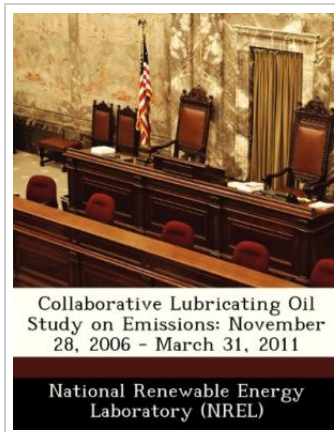



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Collaborative Lubricating Oil Study on Emissions: November 28, 2006 - March 31, 2011

By National Renewable Energy Laboratory (NREL)

Bibliogov, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.The Collaborative Lubricating Oil Study on Emissions (CLOSE) project was a pilot investigation of how fuels and crankcase lubricants contribute to the formation of particulate matter (PM) and semi-volatile organic compounds (SVOC) in vehicle exhaust. As limited vehicles were tested, results are not representative of the whole on-road fleet. Long-term effects were not investigated. Pairs of vehicles (one normal PM emitting, one high-PM emitting) from four categories were selected: light-duty (LD) gasoline cars, medium-duty (MD) diesel trucks, heavy-duty (HD) natural-gas-fueled buses, and HD diesel buses. HD vehicles procured did not exhibit higher PM emissions, and thus were labeled high mileage (HM). Fuels evaluated were non-ethanol gasoline (E0), 10 percent ethanol (E10), conventional low-sulfur TxLED diesel, 20 biodiesel (B20), and natural gas. Temperature effects (20 degrees F, 72 degrees F) were evaluated on LD and MD vehicles. Lubricating oil vintage effects (fresh and aged) were evaluated on all vehicles. LD and MD vehicles were operated on a dynamometer over the California Unified Driving Cycle, while HD vehicles followed the Heavy Duty Urban Dynamometer Driving Schedule. Regulated and unregulated emissions...



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