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(54) **PROCESS OF TREATING A LIGNOCELLULOSIC MATERIAL WITH HEMICELLULOSE PRE-EXTRACTION AND HEMICELLULOSE ADSORPTION**

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(57) **ABSTRACT**

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See application file for complete search history.

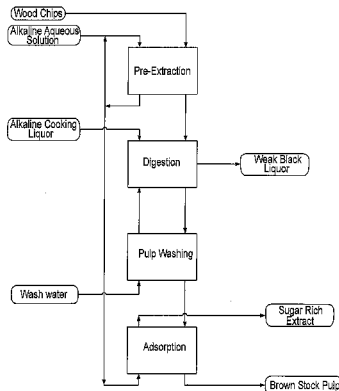
A process of treating a lignocellulosic material includes a pre-extraction step in which hemicellulose is extracted from the lignocellulosic material. In one embodiment, the pre-extraction step involves contacting the lignocellulosic material with an aqueous solution under conditions that release acidic material from the lignocellulosic material into the aqueous solution, and the aqueous solution includes a basic material that at least partly neutralizes the acidic material so that the aqueous solution at the end of the pre-extraction step has a pH within a range of from 4.5 to 11. The process also includes a pulping step, after the pre-extraction step, in which the lignocellulosic material is separated into pulp. The process further includes an adsorption step, after the pulping step, in which hemicellulose is adsorbed on the pulp.

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14 Claims, 11 Drawing Sheets



Pre-Extraction/Alkaline Cooking/Adsorption Block Diagram