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**Characteristics of co-hydrothermal carbonization on polyvinyl chloride wastes  
with bamboo**

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**Abstract**

The PVC waste and bamboo were treated by co-hydrothermal carbonization (co-HTC) at three different temperatures. The inorganic-Cl could be removed from the carbon rich solid products (hydrochar) in the form of HCl via hydrolysis, elimination, substitution and aromatization. Due to the high carbon content, the hydrochar could be applied as premium fuel. Bamboo had a synergistic effect on dechlorination with PVC in the HTC process. The bamboo could accelerate the HTC dechlorination of PVC at 200 °C because it strengthened the substitution of -Cl with -OH. While at 230 and 260 °C, the existence of bamboo hindered the dechlorination of PVC in HTC. Thermogravimetric analysis showed the combustion performance of hydrochar was better than the raw samples at 200 °C. Owing to the low chlorine content, low ignition temperature and the superior combustion performance, the

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