



MARITIME AND PORT AUTHORITY OF SINGAPORE

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Shipping Community  
Master of Vessel

## **GUIDELINES FOR PREPARING VESSEL FOR GAS-FREE INSPECTION**

Pursuant to Regulation 11 of the Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations, 2005, any vessel which has carried Class “A” or Class “B” petroleum<sup>1</sup> as a whole or part of her last cargo has to anchor at a designated petroleum Anchorage, and she is not allowed to proceed to any place within the port (except proceeding to a special anchorage or an oil terminal) or into the shipyards for repairs unless such vessel has been certified free from flammable vapour by an Inspector of Petroleum.

2 To enable the vessel to enter port or shipyard for repair without delay, the Master, when preparing the vessel for certifying free from flammable vapour (gas-free inspection), is required to ensure that the following important requirements are complied with:

- (a) Prior to the inspection of a vessel, which has carried Class A or Class B petroleum in bulk, the master is required to certify that all empty cofferdams and all the compartments, pumps and pipelines which contained petroleum have since the last discharge of such petroleum been thoroughly cleansed (to state the method of washing) and that the vessel is to the best of his knowledge and belief free from flammable vapour.
- (b) All compartments (including cargo tanks, pump-rooms and cofferdams) and pipelines are opened and must be completely freed from liquid petroleum and petroleum vapour. As far as possible they must also be freed from water, sediment, scale and rust or anything which might retain petroleum or its vapour.
- (c) All valves on cargo lines, both in the tanks and on deck should be opened and blank flanges removed.

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<sup>1</sup> Class “A” petroleum means any petroleum the flash-point of which is less than 23 degrees Celsius and includes liquefied petroleum gas.

Class “B” petroleum means any petroleum the flash-point of which is 23 degrees Celsius or more but less than 60 degrees Celsius.

(d) Consistent with docking requirements, only the minimum possible number of cargo tanks should be retained in ballast. If more than 50% of the cargo tanks are in ballast, the Inspector of Petroleum may require some of the tanks to be emptied for inspection before issuing the gas-free certificate.

(e) All slops on board have been discharged and that the slop tanks are thoroughly cleaned, ventilated and free from flammable vapour.

(f) The bunker tanks must not be contaminated with low flash-point petroleum such as Class "A" or Class "B" petroleum.

**3 The following points are often overlooked by the Master of the vessel and the cause of gas-free certification not being issued:**

(a) Gas-Freeing of cofferdams (the fact that a cofferdam is normally kept full of water does not mean that it is gas-free).

(b) Washing of pipelines, including crossovers and other possible 'dead ends' and complete draining thereof.

(c) Removal of sediment, sludge and scale (especially on stringers and similar places).

(d) Cleaning of heating-coils.

(e) Cleaning of gas-lines (including the traps and sumps).

(f) Emptying of pump-room bilges.

**4 The Inspector of Petroleum will inspect the following parts of the vessel with a combustible gas indicator to determine the presence of flammable vapour:**

(i) Pipeline openings on deck;

(ii) All empty cargo tanks;

(iii) Cofferdams or void spaces;

(iv) Pump-rooms;

(v) Ballast tanks (if not fully filled with water);

(vi) Slop tanks; and

(vii) Bunker tanks (if the vessel is to enter a shipyard).

**5** A Gas-Free Certificate will be issued to the Master of the vessel only if the Inspector of Petroleum is completely satisfied that items (i) to (vi) mentioned in para 4 above are free from flammable vapour. This certificate will only permit the vessel to proceed to other anchorages within the port. If a Gas-Free Certificate for entering a shipyard is required, in addition to being satisfied that items (i) to (vi) are free from flammable vapour, the gas reading of the bunker tanks (item vii) must also be 50 % of the lower explosive limit or less. In either case, no hot work is permitted unless the vessel is further certified pursuant to Regulation 40 of the Factories (Shipbuilding and Ship-repairing) Regulations.

6 The Gas-Free Certificate is valid for a period of 7 days from the date of issue. Notwithstanding the 7-day validity period, any change in the conditions or state of the examined parts of the vessel due to activities taken place subsequent to the examination, including but not limited to re-ballasting of tanks, pumping of bunkers, and steaming of pipelines or valves, shall invalidate the Certificate. Should the Certificate expire or any change in the condition occurred, it is necessary for the Inspector of Petroleum to re-inspect the vessel and a new Certificate issued thereupon. It is the responsibility of the Master of the vessel to monitor the expiry date and the condition and should the Certificate expire or any change occur, it is the responsibility of the Master of the vessel to inform the Inspector of Petroleum through the vessel's agent in order that a further inspection be carried out.

7 For further information on Gas-Free Inspection, please contact our officers at telephone no. 63752422 or fax no. 63752429.

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