POTABLE WATER POLICY

The policy of MARSOL WORLDWIDE LIMITED ensures

Water safety and quality are fundamental to crew members and passengers onboard. Considering that water storage and distribution systems on ships are complex and could provide conditions for bacterial contamination, potable water on ships must be obtained only from those water sources and water supplies that provide bottled potable water and are approved by the regulatory authorities. In this respect, the ship's master or the officer who is responsible for the loading of water must ascertain whether or not the source of water is safe for use. **Bottled water should be used for drinking and cooking and fresh / taped water should not be used for drinking and cooking accordingly.**

Health risks

Associated with storage and distribution system of potable water on ships, the following should be taken into consideration:

- Limited space on ships means that potable water systems are likely to be close to hazardous substances such as sewage or waste streams, and sources of heat.
- Evidence from disease outbreaks indicates that contamination from sewage is one of the most common causes of waterborne outbreaks on ships.
- Water production on board through Desalination, Reverse Osmosis or Evaporation can be associated with its own potential health problems.
- Corrosion in plumbing may lead to metals leaching into water. Desalinated water produced on board may be corrosive while saline atmospheres may also have additional corrosive effects.

As per requirements, water to be used for potable water purposes aboard ships must be provided with sanitary safeguards from the shore source, through the shore water distribution system, including connections to the ship system, and through the potable water system at each outlet in order to prevent contamination or pollution of the water during ship operation.

Parameters to be monitored during drinking water provision and storage:

Physicochemical: Such parameters are easy to be noticed as they include, appearance, color, taste which are easy to be checked. Additional parameters as PH, Conductivity, Salinity, chlorine, metals and hardness are laboratory checked and marked by all water providers on delivery notes.

Microbial parameters: These parameters are not easy to be monitored as they cannot be identified at first sight. These parameters include quantity of coliforms, Escherichia coli (E. coli), Intestinal enterococci, Heterotrophic plate count (HPC) etc. there are minimum industrial standards and limits for drinking water contamination by above parameters and they are subject to laboratory analysis after sampling.

Best Practice

Safety/security of water tanks to be considered also for security or sabotage purposes.

Labeling on board is vital in order crew and passengers to be informed from which resources the water is drinkable or not. Hoses and piping system should also be labeled for drinking water and procedures for testing to implemented.

As per MLC 2006, "frequent documented inspections" of drinking water supplies should be carried out. This ensures that ship-owners are acting responsibly with a clear trail for port state control officers to inspect. To ensure water quality stability it is recommended that examination be carried out at **least twice a year**.

The frequency of the tests will be determined based on the following criteria:

- Frequency of ship drinking water supply,
- Refreshing of water through the desalination process,
- visual observation,
- Monitoring the treatment procedure (check & optimize the treatment system according to manufacturer's instructions, re-hardening system, UV sterilization system, etc.).
- Sampling should be performed from locations considered as highly hazardous. Specific sampling points should be taken into account, such as: Potable water supply lines, Freshwater tank systems, Toilets & showers,Galley,crew or passengers cabins, Any other connection or tank for potable water that there is loaded on board).

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