

Materials List for:

Evaluation of Integrated Anaerobic Digestion and Hydrothermal Carbonization for Bioenergy Production

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Materials

Name	Company	Catalog Number	Comments
UASS reactor			Patented design
Balance	KERN	440-55N	0.2 g precision
Biofilm carrier	RVT Process Equipment GmbH, Germany	Bioflow 40	Establish 305 m ² /m ³
Heating bath	Lauda-Konigshofen, Germany	Lauda Ecoline 011	Ensure mesophilic and thermophilic temperature
Recirculation pump	Heidolph pumpdrive	5201	
Wheat straw	Dittmannsdorfer Milch GmbH, Germany		5-65 mm length
Biogas analyzer	Pronova, Germany	SSM 6000	
Gas meter	Ritter, Germany		Drum type
HTC reactor	Parr instrument, Moline, IL USA	Parr 4555	5 gallon volume
HTC Temperature controller	Parr instrument, Moline, IL USA	4848	K type thermocouple
Balance		KERN FKB	0.1 g precision
Heating system	Parr	A1600EEE	Band heater, 2 °C/min
Software	SpecView	32849	Digital monitoring and programming interface
Catalyst		Tungsten(VI) oxide	Elemental analyzer
Balance	Mettler Toledo	SN-1128123281	1 µg precision
Sample pan	Elemental Analysssystem GmbH	Tin 6 x 6 x 12 mm pan	Elemental analysis
Drying oven	Binder GmbH, Germany	FP 115	105 °C oven
Elemental analyzer	Vario	EL III	CHNS analyzer