Coast Guard Sector Houston-Galveston
Marine Safety Information Bulletin 01-19

Inerting Requirements for Oil and Chemical Tankers

Sector Houston-Galveston continues to observe non-compliance with international and U.S. regulations surrounding the operational use of inert gas systems[1] for cargo tank protection onboard oil and chemical tankers. Thus, the purpose of this bulletin is to provide clarifying guidance on these complex technical requirements, so that owners, operators, and other involved parties can take proactive steps to promote the safe carriage of oil and chemical cargoes.

For vessels constructed[2] prior to January 1, 2016, 74 SOLAS 2014 II-2/4.5.5.2.1.2 permits some tankers to carry some MARPOL Annex II cargoes[3] of a flashpoint ≤60°C without inerting. Sector Houston-Galveston reminds the industry that ***all three*** criterion listed in 74 SOLAS 2014 II-2/4.5.5.2.1.2 (i.e. tank size ≤3000 m^3, individual nozzle capacity of tank washing machines ≤17.5 m^3/hr, ***and*** total capacity of tank washing machines per tank ≤110m^3/hr) ***shall be met*** before this exemption may be applied. Vessels failing to fulfill any of the three aforementioned criterion ***shall*** properly inert their tanks. Failure to do so violates international conventions and may lead to control measures, including issuance of a COTP Order or initiation of an IMO detention. Such measures may undoubtedly result in substantial delays to vessel operations.

For vessels constructed[2] on or after January 1, 2016, MSC.365(93) lowered the deadweight tonnage (DWT) limit for inert gas requirements from 20,000 to 8,000. It also removed the inerting exemption mentioned in the aforementioned paragraph for these newer tankers. That is, on tankers constructed on or after January 1, 2016, and of ≥ 8000 DWT, all cargoes with a flashpoint ≤60°C ***must*** be inerted[4], regardless of tank size or tank washing machine capacity.

For all vessels required to be fitted with an inert gas system[5], SOLAS requires that the system "shall be so operated to render and maintain the atmosphere of cargo tanks non-flammable, except when tanks are required to be gas-free[4,6]." While a provision in the amended SOLAS regulations may allow chemical tankers to inert certain cargoes after loading but before commencement of discharge operations[7] (provided nitrogen is the inerting medium), U.S. regulations (applicable to both U.S. and foreign-flagged tankships[8]) clearly ***prohibit*** loading crude oil or other petroleum products[9] with a flashpoint ≤60°C into non-inert tanks[10]. Failure to do so violates U.S. regulations and may lead to control measures, enforcement actions or both, which again may result in substantial delays to vessel operations.

Table 1 provides a graphical depiction summarizing the inert gas regulations.

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[1] *74 SOLAS 2014 II-2/1.6* specifies that fire safety requirements for tankers (to include inert gas systems) apply to tankers carrying cargoes having a flashpoint not exceeding 60°C.

[2] As delineated in *74 SOLAS 2014 II-2/1.1.2*, "constructed" means keel laid date.

[3] "MARPOL Annex II cargoes" may be considered as X, Y, or Z Noxious Liquid Substances (NLSs) listed in Chapter 17 or 18 of the *IBC Code* or the most recent edition of *MEPC.2/Circ.*, the carriage of which is recorded in a Cargo Record Book.

[4] Per *IBC 15.13.5* (as amended by *Resolution MSC.369(93)*) when a cargo containing an oxygen-dependent inhibitor is to be carried, the application of inert gas shall not take place before loading or during the voyage, but shall be applied before commencement of unloading.

[5] Based on deadweight tonnage and keel laid date.

[6] *74 SOLAS 14 II-2/16.3.3.1*; applicable to all tankers irrespective of keel laid date (*74 SOLAS 2014 II-2/1.2.7*).

[7] *74 SOLAS 14 II-2/16.3.3.2*; applicable to all tankers irrespective of keel laid date (*74 SOLAS 2014 II-2/1.2.7*).

[8] *46 CFR 32.53-5; 46 CFR 30.01-5(e)(2).*

[9] "That is, MARPOL Annex I cargoes, the carriage of which is recorded in an Oil Record Book, Part II.

[10] For tankers required to be fitted with an inert gas system, based on their deadweight tonnage and keel laid date.

TABLE 1: SOLAS INERTING REQUIREMENTS

Note: The IBC Code requires inerting of some chemical cargoes, irrespective of SOLAS inerting requirements. Column 'h' of Chapter 17 of the IBC Code should be closely checked for each specific cargo. As explained in this bulletin, a cargo with "no" in column 'h' may still require inerting under SOLAS.

Keel laid date[1]		01JUL1986-31DEC2015	01JUL1986-31DEC2015	≥01JAN2016
Deadweight Tonnage		≥20,000	≥20,000	≥8000
Tank size and tank washing machine capacities		• Tank size ≤3000 m^3; and • Individual tank washing machine nozzle capacity[2] ≤17.5 m^3/hr; and • Total capacity of tank washing machines per tank ≤110 m^3/hr	• Tank size >3000 m^3; or • Individual tank washing machine nozzle capacity[2] >17.5 m^3/hr; or • Total capacity of tank washing machines per tank >110 m^3/hr	Any tank size and tank washing machine capacity
Cargoes	MARPOL Annex I cargoes[3] with flashpoint ≤60°C	IG required	IG required	IG required
	MARPOL Annex II cargoes[4] with flashpoint ≤60°C	IG not required	IG required[5]	IG required[5]
	MARPOL Annex I and II cargoes with flashpoint >60°C	IG not required	IG not required	IG not required

1. For vessels with a keel laid date prior to 01JUL1986, please refer to NVIC 2-88 for amplifying guidance.
2. Nozzle capacity is a function of pressure. For the purpose of inerting requirements, nozzle capacity is considered the rated output at the pressure listed in Addendum B of the vessel's Procedures and Arrangements (P & A) Manual.
3. "MARPOL Annex I cargoes" may be considered as crude oil or other petroleum products, the carriage of which is recorded in an Oil Record Book, Part II.
4. "MARPOL Annex II cargoes" may be considered as X, Y, or Z Noxious Liquid Substances (NLSs) listed in Chapters 17 or 18 of the *IBC Code* or the most recent edition of *MEPC.2/Circ.*, the carriage of which is recorded in a Cargo Record Book.
5. Per *IBC 15.13.5* (as amended by *Resolution MSC.369(93)*) when a cargo containing an oxygen-dependent inhibitor is to be carried, the application of inert gas shall not take place before loading or during the voyage, but shall be applied before commencement of unloading. *MSC-MEPC.2/Circ.14* states that the Certificate of Protection must specify the minimum level of oxygen required in the vapor space of the tank for the inhibitor to be effective.

For more information, questions, or comments regarding this bulletin, the primary contact is:
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