

Eurofins Umwelt Ost GmbH - Lindenstraße 11 - Gewerbegebiet Freiberg Ost -
D-09627 Bobritzsch-Hilbersdorf

Control Union Certifications Germany GmbH
Dorotheastr. 30
10318 Berlin

Title : **Analytical Report for Order 12241444**

Test report number : **AR-22-FR-045675-01**

Project name : **Pellets ENplus, UAB Silales Mediena**

Number of samples : **1**

Sample type: **wood pellets**

Date of sample taking : **2022-10-17**

Sample Taker: **not specified, sample(s) were delivered to lab**

Sample reception date : **2022-10-25**

Sample processing time : **2022-10-25 - 2022-11-03**

The test results refer solely to the analysed test specimen. Unless the sampling was done by our laboratory or in our sub-order the responsibility for the correctness of the sampling is disclaimed. This analytical report is only valid with signature and may only be further published completely and unchanged. Extracts or changes require the authorisation of the EUROFINS UMWELT in each individual case.

Our General Terms & Conditions of Sale (GTCS) are applicable, as far as no specific agreements do exist. The GTCS are available on <http://www.eurofins.de/umwelt/avb.aspx>.

Accredited test laboratory according to DIN EN ISO/IEC 17025:2018 DAkkS notification under the DAkkS German Accreditation System for Testing. The laboratory is according (D-PL-14081-01-00) accredited.

Attachments

XML_Export_AR-22-FR-045675-01.xml

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Digitally signed 11/4/2022
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Prüfleitung



										Description		wood pellets	
										Date and time of sample taking		2022-10-17	
										Sample number		122153732	
Parameter	Lab	Accr.	Method	ENplus A1 ar	ENplus A1 db	ENplus A2 ar	ENplus A2 db	ENplus B ar	ENplus B db	LOQ	Unit	ar	db
Quality characteristics													
Length	FR	F5	DIN EN ISO 17829: 2016-03	1)		1)		1)				o.k.	-
Diameter	FR	F5	DIN EN ISO 17829: 2016-03	2)		2)		2)			mm	5.9	-
Moisture	FR	F5	DIN EN ISO 18134-2: 2017-05	10		10		10		0.1	% (w/w)	8.3	-
Ash content (550°C)	FR	F5	DIN EN ISO 18122: 2016-03		0.7		1.2		2	0.1	% (w/w)	0.4	0.5
Durability	FR	F5	DIN EN ISO 17831-1: 2016-05	≥ 98		≥ 97.5		≥ 97.5			% (w/w)	98.6	-
Fine portion < 3,15 mm	FR	F5	DIN EN ISO 18846: 2016-12	1 ³⁾		1 ³⁾		1 ³⁾		0.1	% (w/w)	0.3	-
Bulk density	FR	F5	DIN EN ISO 17828: 2016-05	600 - 750		600 - 750		600 - 750			kg/m³	617	-
Gross calorific value (qV,gr)	FR	F5	DIN EN ISO 18125: 2017-08							200	kJ/kg	18700	20400
Net calorific value (qp,net)	FR	F5	berechnet nach DIN EN ISO 18125: 2017-08	≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		0.06	kWh/kg	4.82	5.31
Carbon	FR	F5	DIN EN ISO 16948: 2015-09							0.2	% (w/w)	46.5	50.6
Nitrogen	FR	F5	DIN EN ISO 16948: 2015-09		0.3		0.5		1	0.05	% (w/w)	< 0.05	< 0.05
Hydrogen	FR	F5	DIN EN ISO 16948: 2015-09							0.1	% (w/w)	5.4	5.9
Oxygen	FR	F5	DIN EN ISO 16993: 2016-11								% (w/w)	39.4	42.9
Sulphur	FR	F5	DIN EN ISO 16994: 2016-12		0.04		0.05		0.05	0.005	% (w/w)	0.009	0.010
Chlorine	FR	F5	DIN EN ISO 16994: 2016-12		0.02		0.02		0.03	0.005	% (w/w)	0.009	0.010

										Description		wood pellets	
										Date and time of sample taking		2022-10-17	
										Sample number		122153732	
Parameter	Lab	Accr.	Method	Limit values						LOQ	Unit	ar	db
				ENplus A1 ar	ENplus A1 db	ENplus A2 ar	ENplus A2 db	ENplus B ar	ENplus B db				

Trace elements acc. to DIN EN ISO 16968: 2015-09

Arsenic (As)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		1		1		1	0.8	mg/kg	-	< 0.8
Lead (Pb)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10		10		10	2	mg/kg	-	< 2
Cadmium (Cd)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		0.5		0.5		0.5	0.2	mg/kg	-	< 0.2
Chromium (Cr)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10		10		10	1	mg/kg	-	2
Copper (Cu)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10		10		10	1	mg/kg	-	< 1
Nickel (Ni)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10		10		10	1	mg/kg	-	1
Mercury (Hg)	FR	F5	DIN EN ISO 12846 (E12): 2012-08		0.1		0.1		0.1	0.05	mg/kg	-	< 0.05
Zinc (Zn)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		100		100		100	1	mg/kg	-	11

Ash melting behaviour (ox. atmo.) 815°C

Shrinkage start temp SST	FR	F5	DIN EN ISO 21404: 2020-06		5)		5)		5)		°C	-	960
Deformation temp DT	FR	F5	DIN EN ISO 21404: 2020-06		≥ 1200		≥ 1100		≥ 1100		°C	-	1500
Hemisphere temp HT	FR	F5	DIN EN ISO 21404: 2020-06		5)		5)		5)		°C	-	> 1500
Flow temp FT	FR	F5	DIN EN ISO 21404: 2020-06		5)		5)		5)		°C	-	1500

Special analyses

[illegible]

Explanations

LOQ - Limit of quantification

ar - as received

db - dry basis

Lab - Abbreviation of the performing laboratory

Accr. - Abbreviation of the accreditation of the performing laboratory

The parameters identified by FR have been performed by the laboratory Eurofins Umwelt Ost GmbH (Lindenstraße 11, Gewerbegebiet Freiberg Ost, Bobritzsch-Hilbersdorf). The accreditation code F5 identifies the parameters accredited according to DIN EN ISO/IEC 17025:2018 DAkkS D-PL-14081-01-00 .

Explanations regarding Limits

Analysis performed according to EN plus (wood pellets) - edition August 2015.

- 1) 3,15 - 40 mm; up to 1 % of pellets can be longer than 40mm. Maximum length should be <45mm.
- 2) D06 or D08 pellets +/- 1mm
- 3) at the end of production or by loading vehicles for delivery to the customer ($\leq 0,5$ for filling in pellet bags or big bags)
- 4) qp,net: net calorific value at constant pressure
- 5) should be given

The presentation of comparative values in the analytical report is a service provided by EUROFINS UMWELT. The cited comparative values (limit, guideline or other allocation values) are partially simplified and do not take into account all comments, ancillary provisions and/or exemptions of the corresponding regulations.