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DIN CERTCO
Gesellschaft für Konformitätsbewertung
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Test report 2303689

Order no. 3137804
Client no. 10028880



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Environmental Services

SGS Institut Fresenius GmbH
Goerzallee 305A
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Berlin, 01.10.2014

Your project: DIN Plus product test for GreenAgro Spółka Akcyjna
Your order no.: 3122483
Date of order: 19.09.2014


Testing period from 19.09.2014 until 01.10.2014
First sample no. 141029107
Sample entry 19.09.2014

SGS Institut Fresenius

Thomas Smyk
Customer Service

Naser Riazati
Customer Service


Oliver Sommer
Customer Service


Annett Mieth
Customer Service

Sample matrix: Bio fuel, wood pellets
 Sample delivery: Samples were sent by the client
 Sample entry: 19.09.2014
 Testing period: 19.09.2014 until 01.10.2014

Sample no.: 141029107
 Sample name: Sample 1

Parameter	Unit	LOQ	Method	Result	Limit DIN plus ¹	Lab ⁴
Fines	mass % ar	0,1	DIN EN 15149-2	0,4	≤ 0,5 (1,0) ²	B1

Sample no.: 141029108
 Sample name: Sample 2

Parameter	Unit	LOQ	Method	Result	Limit DIN plus ¹	Lab ⁴
Average diameter	Millimeter		DIN EN 16127	6,2	6 or 8 ± 1	B1
Average length	Millimeter		DIN EN 16127	14,7	3,15 to 40	B1
Pellets < 10 mm	mass % ar		DIN EN 16127	9	informational	B1
Overlengths > 40 and ≤ 45 mm	mass % ar		DIN EN 16127	not found	≤ 1	B1
Overlengths > 45 mm	mass % ar		DIN EN 16127	not found	not allowed	B1
Moisture	mass % ar	0,1	DIN EN 14774-2	6,4	≤ 10	B1
Ash (550°C)	mass % d	0,1	DIN EN 14775	0,38	≤ 0,7	B1
Mechanical Durability	mass % ar	0,1	DIN EN 15210-1	99,1	≥ 97,5	B1
Net CV, const. p	MJ/kg ar	0,5	DIN EN 14918	17,8	≥ 16,5 to ≤ 19	B1
Bulk density	kg/m ³ ar	1	DIN EN 15103	623	≥ 600	B1
Nitrogen	mass % d	0,1	DIN EN 15104	0,11	≤ 0,3	B1
Sulphur total	mass % d	0,01	DIN EN 15289	< 0,01	≤ 0,03	B1
Chlorine total	mass % d	0,01	DIN EN 15289	0,014	≤ 0,02	B1
Arsenic	mg/kg d	1	DIN EN 15297	< 1	≤ 1	B1
Cadmium	mg/kg d	0,3	DIN EN 15297	< 0,3	≤ 0,5	B1
Chromium	mg/kg d	1	DIN EN 15297	< 1	≤ 10	B1
Copper	mg/kg d	1	DIN EN 15297	2	≤ 10	B1
Lead	mg/kg d	3	DIN EN 15297	< 3	≤ 10	B1
Mercury	mg/kg d	0,05	DIN EN 15297	< 0,05	≤ 0,1	B1
Nickel	mg/kg d	1	DIN EN 15297	< 1	≤ 10	B1
Zinc	mg/kg d	1	DIN EN 15297	10	≤ 100	B1
Shrinkage starting temperature SST	°C	10	DIN CEN/TS 15370-1 ³	1120	-	B1
Deformation temperature DT	°C	10	DIN CEN/TS 15370-1 ³	1460	informational	B1
Hemisphere temperature HT	°C	10	DIN CEN/TS 15370-1 ³	1490	-	B1
Flow temperature FT	°C	10	DIN CEN/TS 15370-1 ³	1500	-	B1

ar - result calc. to 'as received' state d - result calc. to 'bone dry' state
 LOQ - Limit of quantitation

- 1) Issue 04/2014 (current program)
- 2) Value is valid for packing units up to 20kg; Value in parenthesis is valid for bigger packing units and bulk ware
- 3) Determination was performed under oxidizing conditions. Pre ashing temperature was 815°C.
- 4) 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>