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Fill Up Not Freeze Up

Our project, Fill Up Not Freeze Up, was designed to find the gelling point of a mixture of bio diesel with methanol, ethanol, and kerosene. We were also curious to discover which mixture would be worst for your car in a real world situation. We tested this by first putting a certain amount of bio diesel in a test tube and weighing it on a scale to make sure it was the right amount. Then we added methanol. We first put 0.0 grams of methanol in, and then we increased the amount by two tenths of a gram until we reached 1.0. Next we would put the test tube with the mixture in the anti-freeze while stirring it with the thermometer. We waited for the mixture to get cloudy (gel) and then we recorded the temperature. We did this three times for each increase in the amount. Also, we did the very same procedure except with ethanol and kerosene. After our tests, we concluded that when we added kerosene to the bio diesel, it gelled at the lowest point, making it the best mixture. Ethanol, on the other hand, froze at the highest temperature, making it the worst choice. Methanol was in between the two. Our results are very important because if your fuel freezes in cold weather, your car will not start (or run).