

## Material Technology



### Biochar, Manufacturing Method Thereof And Use Thereof

#### Abstract

The technology provides a method for manufacturing biochar comprising the following steps. A biomass is provided, wherein the biomass comprises hemicellulose, cellulose, and lignin. A mixing step is performed to obtain a mixture by mixing the biomass with an added solution, wherein the added solution contains an additive that can oxidize hemicellulose, cellulose, and lignin which decompose into a gas when heated. A heat treatment step is performed to heat the mixture in an oxygen-limited environment to convert the mixture into biochar. The present invention also provides biochar produced according to the aforementioned production method and its uses as fuel.

#### Benefits

Biomass can be used as biomass fuel and become one of the alternative energy options. Commonly used biomass includes wood, forestry residues, crops, and agricultural residues. However, compared with coal, biomass has a lack of low calorific value and generally has a high-water content, which easy to breed mold and not easy to store. In addition, biomass is scattered in origin, heavy and bulky, and requires a high cost of transportation. The biochar obtained by the manufacturing method of this technology has a higher carbon content and a higher high calorific value which is suitable for use as a fuel and has a lower unit volume weight (which can be regarded as a lower specific gravity), which is beneficial to reduce the transportation cost which calculated by weight, and it has low water content, water activity, and hydrophobicity. On the one hand, it is not conducive for the breeding of bacteria such as mold, not easy to absorb moisture in the air, which is beneficial for improving the ability to storage

#### Industry Categories

energy industry

#### Keywords

Roasting, carbonization, biochar, calorific value, lightweight, false specific gravity, hydrophobicity, solid fuel.

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