiving fuel analysis results that indicated potential quality issues.



This distribution reflects the typical allocation of responsibility for bunker supply under time charter arrangements. Because time charterers generally arrange and pay for bunkers, disputes regarding off specification or unsuitable fuel frequently arise within the contractual relationship between the owner and the charterer. Hull & Machinery (H&M) claims generally arise only when fuel quality issues lead to significant operational damage, such as engine failure, which may escalate into a major casualty like a grounding leading to hull breach and pollution.

On a positive note, none of the serious casualties handled by Gard this year were suspected to be caused by poor fuel quality. However, several incidents did result in vessels becoming disabled, which presents a clear and serious risk when occurring in coastal or congested waters.

## Types of fuels with quality claims

VLSFO accounted for over 85% of all bunker-related claims recorded during the first five months of 2026, with significantly fewer cases involving LSMGO and HSFO. This distribution aligns with prevailing market practices, as VLSFO remains the primary marine fuel following the implementation of the global sulphur cap in 2020.

The concentration of incidents within the VLSFO segment is also consistent with the inherent technical challenges of the fuel. VLSFO is often a complex blend of multiple components, which increases the risk of compositional variability and the potential for unusual chemical contaminants. Consequently, while fuel quality disputes can occur across all grades, VLSFO remains the primary area of exposure for the industry.

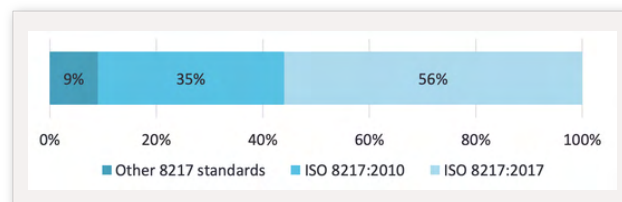
Looking at the VPS off-specification data for Jan-May 2026, globally 8.8% of fuels are off-specification for at least one test parameter.

The global breakdown by fuel type is:

- VLSFO - 8.7%
- HSFO - 8.5%
- Distillates - 8.8%
- ULSFO - 28.8%
- Biofuels - 0.4%

## ISO standards

Another observation from the first five months of 2026 is the variety of ISO 8217 fuel standards referenced in supply contracts. While the 2017 version remains the most common, appearing in over half of the cases reviewed, a notable number of contracts still rely on outdated standards, such as ISO 8217:2005.



However, the ISO specification provides only a partial view of fuel quality. Many recent cases show that even where a stem meets the parameters set out in one of the two tables of ISO 8217<sup>1,2</sup>, it may still give rise to significant operational issues. This is particularly evident where the fuel has been cut with other feeder stock, where substances not captured by standard Table 2 parameters can adversely affect performance. More exploratory testing, such as GCMS testing, is required to identify chemicals which fall outside the Table 2 parameters, the presence of which may still be a breach of the Clause 5 requirement that the fuel must be free of any material which may be harmful to the ship or personnel.

In our experience, around 60% of cases involved failures of Table 2 parameters (such as Total Sediment Potential and cat fines), and in many of these, the presence of other problematic chemicals was also suspected. The remaining 40% comprised cases where the presence of other problematic chemicals was alleged despite the fuel being fully on-spec for Table 2 parameters.

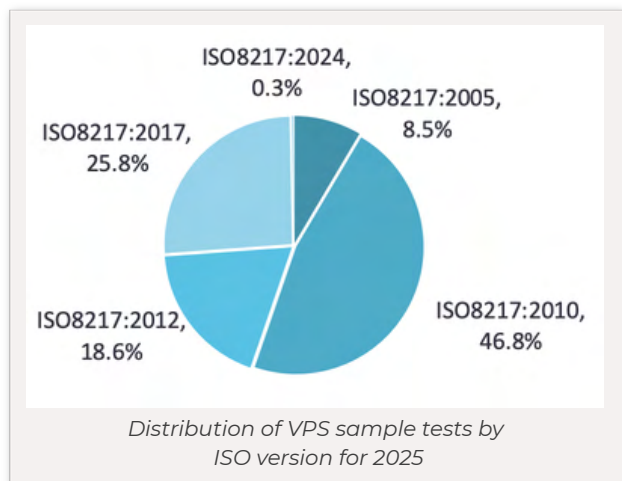
These findings highlight that, while the parameters addressed by Table 2 of the ISO 8217 remains an essential reference point, it does not on its own ensure fuel suitability. A more comprehensive assessment is required, particularly in relation to Clause 5, rather than relying solely on a binary on spec/off-spec determination under Table 2.

<sup>1</sup> ISO 8217:2024 introduces four tables, compared with two in previous editions. In this context, reference is made to two tables of ISO 8217:2017 and earlier versions, which remain the basis for the majority of current bunker supply and charter party agreements.

<sup>2</sup> Henceforth, we will only mention Table 2 (residual fuel grades), which accounts for the majority of bunker quality claims under 8217:2017 and earlier specifications. Table 1 (Distillate grades) have not been mentioned, as they constitute a comparatively smaller proportion of the claims dataset, and Tables 3 and 4 of the 2024 standard have been omitted as they pertain to fuel types, such as biofuels and HSFO categories, that represent a negligible portion of the claims.

## Fuel purchasing patterns across ISO 8217 standards

Fuel purchasing trends across different ISO 8217 revisions indicate that the transition to the latest ISO 8217:2024 specification has been relatively slow. According to VPS, the majority of fuel continues to be procured against older standards, primarily ISO 8217:2017 and ISO 8217:2010.



## Case studies on harmful materials

### Case study 1: Engine damage and towage linked to harmful materials

A laden vessel suffered a total main engine failure after high-temperature alarms in two cylinder units triggered the seizure of piston rings and liners. Significant abrasive wear was subsequently discovered across the remaining units, rendering the engine inoperable and leaving the vessel drifting for three days before requiring a four-day towage to port.



*Wear on cylinder #6*

*Injection control units caked with hard carbon*

The incident necessitated a declaration of General Average and transshipment of the cargo. Repairs took four weeks and cost approximately USD 0.5 million. The root cause was identified as poor-quality VLSFO (ISO 8217:2005) supplied in Antwerp, which ultimately required full debunkering and cleaning of the fuel tanks.

Notably, while the fuel met all standard Table 2 parameters under ISO 8217, subsequent analysis confirmed it was prone to instability if stored above certain temperatures for more than 30 days and contained harmful materials, specifically organic acids, at levels exceeding 6,000 ppm.

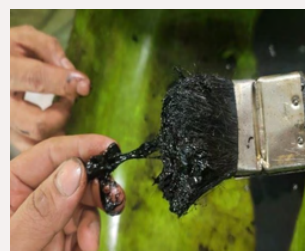
In another instance, a vessel required a three-week towage to reach a port for repairs.

### Case study 2: Damage by harmful materials

The vessel was transiting the Singapore Straits when the engine fuel oil low-pressure alarm activated. The crew successfully isolated the affected fuel line by switching the generators to the MGO flushing line.

Following the switch to MGO, the crew inspected and cleaned the No. 1, 2, and 3 G/E fuel oil suction filters. Once confirmed clean and the pressure stabilized, the generators returned to normal operation. Simultaneously, the Main Engine (M/E) fuel system faced severe clogging of the automatic back-wash filter unit. The rate of filter clogging, driven by the harmful materials, rapidly exceeded the cleaning capacity of the back-wash unit, leading to a critical drop in M/E fuel oil pressure.

VLSFO was stemmed in Singapore. While the fuel was reportedly compliant with Table 2 parameters, subsequent laboratory analysis revealed the presence of harmful chemical compounds, such as cardol and resorcinol, in concentrations exceeding 22,000 ppm. Owners took a decision to de-bunker this stem.



*Sticky substance in sludge*

### Case study 3: Main engine failed to start

The vessel experienced propulsion failure while drifting in preparation for pilot boarding, approximately two days after transitioning to a fuel tank containing a blend of ULSFO and B-30 (CNSL). Investigations are currently underway; however, preliminary surveyor findings indicate that the damage sustained by the fuel injectors and pumps is directly attributable to the use of poor-quality fuel, with Cashew Nut Shell Liquid (CNSL) contamination identified as a cause.



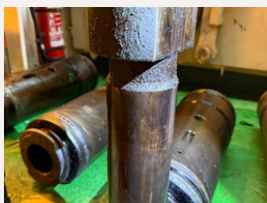
Wear and scratches on plunger



Injector tip showing signs of carbonization

### Photographs from other claims

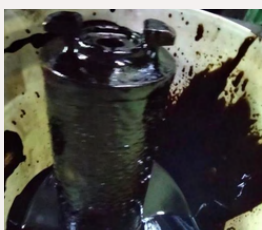
A few photographs of machinery issues from various claims suspected to be caused by poor quality bunkers:



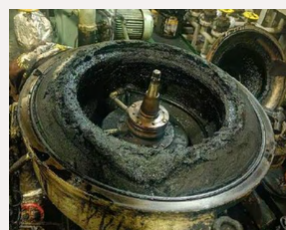
Overheating marks on the plunger



Scratch on plunger



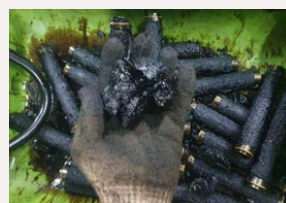
Sticky sludge on top of fuel filter



Purifier choked by sludging



Piston rings broken and build up of carbon on cylinders



Condition of auto back wash filters



Sediment in fuel pump housing



Bunker tank cleaned after debunkering fuel with high catfines

### Regulatory non-compliance: Sulphur and Flash point

#### Sulphur content

Non-compliance with sulphur content limits constitutes a breach of the MARPOL Convention, exposing vessels to detention, heavy fines, and the requirement to debunker non-compliant fuel before port clearance can be granted.

In the first five months of 2026, such incidents accounted for approximately 12.86% of all bunker quality claims. The majority of these cases involved VLSFO exceeding the 0.5% global sulphur limit, with some instances reaching levels as high as 2.7%. A smaller percentage involved HSFO exceeding the 3.5% limit (for scrubber-equipped vessels) and ULSFO exceeding the 0.1% limit within Emission Control Areas (ECA).

#### Case study 4: Excessive sulphur content

During a routine inspection in China, the China MSA tested the vessel's VLSFO and found sulphur content > 2%. These bunkers had been stemmed in Port Klang. Upon receiving the test results, authorities sealed the affected bunker tanks, rendering them unusable until the fuel was debunkered and the tanks thoroughly cleaned. The situation was further complicated by the fact that the vessel had already been redelivered by the time charterers at the time of MSA inspection, creating significant challenges regarding contractual liability for the removal and cleaning costs.

Furthermore, if a ship's independent fuel analysis indicates non-compliance, the Master should formally notify the ship's Flag Administration, the competent authority at the port of destination, the Administration

under whose jurisdiction the bunker supplier operates, and the bunker supplier themselves. This is something the Port State Control officers could check (ref IMO Resolution A.1206(34), Appendix 18).

### Flash point

Under SOLAS Chapter II-2, Regulation 4, fuel oil intended for use on board must have a flash point of at least 60°C. Maintaining this limit is critical to minimizing the risk of fire and explosion. During the first five months of 2026, claims involving flash point non-compliance represented approximately 4.11% of the total cases.

#### Case study 5: High flash point of MGO

A vessel was supplied with MGO that initially tested well below the 60°C threshold. Following a dispute, joint testing confirmed that the flash point remained below the 60°C threshold. Due to this regulatory non-compliance, the vessel was forced to debunker the entire batch, resulting in delay and cost.

It is worth highlighting that the January 2026 updates to SOLAS have introduced requirements for the mandatory pre-bunkering declaration and Bunker Delivery Notes (BDNs). Under these updated regulations, the BDN must now include the exact flashpoint value of the fuel, or explicitly state if it has been determined to be at or above 70°C, ensuring greater transparency and safety before bunkering operations commence.

### Quantity claims

Alongside fuel quality disputes, a small number of cases (3% of the bunker related claims registered) in the first five months of 2026 involved quantity-related claims, particularly in the ARA region, where the use of Mass Flow Meters (MFM) was mandated earlier this year. These disputes typically arise from discrepancies between MFM records and the quantity received on board, or concerns regarding the operation, calibration, and verification of the MFM system. In several instances, factors such as the timing of the last calibration and the ability of the vessel's representatives to actively participate in the measurement process have been critical in determining the strength of a claim.

#### Case study 6: MFM quantity discrepancy

A vessel reported receiving nearly 60 metric tons less VLSFO than indicated on the bunker delivery note. Notably, the surveyor and crew were denied the opportunity to physically sound the bunker barge, and it was later discovered that the MFM calibration certificate was over 16 months old. Formal protests were promptly issued to the bunker barge operator. While investigations are ongoing, the surveyor suspects that the MFM was not properly calibrated, leading to inaccurate readings.

While the MFM system is a significant step toward reducing quantity disputes, its effectiveness depends heavily on rigorous oversight by port authorities. For further details on MFM implementation in the ARA region, please refer to their FAQ document.

Key guidance highlights the vital role of the bunker surveyor in ensuring compliance with MFM requirements, and authorities have provided [placards](#) to assist crews in reporting instances of non-compliance directly to the Harbour Master.

Importantly, authorities have clarified that they will not intervene in commercial disputes. In the event of a quantity disagreement, their role is strictly limited to determining whether the MFM shows a significant deviation and whether the system was operated correctly. Beyond those technical findings, the resolution of any remaining dispute remains the sole responsibility of the commercial parties involved.

### Challenges in poor quality bunker claims and contractual considerations

This report does not seek to examine in detail the challenges associated with claims handling or the full scope of contractual considerations. Instead, we highlight below some of the key points that commonly arise in practice:

## A fragmented contractual landscape

Bunker quality claims typically involve multiple stakeholders, owners, charterers, bunker traders, and physical suppliers, operating under different contractual frameworks. When disputes arise, these overlapping and often conflicting terms create complexity in determining liability and recovery routes.

## The challenge of parallel contractual chains

At the heart of most disputes lies the misalignment between two contractual chains: the charterparty (owner–charterer) and the bunker supply contract (charterer–supplier). These agreements are rarely harmonised, leaving time charterers exposed at the intersection. They are often accountable to owners while facing limited recourse against suppliers.

## Direct buyers and shifting risk exposure

Liner operators and major owners purchasing bunkers directly avoid the charterparty–supply chain mismatch. However, this shifts exposure directly onto the buyer, who must deal with supplier-drafted general terms and conditions. In such cases, negotiating bespoke agreements – particularly around sampling and testing – is critical to managing risk.

## Which sample governs the dispute?

A key point of contention is the selection of the “binding” sample. Charterparties commonly rely on manifold samples taken at delivery (e.g. vessel- or surveyor-retained), while supplier terms typically designate the barge or supplier-retained sample as final and binding. This fundamental mismatch frequently undermines claims and fuels disputes.

## Concerns around sample integrity

Some cases have highlighted concerns regarding the integrity of supplier-retained samples. Discrepancies between vessel and supplier samples, as well as suspected tampering, underline the importance of robust sample handling procedures and strict chain-of-custody controls to preserve evidential value.

In one instance, a surveyor noted a dislodged and perforated tamper-evident ring on a supplier’s retained sample. While analysis of the vessel’s manifold and tank samples revealed significantly elevated cat fines

(>200 mg/kg) and sodium levels (>500 mg/kg), the supplier’s retained sample remained on-spec and consistent with the Certificate of Quality. This discrepancy led to a formal complaint being lodged with the relevant authorities and highlighted the critical importance of proper sample handling and chain-of-custody procedures.

Photographs of the compromised seal from this case are shown below.



There have also been allegations that advanced methods, such as 3D-printed seals, may be used to replicate tamper-evident closures. While such concerns underline potential risks, they have not been substantiated in cases handled by us to date.

## Off-spec on Table 2 parameters: simple in theory, complex in practice

While ISO 8217 Table 2 provides clear thresholds for off-spec parameters, claims are often complicated in practice. Differences in test results between samples, reliance on single-parameter testing, and the application of testing tolerances (ISO 4259) can all make it difficult to conclusively establish non compliance.

## Risks of narrow, single-parameter testing

Suppliers often seek to limit testing to a single off-spec parameter. However, this approach can obscure whether the sample tested is truly representative of the delivered fuel, especially where earlier analyses indicated broader quality concerns.

## Why full fingerprinting matters

A comprehensive “fingerprinting” analysis provides a complete chemical profile of the fuel, enabling meaningful comparison between samples. This approach strengthens the evidential basis of a claim and reduces the risk of disputes over sample authenticity or representativeness.

## **When fuels are on-spec for Table 2, but still problematic; and application of Clause 5**

More complex cases arise where fuels meet Table 2 specifications but still cause operational issues. These situations fall under Clause 5 of ISO 8217, which addresses the situation where fuels may be unsuitable for use despite technically meeting standard Table 2 parameters. The significant hurdle for parties seeking to rely on Clause 5 of ISO 8217 is establishing the causative element – that the characteristics of the fuel results in the fuel being unsuitable for use.

### **The evidential burden under Clause 5 of ISO 8217**

Proving a breach of Clause 5 requires demonstrating not only the presence of contaminants but also their adverse impact on machinery or safety such that the fuel will be unsuitable for use. Standard testing methods may not detect all harmful substances, necessitating advanced techniques such as GCMS or bespoke forensic analysis is often required to prove a breach of Clause 5 beyond the standard testing methods usually used to test for the Table 2 parameters.

In some cases, owners and charterers may agree to trial consumption or fuel treatment to assess suitability. While this can provide valuable practical evidence, it carries operational risks and must be carefully documented. Where trials are not feasible, reliance is typically placed on expert opinion. However, differing expert views mean that assessing the impact of specific compounds can, at times, be as much an art as a science. It is worth mentioning that ISO 8217:2024 acknowledges these challenges and in Annex B clarifies that where a factual cause-and-effect relationship between the presence of one or more chemical species and operational issues can be established, the fuel is deemed to have not met the ISO 8217 standard.

### **The importance of structured joint testing**

Disputes often require formal joint testing of samples. To avoid further conflict, parties should agree in advance on a detailed testing protocol covering chain of custody, laboratory procedures, witnessing, and testing methodology. Without such alignment, evidential disputes can escalate quickly.

## **Conclusion**

### **Bunker quality risk remains global and multi-dimensional**

The cases from early 2026 demonstrate that bunker quality remains a persistent, global risk rather than a localized issue. Handling such claims highlights that these disputes are rarely purely technical; they involve interconnected operational, contractual, and evidentiary challenges, particularly within the framework of time charter parties where responsibilities are shared between owners and charterers.

### **Operational consequences can be severe and prolonged**

The consequences of using substandard bunkers can be severe, as illustrated by our earlier case study involving machinery damage, the need for towage, expensive and lengthy repairs, and the subsequent transshipment of cargo.

Furthermore, commercial or legal deadlocks frequently force vessels to carry poor-quality fuel onboard for extended periods, tying up critical tank space and impacting on the charterers' ability to trade the vessel efficiently. If the fuel violates regulated environmental parameters, such as MARPOL sulfur limits, the vessel faces the immediate risk of port state control detention, which can remain in place until the non compliant fuel is physically debunkered.

### **Significant impact on crew workload and safety**

At the same time, the burden on crew should not be underestimated. Managing problematic fuel often requires intensive monitoring, frequent manual intervention, and reactive troubleshooting under challenging conditions. This not only increases workload but may also impact fatigue levels and shift focus away from planned maintenance and safe operations.

Importantly, crews are sometimes left to manage bunkers largely based on personal experience, with limited guidance from technical management. This underscores the need for clearer and more practical instructions from shore-based teams. Specifically, guidance should focus on how to manage poor-quality bunkers, including key

machinery parameters to monitor and early warning signs of deteriorating performance, to help crews mitigate associated risks more effectively.

### **ISO compliance does not guarantee fuel fitness**

A key takeaway from the claims experience is that compliance with ISO 8217, particularly Table 2 parameters, does not necessarily equate to fuel fitness. A significant proportion of cases involved fuels that were technically on-spec but caused operational issues due to chemical contamination. This underscores the growing importance of Clause 5 considerations and the limitations of relying solely on standard specifications.

### **Risk mitigation requires both operational and contractual focus**

Looking ahead, effective risk mitigation continues to require a combination of operational diligence and contractual awareness. Owners should prioritise robust fuel management practices, maintain adequate spare parts, and ensure timely notification and documentation when issues arise. Equally important is a clear understanding of contractual rights and obligations, particularly in relation to sampling, testing, and evidential requirements.

### **Shared responsibility and cooperation are critical**

Above all, close cooperation between owners and charterers is likely to be beneficial in the swift resolution of bunker quality issues. It is in the interest of both stakeholders; preventing the supply and use of poor-quality fuel is a shared responsibility and the most effective way to safeguard vessel safety and operational continuity.

*We would like to thank VPS for their contribution to this report.*

