

CERTIFICATE

Client : Eurofins Environment Testing Norway AS
Attn : de heer Eirik Aas
Address : Mollebakken 50, N-1538 MOSS, NOORWEGEN

Projectdata

Project code : 1073013
Your Project Description : N-EUNOMO-00055785
Validation Ref. : 1073013_certificaat_v1
Verificationcode : ZWQW-KPHB-BTUM-ESGX

Date of receipt : 12-08-2020
Date of report : 13-08-2020
Number of samples : 9
Number of pages : 4

**Analytical method: (asbestos) fibre research of settled fibrous dust on surfaces using SEM/RMA
 in accordance with NEN-ISO 16000-27 (Q)**

sample id	client sample ID	level of contamination (in acc. with NEN 2991)	total examined area (cm ²)	(asbestos) fibrestructures / cm ²							
				chrysotile	amosite	crocidolite	anthophyllite	tremolite	actinolite	MMVF	other inorganic
6417599	439-2020-08110122	-	0,14656	0	0	0	0	0	0	0	0
6417600	439-2020-08110123	+/-	0,14656	0	34	0	0	0	0	0	0
6417601	439-2020-08110124	-	0,14656	0	0	0	0	0	0	0	0
6417602	439-2020-08110125	-	0,14656	0	0	0	0	0	0	0	0
6417603	439-2020-08110126	+/-	0,14656	0	7	0	0	0	0	0	0
6417604	439-2020-08110127	-	0,14656	0	0	0	0	0	0	0	0

Explanation

Limit of detection : 27 fibres/cm²
 MMVF : man-made vitreous fibres
 Initials analyst(s) : K.R.

Settled fibrous dust on surfaces (adhesive samples) are examined at a magnification of 300 x to 400 x. The SEM examination is performed at a magnification of 1000 x for structure counting.

Classification of the asbestos concentrations found in contamination level in accordance with NEN 2991 (2015):

- :	no asbestos detected	0 asbestos structures /cm ²
+/- :	traces of asbestos found	1-100 asbestos structures /cm ²
+	area clearly contaminated with asbestos	101-500 asbestos structures /cm ²
++ :	area highly contaminated with asbestos	> 500 asbestos structures /cm ²

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CERTIFICATE

**Analytical method: (asbestos) fibre research on filter using SEM/RMA
in accordance with NEN-ISO 14966 (Q)**

Sample data

Sample ID : 6417605
Your description : 439-2020-08110128

Your sampling data

Date : 9-7-2020
Location : -
Start (time) : 9:20 uur
End (time) : 14:20 uur
Sampling duration : 300 min
Average flowrate : 3.05 l/min

Analytical data

Magnification : 2300
Effective filter diameter : 22.5 mm
Filter area examined : 1.00 mm²
Image field area : 0.01 mm²
Number of image fields examined : 82
Sampling volume : 0.915 m³

Analyseresultaten

			calculation in accordance with NEN-ISO 14966			
fibre length (L)	fibre type	number of fibres	concentration [fibres/m ³]	lower limit [fibres/m ³]	upper limit [fibres/m ³]	detection limit ^{1,2} [fibres/m ³]
L < 5 µm	serpentine (chrysotile)	0	0	0	1299	1299
L < 5 µm	amphibole	0	0	0	1299	1299
5 µm ≤ L < 100 µm	serpentine (chrysotile)	0	0	0	1299	1299
5 µm ≤ L < 100 µm	amphibole	0	0	0	1299	1299
5 µm ≤ L < 100 µm	calcium sulfate	0	0	0	1299	1299
5 µm ≤ L < 100 µm	other inorganic	0	0	0	1299	1299
5 µm ≤ L < 100 µm	total fibres (excl CaSO ₄)	0	0	0	-	1299
5 µm ≤ L < 100 µm	total asbestos	0	0	0	-	1299

¹ The limit of detection is determined with an equivalent factor of 1.0 .

² The limit of detection is defined as the numerical fibre concentration in the air that is equivalent to 2.99 fibres in the analysis (which is the 95 % confidence interval of the Poisson distribution for zero fibres).

Opmerking

De volgende informatie is indien van toepassing verstrekt door de opdrachtgever: Project omschrijving, Monsterreferentie(s), Opgegeven bemonsteringsdatum, Matrix, Barcode(s) en Bemonsteringsdata. De opgegeven bemonsteringsdata (debiet en tijdsduur van de bemonstering) kan van invloed zijn op de geldigheid van de analyseresultaten.

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CERTIFICATE

**Analytical method: (asbestos) fibre research on filter using SEM/RMA
in accordance with NEN-ISO 14966 (Q)**

Sample data

Sample ID : 6417606
Your description : 439-2020-08110129

Your sampling data

Date : 9-7-2020
Location : -
Start (time) : 9:10 uur
End (time) : 14:25 uur
Sampling duration : 315 min
Average flowrate : 2.7 l/min

Analytical data

Magnification : 2300
Effective filter diameter : 22.5 mm
Filter area examined : 1.00 mm²
Image field area : 0.01 mm²
Number of image fields examined : 82
Sampling volume : 0.8505 m³

Analyseresultaten

			calculation in accordance with NEN-ISO 14966			
fibre length (L)	fibre type	number of fibres	concentration [fibres/m ³]	lower limit [fibres/m ³]	upper limit [fibres/m ³]	detection limit ^{1,2} [fibres/m ³]
L < 5 µm	serpentine (chrysotile)	0	0	0	1397	1397
L < 5 µm	amphibole	0	0	0	1397	1397
5 µm ≤ L < 100 µm	serpentine (chrysotile)	0	0	0	1397	1397
5 µm ≤ L < 100 µm	amphibole	0	0	0	1397	1397
5 µm ≤ L < 100 µm	calcium sulfate	0	0	0	1397	1397
5 µm ≤ L < 100 µm	other inorganic	0	0	0	1397	1397
5 µm ≤ L < 100 µm	total fibres (excl CaSO ₄)	0	0	0	-	1397
5 µm ≤ L < 100 µm	total asbestos	0	0	0	-	1397

¹ The limit of detection is determined with an equivalent factor of 1.0.

² The limit of detection is defined as the numerical fibre concentration in the air that is equivalent to 2.99 fibres in the analysis (which is the 95 % confidence interval of the Poisson distribution for zero fibres).

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**Analytical method: (asbestos) fibre research on filter using SEM/RMA
in accordance with NEN-ISO 14966 (Q)**

Sample data

Sample ID : 6417607
Your description : 439-2020-08110130

Your sampling data

Date : 9-7-2020
Location : -
Start (time) : 9:30 uur
End (time) : 14:30 uur
Sampling duration : 300 min
Average flowrate : 3.05 l/min

Analytical data

Magnification : 2300
Effective filter diameter : 22.5 mm
Filter area examined : 1.00 mm²
Image field area : 0.01 mm²
Number of image fields examined : 82
Sampling volume : 0.915 m³

Analyseresultaten

			calculation in accordance with NEN-ISO 14966			
fibre length (L)	fibre type	number of fibres	concentration [fibres/m ³]	lower limit [fibres/m ³]	upper limit [fibres/m ³]	detection limit ^{1,2} [fibres/m ³]
L < 5 µm	serpentine (chrysotile)	0	0	0	1299	1299
L < 5 µm	amphibole	0	0	0	1299	1299
5 µm ≤ L < 100 µm	serpentine (chrysotile)	0	0	0	1299	1299
5 µm ≤ L < 100 µm	amphibole	0	0	0	1299	1299
5 µm ≤ L < 100 µm	calcium sulfate	0	0	0	1299	1299
5 µm ≤ L < 100 µm	other inorganic	0	0	0	1299	1299
5 µm ≤ L < 100 µm	total fibres (excl CaSO ₄)	0	0	0	-	1299
5 µm ≤ L < 100 µm	total asbestos	0	0	0	-	1299

¹ The limit of detection is determined with an equivalent factor of 1.0.

² The limit of detection is defined as the numerical fibre concentration in the air that is equivalent to 2.99 fibres in the analysis (which is the 95 % confidence interval of the Poisson distribution for zero fibres).

Opmerking

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On behalf of Eurofins Omegam,

BSc J. Tukker
Production manager



Disclaimer

Eurofins Omegam has the (asbestos) fiber research in this/these sample(s) carried out according to the standard(s) as stated in the certificate. The analysis results reported herein relate only to the material supplied to the laboratory. Eurofins Omegam bears no responsibility on the origin and representativeness as well as safety during sampling.

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