

ABSTRACT
**"STUDY OF DETERMINATION OF PROPULSION FUNCTION FLUIDS IN
PROPULSION SYSTEMS TO REDUCE MARINE POLLUTION"**

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The PhD thesis "*Study of Determination of Propulsion Function Fluids in Propulsion Systems to Reduce Marine Pollution*" aims to study the parameters and performance characteristics of ship power propulsion system fluids, how to prepare for use, how to regulate or changing operating parameters according to the force of the force machines to reduce pollution, as well as comparing them with modern naval power plants.

This paper addresses the following issues:

- IMO codes and conventions that impose severe rules for fluid characteristics in marine power plants to reduce marine pollution;
- the process of producing pollutant emissions as a function of the propulsion system fluidity characteristics and their influence on the quality of the marine environment;
- how it can contribute to reducing emissions to meet current regulations by modifying fluid performance features;
- Innovative technologies currently used to reduce marine pollution;
- feasibility of modern methods and facilities to reduce pollutant emissions from fluids used in shipyards;
- the use of alternative fuels to reduce pollution as well as their impact on the performance characteristics of conventional internal combustion engines.

The strategic objective pursued as the author of the thesis is to analyze optimal fuel utilization methods and the operating characteristics of cooling water and lubricating oil engine and cylinder lubrication for 2-stroke engines on board ships.

Exhaust gas from the main engine is still the most attractive source of recovery due to high temperatures and constant flow rates for many hours of operation, being usable for water vapor generation, power generation or use other purposes on board ships.

In the context of these general considerations, in this PhD thesis, we approached a current topic, with multiple valences for engineering practice, but also for scientific research activity.

The subject treated in the doctoral thesis is a complex proof being the multitude of theoretical and practical problems with a high degree of difficulty, which had to respond to a single objective of reducing the pollution of the marine environment.

One of the strengths of the elaborated thesis is that, through the conclusions and personal contributions from the content of the thesis and synthesized at the end, it was easier to understand the problem addressed.