

The attached chart shows comparative curves on 4 fuels made from 4 different potassium perchlorate types. The test stand is a hydraulic model with a oil filled gauge, which was recorded in a video. The oil filled gauge is a little slower to respond than the standard non filled gauge that I had previously. At rest, it reads about 50 PSI on the gauge, so the bottom end of the charts is pretty much worthless. Then the motor drops off the peak thrust, the needle falls rapidly, but then slows and settles slowly to a steady state, while the motor is in end burner mode. I think all the data after the thrust starts dropping, is not very accurate and should be ignored. What data is valuable and fairly correct is the comparison between the peak values and the time that high thrust is delivered. It is clear that 2 of the 4 tested are much less powerful. I think the peak thrust values are close, but not highly accurate.

The fuel mix was 76/23/1/2.5 using sodium benzoate for fuel, copper oxychloride for the catalyst, and mineral oil.

The 4 types of KClO₄ tested were,

1. Skylighter's standard Chinese #5400
2. Firefox domestic high purity, 99.7% Purity - 4 micron superfines - Stock #C172/HP4
3. HP-140
4. HP-150

