SkyClean®

Straw based biochar

The core of SkyClean is a pyrolysis process in which organic residues from agriculture and forestry is converted into biochar, gas, and oil by heating to a high temperature without the presence of oxygen.

In the pyrolysis process, half of the carbon in the residues is converted to biochar, while the other half becomes oil and gas. Biochar is a stable material that only decomposes very slowly, and in SkyClean's carbon cycle, the carbon that turns into biochar is effectively removed from the atmosphere, thus providing a very substantial carbon offset. The ratio of H/C_{org} indicates the stability of the biochar.

Besides delivering long-term carbon sequestration, it has been known for millennia that biochar also improves soil and increases food production.

Biochar significantly improves the water retention in sandy and other types of dry soil.

Conversely, biochar improves water flow in heavy clay soil, attractive in regions suffering from increased precipitation due to climate change.

The biochar is produced and controlled after the EBC standard, see label for certification.

Indicative composition based on average production values:		
Pyrolysis temperature	600	°C
Water holding capacity	184	%
Bulk density	266	kg/m^3 d.b.
Water content	40	%
Specific surface (BET)	38.1	m^2/g
Ash content (815°C)	18.1	% d.b.
pH	10.3	
Total carbon	75.7	% d.b.
Hydrogen	1.9	% d.b.
Oxygen	4.3	% d.b.
H / C_{org}	0.3	(molar)
O / C	0.04	(molar)
Total 8 EFSA-EPA	<1	mg/kg d.b.
Sum 16 EPA-PAH	<6	mg/kg d.b.
N	0.9	% d.b.
P	0.2	% d.b.
K	2.9	% d.b.
S	0.5	% d.b.
Mg	0.2	% d.b.
Mn	89.7	mg/kg d.b.
Zn	61.7	mg/kg d.b.
B	15.3	mg/kg d.b.
Cu	6.0	mg/kg d.b.
Cd	0.2	mg/kg d.b.

n.d.: Not detectable
d.b.: dry basis
For batch specific data see the product label.

©2023 Stiesdal SkyClean A/S. All rights reserved.