

PRODUCT INFORMATION SHEET

C-NEWABLE EG24-WB

Bio-carbon powder

torrefied woody biomass

NCV
24 GJ/ton
Industrial Heat

GENERAL INFORMATION

Black colour
Odour free
Biologically inactive
Non-sticky

KEY DATA

Type Bio-carbon powder from torrefied woody biomass
Form Powder
Code C-Newable EG24-WB (E = Energy, G = Gigajoule/ton, 24 = Energy value GJ per ton, WB = Woody Biomass)
 NCV = Net Calorific Value
Feedstock input A mixture of not debarked deciduous and coniferous wood (origin according ISO 17225-1:2013 typology 1.1 forest, plantation and other virgin wood)
Biomass content > 99%
Alternative to fossil Brown coal (lignite solid fuel)
Saving CO₂-credits CO₂-emission factor lignite powder (= 101 kg CO₂/GJ) x CO₂ price (= EU ETS Price in €/ton CO₂)

PRODUCT CHARACTERISTICS

Product characteristic	Dimension	Torrefaction temperature 300°C (+/-5°C)	Measuring method
Particle size	mm	Min. 99% < 2,0 mm	CEN / TS 15149
		Min. 60% < 0,250 mm	CEN / TS 15149
		Min. 30% < 0,125 mm	CEN / TS 15149
Bulk weight	kg/m ³	250 kg/m ³ - 350 kg/m ³	CEN / TS 15103
Biomass content	%	> 99%	not defined
Net Cal. Value	MJ/kg (a.r.)	24 (+/- 0,5)	CEN / TS 14918
Moisture (wet base)	% (a.r.)	< 3%	CEN / TS 14774
Ash	% (d.b.)	< 4%	CEN / TS 14775
Volatiles	% (d.a.f.)	55% - 65%	CEN / TS 15148
Fixed carbon	% (d.a.f.)	35% - 45%	CEN / TS 15149
Total carbon	% (d.a.f.)	60% - 70%	CEN / TS 15104
Hydrogen	% (d.a.f.)	about 5,0%	CEN / TS 15104
Nitrogen	% (d.a.f.)	about 1,0%	CEN / TS 15104
Oxygen	% (d.a.f.)	25% - 35%	Calculated by difference
Sulfur	% (d.a.f.)	< 0,14%	CEN / TS 15289
Chlorine	% (d.a.f.)	< 0,05%	CEN / TS 15289
Relevant micro-elements	As	max. 2,0 mg/kg (d.b.)	CEN / TS 15297
	Cd	max. 1,0 mg/kg (d.b.)	CEN / TS 15297
	Cr	max. 20 mg/kg (d.b.)	CEN / TS 15297
	Cu	max. 20 mg/kg (d.b.)	CEN / TS 15297
	Hg	max. 0,1 mg/kg (d.b.)	CEN / TS 15297
	Ni	max. 20 mg/kg (d.b.)	CEN / TS 15297
	Pb	max. 20 mg/kg (d.b.)	CEN / TS 15297
	Zn	max. 200 mg/kg (d.b.)	CEN / TS 15297
	Mn	max. 400 mg/kg (d.b.)	CEN / TS 15297
Ash melting temperature	° Celcius	> 1400°C	CEN / TS 15370
Ash composition	SiO ₂	10% - 30%	DIN 51730 A, C, D
	Al ₂ O ₃	1% - 3%	DIN 51730 A, C, D
	Fe ₂ O ₃	1% - 3%	DIN 51730 A, C, D
	CaO	30% - 50%	DIN 51730 A, C, D
	K ₂ O	10% - 25%	DIN 51730 A, C, D
	MgO	3% - 7%	DIN 51730 A, C, D
	Na ₂ O	1% - 5%	DIN 51730 A, C, D
	others	4% - 8%	DIN 51730 A, C, D

a.r. = as received

d.b. = on dry base

d.a.f. = on dry and ash free base