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(54) Title: PROCESS TO PRODUCE A PYROLYSIS OIL COMPRISING LIQUID HYDROCARBONS FROM PLASTIC
MATERIAL FROM AN INTERMITTENT ENERGY SOURCE, AND RELATIVE PLANT

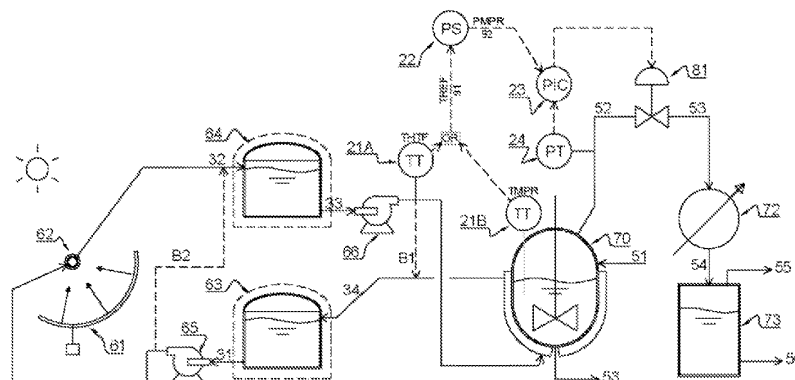


Figure 1

(57) Abstract: Process for producing a pyrolysis oil comprising liquid hydrocarbons from plastic material, preferably waste material. The process is characterized by the use of an energy source preferably of an intermittent nature (and of variable intensity), such as for example solar radiation. The plastic material enters a pyrolysis reactor, heated with a molten salt thermal fluid. Said molten salts are heated by said intermittent source to a temperature that is not fixed but variable within a predetermined range. In particular, when the availability of the energy source is equal to or beyond a predetermined maximum value, the temperature of said molten salts is brought to the upper end of said range. Conversely, when the availability of the energy source is equal to or lower than a predetermined minimum value, the temperature of said molten salts is brought to the lower end of said range. For intermediate availability values, the temperature can also be brought to intermediate values, for example by following a linear profile. The pyrolysis temperature follows the temperature of the molten salts. The pyrolysis pressure, on the other hand, is modulated so that it is higher (at least 2.5 bara) when the pyrolysis temperature is lower and lower (no more than 2 bara) when the pyrolysis temperature is higher. Surprisingly, it has been discovered that by operating in the specified way, the quality of the pyrolysis oil obtained is kept constant, even for significant variations in the pyrolysis temperature.

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