

Manual of Petroleum Measurement Standards Chapter 19.5

**Atmospheric Hydrocarbon Emissions from Marine Vessel
and Land Based Transfer Operations**

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Atmospheric Hydrocarbon Emissions from Marine Vessel and Land Based Transfer Operations

1 Scope

This standard provides methods for estimating evaporative loss from marine vessel and land based transfer operations. Specifically, this standard addresses:

- 1) loading stock into:
 - ship or ocean barges, or shallow draft barges,
 - tank trucks, and
 - rail cars.

loading ballast water into ship or ocean barges from which crude oil has been unloaded.

This standard does not address evaporative loss for:

- 1) very large crude carriers (VLCCs) or ultra large crude carriers (ULCCs) (unless the saturation factor KS is determined—note that the saturation factors given in this standard for ships would be expected to be conservative for cargo compartment depths greater than 40 ft);
- 2) marine vessels employing crude oil washing (see 3.1.5);
- 3) marine vessel transit loss;
- 4) loading ballast water into marine vessels that, prior to on-ship unloading, held anything other than crude oil (unless the saturation factor KS is determined); or
- 5) unloading marine vessels.

2 Normative References

There are no documents referred to in the text in such a way that some or all of their content constitutes requirements of this document.

3 Terms, Definitions, and Symbols

3.1 For the purposes of this document, the following terms and definitions apply.

3.1.1

ballasted compartment

An uncleaned compartment that has been loaded with ballast water.

3.1.2

capture efficiency

The percent of vapors displaced from a cargo compartment during loading that are routed into the terminal's vapor collection system.

3.1.3

cleaned compartment

A compartment that has been water washed.