Study on production and characterization of liquefied waste agricultural cotton stalk and its application to resin

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Bio data

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Why I select this program

Xinjiang Region is a natural economy mainly composed of agriculture & pastoralism has abundant crops. At present, agricultural waste is not used in particular & often burned for disposal, which causes waste of resources & environmental pollution, leading to health problems for farmers. In addition, a large amount of energy & resources are being used with economic development in the western region. The use of fossil fuels & burning of agricultural waste has exacerbated pollution problems. Therefore, it is meaningful to study process of increasing the utility value of entire biomass & preventing the environmental pollution.

Research summary

Cotton is planted on a large scale in China & major crop in Xinjiang region. A large amount of cotton plant residue is produced annually, these present a disposal problems. The purposes of this study were to liquefied cotton stalk powder with the liquefaction use of polyethylene glycol & glycerin as liquefaction solvent. Effects of liquefaction parameters on bio-polyols & polyurethane forms & epoxy resin were investigated. Bio polyols and polyurethane forms exhibited comparable properties to petroleum analogs. The above research is in order to search an effective method to utilize the cotton stalk and other agricultural straws. The method can utilize the rich resource of agricultural straw with little pollution and lessen the dependence of chemical industry on the oil.