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(54) Title: HEAT TRANSFER FLUIDS COMPRISING METHYL PARAFFINS DERIVED FROM LINEAR ALPHA OLEFIN DIMERS AND USE THEREOF

(57) Abstract: Methyl paraffins formed by hydrogenating one or more LAO dimers comprising a vinylidene moiety or a trisubstituted olefin moiety may have advantageous heat transfer properties, particularly when incorporated within an electric vehicle. For example, methyl paraffins produced upon hydrogenating LAO dimers formed from one or more C₆-C₁₂ LAOs, particularly in the presence of a Hf metallocene catalyst system, may contain 12-24 carbon atoms, and collectively have a flash point of about 130°C or above, a pour point of about -42°C or lower, a thermal conductivity at 80°C of about 0.165W/m·K or higher, and a Mouromtseff number ranging from about 17,000 to about 27,000 kg/(s^{2.2}·m^{0.6}·K) at 80°C. Heat transfer fluids comprising such methyl paraffins may be placed in contact with a heat-generating component, such as a battery and/or motor of an electric vehicle, or within a similar type of battery system, including immersive configurations for a battery.

