



Office 3B, Kenridge Centre  
Cnr. Mildred & Tygervalley Roads  
Kenridge, Durbanville, 7550  
Western Cape  
**SAMSA Accredited Training Provider**

## TOPIC 3: MARPOL (MARINE POLLUTION)

### Explain your understanding of the MARPOL Annexes 1 to 6.

**Annex 1- *Prevention of pollution by oil.*** Annex 1 details the discharge requirements for the prevention of pollution by oil and oily materials. This annex covers the prevention of pollution by oil from operational measures as well as accidental discharges.

**Annex 2- *Control of pollution by noxious liquid substances in bulk-*** Annex 2 details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk. Some 250 substances were evaluated and included in a list appended to the convention. The discharge of their residues is allowed only to reception facilities until certain concentrations and conditions are complied with.

**Annex 3- *Prevention of pollution by harmful substances carried by sea in packed form.*** Annex 3 contains general requirements for the issuing of detailed standards on packing, marking, labeling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances.

**Annex 4- *Prevention of pollution by sewage from ships.*** Annex 4 contains requirements to control pollution of the sea by sewage.

**Annex 5- *Prevention of pollution by garbage from ships.*** This deals with different types of garbage and specifies the distance from land and the manner in which they may be disposed of. The requirements are much stricter in special areas and dumping into the sea of all forms of plastics is prohibited.

**Annex 6- *Prevention of air pollution from ships.*** The regulations in this annex set limits on sulphur oxide and nitrogen oxide emissions from ship exhausts as well as particulate matter and prohibit deliberate emissions of ozone depleting substances. Emission control areas set more stringent standards.

**Describe how MARPOL 1 & 6 are implemented onboard the ship, and explain the responsibility of the Chief Engineer in this regard.**

**MARPOL Annex 1:**

The Chief Engineer carries overall responsibility for any oil coming on to (bunkers) or leaving the vessel (sludge discharge, via the OWS and spills). The OWS is to be kept in proper working condition and all discharges are to be properly entered into the Oily record book. No oil/oily water is to be discharged overboard except via the OWS. Of course this does not apply to emergency situations. Oily waste is to be kept to a minimum by keeping the ship's machinery in good working order, this limits the amount of sludge created as well as the amount of oily bilge that has to be passed through the OWS. It is also the Chief's responsibility to keep the Master informed and updated on the situation.

**MARPOL Annex 6:**

Implemented by setting limits on sulphur oxide and nitrogen oxide emissions from the ship's exhaust. Prohibits any deliberate discharge of ozone depleting substances. Once a ship is built the only way to maintain the inherent 'cleanliness' of the emissions is to keep combustion quality high by staying on top of planned maintenance and fixing breakdowns ASAP. If any scrubbing equipment is fitted it should be used. Upon entry into designated areas fuel change overs must be implemented. The Chief Engineer is the one in overall command of such operations even though the watch keepers are likely to be doing the actual work. The Chief Engineer must keep the Master updated on any issues with the ship's engines and boilers that might affect the emission quality.