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(54) Title: FUEL BLENDING COMPONENT COMPOSITION AND METHOD FOR REDUCING CRITERIA EMISSIONS

(57) Abstract: The disclosure provides a fuel formulation that, as a blending component, at a certain blending volume range, with transportation fuels significantly reduces criteria emissions (i.e., particle number (PN) emissions, Nitrogen Oxides (NOx) emissions, Total Hydrocarbon (THC) emissions) when compared to existing market fuels. The fuel blending component formulation comprises one or more branched alkane components, one or more cyclic alkane components, one or more alkylate component and one or more oxygenate component. The fuel blending component composition achieves reductions on a spark ignition engine (SI) of more than 60% in particulate emissions, up to 30% in NOx emissions, and up to 20% in THC emissions when blended with a reference gasoline in concentrations as low as 10% by volume. A method for reducing criteria emissions is also provided.