NARA

Northwest Advanced Renewables Alliance

Wood Chemical Composition & Products

Forest Residues

Urban Wood Waste

NARA Feedstock

	Cellulose	Hemicellulose	Lignin	Extractives
	41-49 %	17-25 %	25-30 %	2-5 %
Derived Products	Cellulosic fibers Glucose	Glucose Mannose Galactose Xylose Arabinose	Paracoumaryl alcohol Coniferyl alcohol Sinapyl alcohol	Terpenes Fatty acids Phenolics Alkanes
Commercial Uses	Paper Textile fiber **Liquid Fuels-Biojet** Food ingredient	Bioplastic Additive Adhesive Emulsifyer in food industry **Liquid Fuels-Biojet** Specialty chemicals	Solid fuel Food flavoring Binding and dispersing agent Soil conditioner Activated carbon Road dust control	Flavor and fragrance Solvent Medicinal Water proofing

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USDA United States Department of Agriculture

National Institute of Food and Agriculture