Biomass Based Products

Description:

Biomass use is growing globally. Biomass is biological materialderived from living, or recently living organisms. It most often refers toplants or plant-based materials which are specifically called lignocellulosicbiomass. Biomass (organic matter that can be converted into energy) may includefood crops, crops for energy, crop residues, wood waste and byproducts, andanimal manure. It is one of the most plentiful and well-utilized sources ofrenewable energy in the world. Broadly speaking, it is organic materialproduced by the photosynthesis of light. The chemical materials (organiccompounds of carbons) are stored and can then be used to generate energy. Themost common biomass used for energy is wood from trees. Wood has been used byhumans for producing energy for heating and cooking for a very long time.

As an energy source, biomass can either be used directly via combustion toproduce heat, or indirectly after converting it to various forms of biofuel.Conversion of biomass to biofuel can be achieved by different methods which arebroadly classified into: thermal, chemical, and biochemical methods. Biomassgasification is the conversion of solid fuels like wood and agriculturalresidues into a combustible gas mixture. The gasification system basicallyconsists of a gasifier unit, a purification system and energy converters-burner or engine.

This book offers comprehensive coverage of the design and analysis of biomassgasification, the key technology enabling the production of biofuels from allviable sources like sugar beet and sweet sorghum. It aims at creating anunderstanding of the nature of biomass resources for energy and fuels, thevariety of processes that are available for conversion of the wastes intoenergy or fuels. The book discusses the overview of the Biomass Energy alongwith their Properties, Composition, Benefits, Characteristics and ManufacturingProcess of Biomass based products. Also it contains suppliers contact detailsof plant & machinery with their photographs.

The content includes biomass renewable energy, prospective renewable resourcesfor bio-based processes, biochemical from biomass, biomass based chemicals,biofuel production from biomass crops, biomass gasification, reuse of bio-geniciron oxides and woody biomass fly ash in cement based materials andagricultural areas, biofuel briquettes from biomass, biomass based activatedcarbon, environmental aspects.

It will be a standard reference book for Professionals, Decision-makers,Engineers, those studying and researching in this important area and othersinterested in the field of biomass based products. Professionals in academiaand industry will appreciate this comprehensive and practical reference book,due to its multidisciplinary nature.

Keywords: Biomass, Based, Products, Biochemicals, Biofuels, Activated, Carbon, biological, lignocellulosic, renewable, energy, resource, prospective, chemicals, biofuel, Bioethanol, gasification, environmental, aspects, plant, machinery

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