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(54) Title: PROCESS FOR THE PRODUCTION OF PYROLYSIS OIL FROM WASTE PLASTICS

(57) Abstract: The invention relates to a process for converting plastics waste into pyrolysis oil for feeding to a steam cracker comprising the steps of : pre-washing a stream of comminuted waste plastics in a washing liquid comprising washing water and caustic solution; separating the pre-washed comminuted waste plastics to provide a stream of polyolefin-enriched washed comminuted plastics waste; thermally cracking the stream of polyolefin-enriched washed comminuted plastics waste to produce a vaporised hydrocarbon stream; condensing the vaporised hydrocarbon stream into a liquid hydrocarbon stream and gaseous hydrocarbon stream; washing the liquid hydrocarbon stream with caustic solution; separating the liquid hydrocarbon stream from the caustic solution to produce a stream of caustic-washed liquid hydrocarbon and a stream of spent caustic solution; and rinsing the caustic-washed liquid hydrocarbon stream with water; separating the rinsed liquid hydrocarbon stream from the rinsing water to produce a stream of pyrolysis oil for further processing by steam cracking and a stream of spent water. The streams of spent water and spent caustic solution are utilised in several of the upstream steps in an integrated process.



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