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**IWW Rheinisch-Westfälisches Institut
für Wasserforschung gemeinnützige
GmbH**

An-Institut der Universität Duisburg-Essen
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Test Report

(with hygiene relevant assessment)

Client:	EUROQUARZ GmbH
Type of assignment:	Testing of quartz sand for its conformity to the requirements of DIN EN 12904 (quality requirements for this drinking water additive in the List of treatment substances and disinfection processes according to § 11 of the German Drinking Water Directive – 22. modification 2020)
Project management:	A. Rohn
Clerk laboratory:	R. Charlier / R. Herzog
Test period:	2023-04-28 until 2023-05-25
Input sample:	2023-04-28
Sample material:	Quartz sand / Doberlug-Kirchhain
Date of sampling:	2023-04-26
Kind of sample:	Retained samples from production
Sampler:	Employee Euroquarz

[IWWHygienezertifikat Quarz Doberlug englisch 20230525.docx](#)

Geschäftsführung: Dr. Josef Klinger, Kristina Wencki

Sprecher Wissenschaftliches Direktorium:
Prof. Dr. Torsten C. Schmidt

Amtsgericht Duisburg HRB Nr. 14699

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1 Basis of investigations

1.1 Product sample

The examined quartz sand is intended to be used as filter material to treat water for human consumption (drinking water). Therefore, the product must comply with the requirements of DIN EN 12904 Tab. 1 Type 1 und Type 2 (see quality requirements for drinking water additives in the List of treatment substances and disinfection processes according to § 11 of the German Drinking Water Directive – 22. modification 2020).

1.2 Relevant standards and regulations

- German Drinking Water Directive (version of June 19, 2020)
- List of treatment materials and disinfection methods in accordance with § 11 of the Drinking Water Directive (List of treatment substances and disinfection processes according to § 11 of the German Drinking Water Directive – 22. modification 2020)
- quality requirements: DIN EN 12904 (2005)
- analytical methods: DIN EN 12902 (2004)

1.3 Quality criteria of the analysis

The following quality requirements were tested:

- acid-soluble components (DIN EN 12904 Tab. 1; DIN EN 12902)
- SiO₂ content (DIN EN 12904 Tab. 1; DIN EN 12902)
- water-extractable substances (according to DIN EN 12902)

2 Results

sample name:	quartz sand Doberlug-Kirchhain			
<i>Parameters</i>	<i>Standard</i>	<i>Limits</i>	<i>according to</i>	<i>Results</i>
acid-soluble components	DIN EN 12904	< 2 %	DIN EN 12902	< 0.3 weight%
*SiO ₂ content	DIN EN 12904	> 96 %	X-ray fluorescence DIN 51001	98.0 weight%
<i>water-extractable toxic substances</i>		Limits in µg/l according to German drinking water Directive		
Sb (antimony)		5	DIN EN 12902	< 1 µg/l
As (arsenic)		10	DIN EN 12902	< 1 µg/l
Cd (cadmium)		3	DIN EN 12902	< 0.2 µg/l
Cr (chrome)		50	DIN EN 12902	< 0.5 µg/l
Pb (lead)		10	DIN EN 12902	< 1 µg/l
Hg (mercury)		1	DIN EN 12902	< 0.1 µg/l
Ni (nickel)		20	DIN EN 12902	< 1 µg/l
Se (selenium)		10	DIN EN 12902	< 1 µg/l
CN (cyanide)		50	DIN EN 12902	< 5 µg/l
PAK´s (sum of 6 individual substance according to DIN EN 12902)		0.1	DIN EN 12902	< 0.005 µg/l
PAK´s (sum of 4 individual substance according to German drinking water Directive)		0.1	DIN EN 12902	< 0.005 µg/l
Benzo(a)pyren		0.01	DIN EN 12902	<0.002 µg/l

*) Analysis was carried out by a subcontractor

3 Assessment of the results

With regard to the examined parameters, the product "quartz sand / Doberlug-Kirchhain" fulfills the purity requirements according to § 11 of the German Drinking Water Directive, i. e. the requirements of DIN EN 12904 Tab. 1 Type 1 and also Type 2. It can therefore be used for the intended purpose specified in the List of treatment substances and disinfection processes (removal of particles) as a treatment substance for drinking water treatment.

Any negative effects on the quality of the drinking water are not expected.

IWW Rheinisch-Westfälisches Institut für Wasserforschung gemeinnützige GmbH

Unterschrift: A handwritten signature in blue ink, appearing to be 'Anja Rohn'.

26.05.2023

i. A. Anja Rohn