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Los Alamos National Laboratory scientists recently flight-tested a new rocket design that includes a high-energy fuel and a motor that also delivers a high degree of safety.

Conventional solid-fuel rocket motors work by combining a fuel and an oxidizer, a material usually rich in oxygen, to enhance the burning of the fuel. In higher-energy fuels this mixture can be somewhat unstable, and can contain sensitive high explosives that can detonate under high shock loads, high temperatures, or other conditions.

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Los Alamos Novel Rocket Design Flight Tested

The new rocket fuel and motor design adds a higher degree of safety by separating the fuel from the oxidizer, both novel formulations that are, by themselves, not able to detonate.

After years of development and bench-top static tests, the new rocket design was recently flight tested at the Energetic Materials Research and Testing Center's Socorro launch site, part of New Mexico Tech.

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