# Article information:

Tribological evaluation of passenger car engine oil: Effect of friction modifiers - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S2590123022003978>

# Article summary:

1. Tribo-performance of passenger car engine oil with three friction modifiers (organic and inorganic) has been evaluated.

2. Inorganic friction modifiers (MoDTC) yielded better tribological performances than organic friction modifiers.

3. Scanning electron microscopy, Raman spectroscopy and Atomic force microscopy have been used to characterize the worn surfaces and understand the mechanism behind the protective tribo-film formation.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it provides a detailed overview of the tribological evaluation of passenger car engine oil with various friction modifiers, including organic and inorganic ones. The article also presents evidence for its claims, such as the use of benchtop tribometers to evaluate the performance of different oils, as well as scanning electron microscopy, Raman spectroscopy and Atomic force microscopy to characterize the worn surfaces. Furthermore, it provides an analysis of the results obtained from these tests, which shows that inorganic friction modifiers yield better tribological performances than organic ones.

However, there are some potential biases in the article that should be noted. For example, while it does provide evidence for its claims regarding the performance of different oils, it does not explore any counterarguments or present both sides equally when discussing its findings. Additionally, there is no mention of possible risks associated with using different types of friction modifiers in engine oil applications. Finally, there is a lack of detail regarding how exactly each type of friction modifier works to reduce friction and improve engine efficiency; this could be explored further in future research.

# Topics for further research:

* Risks associated with friction modifiers in engine oil
* Organic vs inorganic friction modifiers
* Tribological performance of engine oil
* Benchtop tribometer testing
* Scanning electron microscopy of worn surfaces
* Atomic force microscopy of engine oil

# Report location:

<https://www.fullpicture.app/item/4811c64b6b09e37641749c24e3318c99>