

# BEST PRACTICES AND RISKS IN ONBOARD BLENDED AND COMMINGLED LIQUID BULK CARGOES

IT IS COMMON FOR SHIPS TO RECEIVE REQUESTS FROM CARGO INTERESTS TO BLEND OR COMMINGLE LIQUID BULK CARGOES. THESE PROCESSES ARE OFTEN CARRIED OUT TO MEET SPECIFIC MARKET REQUIREMENTS, ADHERE TO REGULATORY STANDARDS, OR CUSTOMISE THE PRODUCT FOR END-USER NEEDS.

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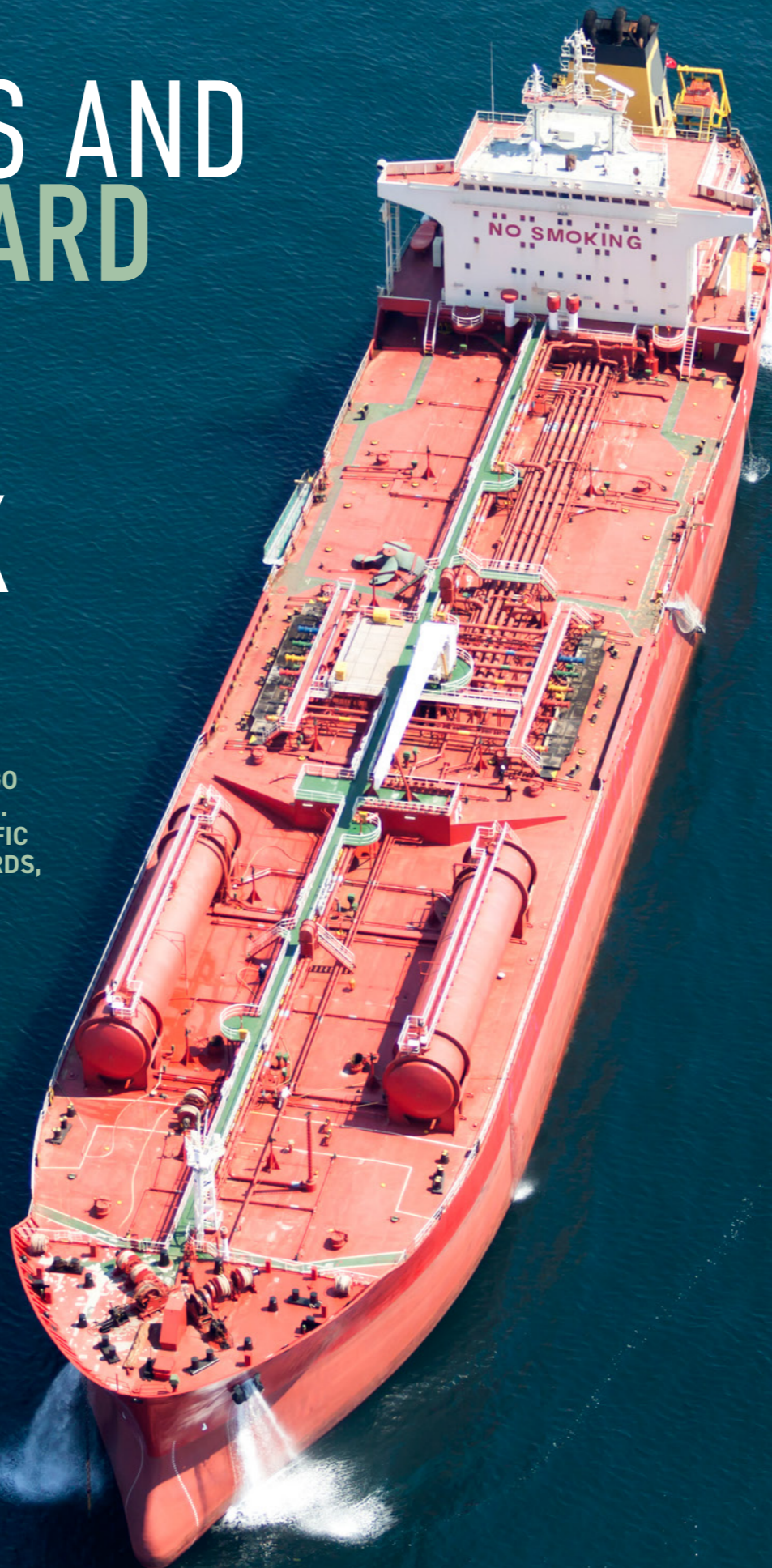
## BLENDING OR COMMINGLING?

The terms 'blending' and 'commingling' are often used interchangeably in the shipping industry when two or more different parcels of liquid bulk cargo are loaded into the same cargo tank.

According to SOLAS Chapter VI, Regulation VI/5-2, physical blending is defined as 'the process whereby the ship's cargo pumps and pipelines are used to internally circulate two or more different cargoes with the intent to achieve a cargo with a new product designation'. Blending may also involve loading different products into the same cargo tank to achieve a new product with a new specification (a blend mixture), without the need for internal circulation using pumps or pipelines.

In contrast, commingling is the intentional admixing (loading on top) of different parcels of cargo, typically of the same grade, from one or multiple loading ports, in the same cargo tank without any segregation.

In summary, blending creates a new product description and specification by mixing different products, while commingling typically involves combining cargoes that already conform to a similar agreed specification. This process does not significantly change the properties of the cargo (e.g., converting an off-spec product to on-spec before delivery to the receivers).



## ASSOCIATED RISKS

- 1. Physical blending during sea voyages:** SOLAS Chapter VI Regulation VI/5-2 prohibits the physical blending of bulk liquid cargoes and production processes during sea voyages, effective 1 January 2014. However, this does not prohibit doping, dyeing, or cargo recirculation for temperature control and homogenisation. Blending at anchorage depends on the local administration's interpretation of 'sea voyage'.
- 2. Final product not meeting specifications:** Blending cargo on board, other than physical blending, relies on the loading sequence, with heavier density cargo loaded first, followed by lighter density cargo to facilitate mixing and homogenising during the loading operation. Errors in volumetric loading can result in off-spec cargo when loaded into multiple tanks. Additionally, the ship's motion at sea can affect the blending process, making it difficult to achieve a homogeneous mixture on shorter voyages. Improper blending due to significant short loading at various sequences can lead to off-spec cargo.
- 3. Inadequate sampling techniques:** Final samples taken after loading should be representative and taken at various depths using a zone sampler to reflect the correct status of the blending. Inaccurate sampling leads to unreliable outcomes.
- 4. Calculation errors in product quantities:** Ensure each tank is loaded with the same volumetric proportion as the entire parcel. Variations in individual tank capacities, ship's trim, list, and stability requirements should be accounted for during stowage and loading planning, as they can affect the final product blend ratio.
- 5. Bill of lading issues:** Cargo may be loaded from different ports, on different dates, or by different suppliers. Blending/commingling can impact the specifications of the cargo, and the carrier could be liable under previously issued bills of lading. The bill of lading should reflect the actual condition of the cargo and indicate any blending/commingling operations.
- 6. Final density/API:** The final blended/commingled API/density used for cargo calculation will differ from the original individual API/density of the cargoes. This must be considered during calculations.

## BEST PRACTICES

- Carefully review the charterparty for blending, commingling clauses and seek advice from the Club as needed.
- Blending / commingling falls outside the scope of a carrier's obligations under the Hague-Visby Rules. Seek advice from the Club on obtaining a Letter of Indemnity (LOI) from the shipper or charterer covering any liability, costs, and expenses incurred, including loss of time.
- Obtain the loading sequence from the shipper in advance and plan the loading operation accordingly.
- If the ship is involved in a shipboard blending operation, wherever possible, request the individual cargo component density for each sequence and the expected final density to be used for stowage planning and checks for draft restrictions.
- Ensure to obtain written instructions from the charterer for blending/commingling, signed by their representative.
- Request written confirmation from charterers/shippers that the buyers (i.e., receivers/ consignees) of the cargo are aware of and consent to the proposed blending/commingling.
- Whenever possible, load all nominated tanks evenly in terms of volume or in the same volumetric proportion as the entire parcel.
- The bill of lading should contain appropriate clauses accurately describing the nature of the operation and dates of loading.
- Sampling after the blending of bulk liquid cargoes on board is crucial to ensuring quality and consistency. Sampling should adhere to industry standards and guidelines, using appropriate equipment and procedures.

## SEEK GUIDANCE FROM THE CLUB

Each instance of blending and commingling is different. Shipowners should seek guidance from the Club whenever such requests are received from the charterers, especially if any of these operations might prejudice the Club cover. They should bear in mind a Letter of Indemnity can be unenforceable. Agreeing to these operations based on a Letter of Indemnity is a commercial decision for shipowners to make.