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Test report 3561973

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Environment, Health and Safety

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Berlin, 18.10.2017

Your project: ENPlus®A1 PL 012
Your order no.: 17100601
Date of order: 06.10.2017

Testing period from 10.10.2017 until 18.10.2017
First sample no. 171085105
Sample entry 10.10.2017

SGS Institut Fresenius

i.V. Thomas Smyk
Customer Service

i.V. Oliver Sommer
Customer Service

Michaela Sosnová
Customer Service

Sample matrix: wood pellets
Sample delivery: Sample sent by client
Sample entry: 10.10.2017
Testing period: 10.10.2017 until 18.10.2017

SGS IF sample no:
Sample description:

171085105
wood pellets

Parameter	Unit	LOQ	Method	Result	Limit ENplus® ¹			Lab ⁵
					A1	A2	B	
Average diameter	Millimeter		DIN EN ISO 17829	6,2	6 or 8 ± 1			B1
Average length	Millimeter		DIN EN ISO 17829	16,3	3,15 to 40			B1
Overlengths > 40 and ≤ 45 mm	w-% ar		DIN EN ISO 17829	0,2	≤ 1			B1
Overlengths > 45 mm	w-% ar		DIN EN ISO 17829	not found	not allowed			B1
Moisture	w-% ar	0,1	DIN EN ISO 18134-2	7,7	≤ 10			B1
Ash (550°C)	w-% d	0,1	DIN EN ISO 18122	0,4	≤ 0,7	≤ 1,2	≤ 2,0	B1
Mechanical Durability	w-% ar	0,1	DIN EN ISO 17831-1	99,1	≥ 98,0	≥ 97,5		B1
Fines	w-% ar	0,1	DIN EN 15149-1 ⁴	0,2	≤ 1 (≤ 0,5) ²			B1
Net CV, const. p	MJ/kg ar	0,5	DIN EN 14918 ⁴	17,31	≥ 16,5			B1
Net CV, const. p	kWh/kg ar	0,14	DIN EN 14918 ⁴	4,808	≥ 4,6			B1
Bulk density	kg/m ³ ar	1	DIN EN ISO 17828	659	≥ 600 to ≤ 750			B1
Nitrogen	w-% d	0,1	DIN EN ISO 16948	0,16	≤ 0,3	≤ 0,5	≤ 1,0	B1
Sulphur total	w-% d	0,01	DIN EN ISO 16994	< 0,01	≤ 0,04	≤ 0,05		B1
Chlorine total	w-% d	0,01	DIN EN ISO 16994	0,014	≤ 0,02		≤ 0,03	B1
Shrinkage starting temperature SST	°C		DIN CEN/TS 15370-1 ³	1290	-			B1
Deformation temperature DT	°C		DIN CEN/TS 15370-1 ³	1420	≥ 1200	≥ 1100		B1
Hemisphere temperature HT	°C		DIN CEN/TS 15370-1 ³	1440	-			B1
Flow temperature FT	°C		DIN CEN/TS 15370-1 ³	1460	-			B1
Arsenic	mg/kg d	1	DIN EN ISO 16968	< 1	≤ 1			B1
Cadmium	mg/kg d	0,3	DIN EN ISO 16968	< 0,3	≤ 0,5			B1
Chromium	mg/kg d	1	DIN EN ISO 16968	1	≤ 10			B1
Copper	mg/kg d	2	DIN EN ISO 16968	4	≤ 10			B1
Lead	mg/kg d	3	DIN EN ISO 16968	< 3	≤ 10			B1
Mercury	mg/kg d	0,05	DIN EN ISO 16968	< 0,05	≤ 0,1			B1
Nickel	mg/kg d	1	DIN EN ISO 16968	< 1	≤ 10			B1
Zinc	mg/kg d	1	DIN EN ISO 16968	13	≤ 100			B1

ar - result calc. to 'as received' state

d - result calc. to 'bone dry' state

LOQ - Limit of quantitation

1) Issue 3.0, August 2015

2) Limit is set for bulk pellets at factory gate or when loading trucks for deliveries to end-users; limit in parenthesis is set for sealed bags or sealed big bags

3) Determination was performed under oxidizing conditions. Pre ashing temperature was 815°C.

4) Since ISO standards are not completely published, the respective CEN standards were applied in accordance with ENplus® handbook 3.0.

5) The laboratory locations of the SGS Group Germany and Switzerland according to the above abbreviations are listed at <http://www.institut-fresenius.de/filestore/89/laborstandortkuerzeisgs2.pdf>

*** End of test report ***

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