

European Biochar Certificate Standard 10.5E



Webinar on the Changes with 10.5
30.09.2025



EBC-Guidelines: Update to 10.5

- Adjusted analysis requirements
- Updated certification classes for clarity and market alignment
- Alignment of energy efficiency requirements
- Country Annex: new requirements for Austria and Switzerland
- Sustainable Biomass: SURE certified Biomass now accepted



Adjusted analysis requirements

- **Thermogravimetric Analysis is now optional**
- **PCB & PCDD/F:** Only required if 8 EFSA PAH > 1.0 mg/kg
 - PCB: 0.2 mg/kg DM,
 - PCDD/F: 20 ng/kg (I-TEQ OMS)
- **REACH analysis Package**
 - Additional to the EBC-basic package
 - Baseline is the [COALSTER Charcoal SIP](#)

Parameter	Unit
Volatile organic compounds (VOC)	% (w/w)
ash at 815°C	% (w/w)
XRF (Elemental analysis of metals by X-ray fluorescence)	mg/kg
XRD (structural analysis of charcoal)	-
Benzene (BTX)	mg/kg
chrom (VI)	mg/kg
Cobalt (Co)	mg/kg
Benzo[def]chrysene	mg/kg



Updated certification classes

EBC -Certification Class		EBC-FeedPlus	EBC-AgroOrganic	EBC-Agro	EBC-Urban	EBC-Materials	EBC-Basic
Elemental analysis	Declaration of C _{tot} , C _{org} , H, N, O, S, ash						
	H / C _{org}	< 0.4	< 0.7				
Physical parameters	Water content, dry matter (as received and @ < 3mm particle size), bulk density (DM), WHC, pH, salt content, electrical conductivity of the solid biochar						
Major elements	Declaration of N, P, K, Mg, Ca, Fe						
Heavy metals	Pb	5 g t ⁻¹ (88%DM)	45 g t ⁻¹ DM	120 g t ⁻¹ DM	120 g t ⁻¹ DM	120 g t-1 DM	declaration, no limit values for certification
	Cd	0.5 g t ⁻¹ (88% DM)	0.7 g t ⁻¹ DM	1,5 g t ⁻¹ DM	1,5 g t ⁻¹ DM	1,5 g t-1 DM	
	Cu	70 g t ⁻¹ DM	70 g t ⁻¹ DM*	100 g t ⁻¹ DM*	100 g t ⁻¹ DM*	100 g t-1 DM	
	Ni	25 g t ⁻¹ DM	25 g t ⁻¹ DM	50 g t ⁻¹ DM	50 g t ⁻¹ DM	50 g t-1 DM	
	Hg	0.1 g t ⁻¹ (88% DM)	0.4 g t ⁻¹ DM	1 g t ⁻¹ DM	1 g t ⁻¹ DM	1 g t-1 DM	
	Zn	200 g t ⁻¹ DM	200 g t ⁻¹ DM*	400 g t ⁻¹ DM*	400 g t ⁻¹ DM*	400 g t-1 DM	
	Cr	70 g t ⁻¹ DM	70 g t ⁻¹ DM	90 g t ⁻¹ DM	90 g t ⁻¹ DM	90 g t-1 DM	
	As	2 g t ⁻¹ (88% DM)	13 g t ⁻¹ DM	13 g t ⁻¹ DM	13 g t ⁻¹ DM	13 g t-1 DM	
Organic contaminants	16 EPA PAH	6±2.4 g t ⁻¹ DM	6±2.4 g t ⁻¹ DM	6.0+2.4 g t ⁻¹ DM	CSI-declaration	CSI-declaration	CSI-declaration
	8 EFSA PAH	1.0 g t ⁻¹ DM					4 g t-1 DM
	benzo[e]pyrene benzo[j]fluoran- thene	< 1.0 g t ⁻¹ DM for each of both substances					
	PCB, PCDD/F	See chapter 10	Only required if 8 EFSA PAH > 1.0 mg kg ⁻¹ . For PCB: 0.2 mg kg ⁻¹ DM, for PCDD/F: 20 ng kg ⁻¹ (I-TEQ OMS), respectively				

declaration, no limit values for certification

Alignment of energy efficiency requirements

Minimum energy efficiency of 60%

Means: at least 60% of the energy that goes into the system ($E_{\text{feedstock}} + E_{\text{expenditures}}$) must be utilised

$$E_{\text{eff}} = \frac{E_{\text{solid}} + E_{\text{pyrooil}} + E_{\text{fuelproducts}} + E_{\text{thermal}} + E_{\text{drying}} + E_{\text{electric}} + E_{\text{CO2pur}}}{E_{\text{feedstock}} + E_{\text{expenditures}}}$$

Country annexes



- Austria:
 - 16 EPA PAH: 6 mg/kg – [Austrian fertilizer legislation](#)



- Switzerland:
 - Federal office for Environment (FOEN) requires four biochar analysis per year.
 - EBC-certified companies can replace this with one EBC-analysis.
 - CSI provides the service of transferring the analysis to the FOEN.
 - Specified Feedstocks: Virgin wood and wood products, Plant waste from food industry, etc.
 - 16 EPA PAH: 4 (± 2) mg/kg



Sustainable biomass

CSI now accepts [SURE verified biomass](#) now alongside with PEFC and FSC



Thank you.

Thank you very much for your attention.



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