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Test report 3519736-S1

Order no. 4280866
Client no. 10028880

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Environmental Services

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Berlin, 18.09.2018

Your project:
Your order no.: 3226073
Date of order: 21.07.2018

Testing period from 04.09.2018 until 14.09.2018
First sample no. 170951446
Sample entry 04.09.2018

This document replaces SGS IF test report number 3519736 of the 14.09.2018.

SGS Institut Fresenius

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3226073

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Sample matrix: Wood pellets
Sample delivery: Sample sent on behalf of the client
Sample entry: 04.09.2018
Testing period: 04.09.2018 until 14.09.2018

Sample no.: 170951447
Sample name: wood pellets 8 mm, from storage 7/2018 sample 2

Parameter	Unit	LOQ	Method	Result	Limit ENplus ¹			Lab ⁵
					A1	A2	B	
Fines	w-% ar	0,1	DIN EN 15149-1 ⁴	0,3	≤ 1 (≤ 0,5) ²			B1

Sample no.: 170951446
Sample name: wood pellets 8 mm, from production 7/2017, sample 1

Parameter	Unit	LOQ	Method	Result	Limit ENplus ¹			Lab ⁵
					A1	A2	B	
Average diameter	Millimeter		DIN EN ISO 17829	8,1	6 or 8 ± 1			B1
Average length	Millimeter		DIN EN ISO 17829	13,8	3,15 to 40			B1
Overlengths > 40 and ≤ 45 mm	w-% ar		DIN EN ISO 17829	not found	≤ 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	4,9	≤ 10			B1
Ash (550°C)	w-% d	0,1	DIN EN ISO 18122	0,33	≤ 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
Net CV, const. p	MJ/kg ar	0,5	DIN EN 14918 ⁴	18,15	≥ 16,5			B1
Net CV, const. p	kWh/kg ar	0,14	DIN EN 14918 ⁴	5,042	≥ 4,6			B1
Bulk density	kg/m ³ ar	1	DIN EN ISO 17828	687	≥ 600 to ≤ 750			B1
Nitrogen	w-% d	0,1	DIN EN ISO 16948	0,11	≤ 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	0,016	≤ 0,02		≤ 0,03	B1
Shrinkage starting temperature SST	°C		DIN CEN/TS 15370-1 ³	1280	-			B1
Deformation temperature DT	°C		DIN CEN/TS 15370-1 ³	1460	≥ 1200	≥ 1100		B1
Hemisphere temperature HT	°C		DIN CEN/TS 15370-1 ³	1470	-			B1
Flow temperature FT	°C		DIN CEN/TS 15370-1 ³	1480	-			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	3	≤ 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	8	≤ 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/laborstandortkuerzelsgs2.pdf>

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*** End of test report ***

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