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Test report 6138135
Order no. 6406718
Client no. 5980000

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DAkkS Deutsche Akkreditierungsstelle
D-PL-14115-02-02
D-PL-14115-02-03
D-PL-14115-02-06
D-PL-14115-02-07
D-PL-14115-02-08
D-PL-14115-02-10
D-PL-14115-02-13
D-PL-14115-02-14

Berlin, 30.12.2022

Your project: NUTRIGUIAR, J20.0318.CBE.POR
Your order no.: Miguel Correia
Date of order: 09.11.2022

Testing period from 25.11.2022 until 29.12.2022
First sample no. 221303236
Sample entry 24.11.2022

SGS Institut Fresenius GmbH

i.V. Oliver Sommer
Customer Service

i.V. Maria Georgileas
Customer Service

Erstellt: 30.12.2022 i.A. Marie-Charlotte Tomaszewski Customer Service.
Freigegeben: 30.12.2022 i.V. Michaela Sosnová-Behnke Groupleader Customer Service.

Sample matrix: Biofuel
Sample delivery: Sample sent on behalf of the client
Sampling by: Unknown
Sample entry: 24.11.2022
Testing period: 25.11.2022 until 29.12.2022

Sample no.: 221303236
Sample name: NUTRIAGUIAR - INDUSTRIA DE SUBSTRATOS LDA,
Process nº J20.0318.CBE.POR, Ticket No. 1/2,
Sample 1, Wood pellets 6 mm,
AMOSTRA ENSACADO / SAMPLE BAG

Parameter	Unit	LOQ	Method	Result	Limit ENplus®[1] A1	A2	B	Lab
Average diameter	Millimeter		DIN EN ISO 17829	6	*6 or 8 ± 1*			B1
Average length	Millimeter		DIN EN ISO 17829	14,4	*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	6	*≤ 10*			B1
Ash (550°C)	w-% d	0,1	DIN EN ISO 18122	0,43	*≤ 0,7*	*≤ 1,2*	*≤ 2,0*	B1
Mechanical Durability	w-% ar	0,1	DIN EN ISO 17831-1	99	*≥ 98,0*	*≥ 97,5*		B1
Fines	w-% ar	0,1	DIN EN ISO 18846	0,4	*≤ 1 (≤ 0,5)[2]*			B1
Net CV, const. p	MJ/kg ar	0,5	DIN EN ISO 18125	18,05	*≥ 16,5*			B1
Net CV, const. p	kWh/kg ar	0,14	DIN EN ISO 18125	5,014	*≥ 4,6*			B1
Bulk density	kg/m³ ar	1	DIN EN ISO 17828	676	*≥ 600 to ≤ 750*			B1
Nitrogen	w-% d	0,1	DIN EN ISO 16948	0,12	*≤ 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]	1210	-			--[4]
Deformation temperature DT	°C		DIN CEN/TS 15370-1[3]	1250	*≥ 1200*	*≥ 1100*		--[4]
Hemisphere temperature HT	°C		DIN CEN/TS 15370-1[3]	1280	-			--[4]
Flow temperature FT	°C		DIN CEN/TS 15370-1[3]	1300	-			--[4]
Arsenic	mg/kg d	0,5	DIN EN ISO 16968	< 0,5	*≤ 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	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) Analyses were performed by an accredited cooperation partner.

The laboratory locations of the SGS Group Germany according to the above abbreviations are listed at http://www.institut-fresenius.de/filestore/89/laborstandortkuerzelsgs2.pdf

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Summary of applied test methods:

DIN EN ISO 18846	2016-12
DIN EN ISO 17829	2016-03
DIN EN ISO 18134-2	2017-05
DIN EN ISO 18122	2016-03
DIN EN ISO 17831-1	2016-05
DIN EN ISO 18125	2017-08
DIN EN ISO 17828	2016-05
DIN EN ISO 16948	2015-09
DIN EN ISO 16994	2016-12
DIN CEN/TS 15370-1	2006-12
DIN EN ISO 16968	2015-09

*** End of test report ***