

	Wood type (percent of weight)	
	Softwoods	Hardwoods
Chemical composition (dry basis)		
Cellulose	43	43
Hemicelluloses	28	35
Lignin	29	22
Ultimate analysis (dry basis)		
H	6.1	6.2
C	53.0	51.0
O	38.8	39.9
S	--	--
N	0.1	0.2
ash	1.7	2.5
Proximate analysis		
volatiles	40.6	52.4
fixed carbon	12.4	12.9
ash	1.0	2.7
moisture	46.0	32.0

Table 1.4: Estimated Average Composition Values for Softwoods and Hardwoods