

Effect of tributylphosphite on antiwear and load carrying properties of base oil containing sulfurized isobutylene

Nandang Sutiana, author

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Abstrak

Effect of tributylphosphite on antiwear and load carrying properties of mineral base oil containing sulfurized isobutylene has been studied by using a thermodynamically approach and surface analysis data from lubricated surfaces. From this research it is concluded that increasing the concentration of tributylphosphite improves the antiwear properties of mineral base oil with and without sulfurized isobutylene. Increasing concentration of tributylphosphite improves the load carrying properties of base oil, but have no effect on load carrying properties of base oil containing high-sulfurized isobutylene. In the presence of sulfurized isobutylene, in the mild condition tributylphosphite can inhibit adsorption of sulfurized isobutylene. The good combination between these two additives was given by addition about 700 ppm P (from tributylphosphite) to the base oil containing 2000 - 6500 ppm S (from sulfurized isobutylene).