

Laborator file number	10662	Version	002
Laboratory report number	LW-NBO-19040801	Drafter	Nabil Bouhbouh
Customer project number	-		Page 1 of 4

With this new version, the previous version of this report will be canceled

RZ- Ecoséal B.V.
T.a.v. heer R. van Zanten
Achterland 11
2964 LA Groot Ammers

ORIGINAL CUSTOMER

Research data Reason for research	Can a proposed activity lead to unauthorized risk		
Purpose of research	Activities do not lead to increased asbestos fiber concentrations		
Simulation method Analysis method	Specific activities take place during the air measurement		
Date of sampling Type of measurement	Determination of the concentration of asbestos fibers by means of Scanning Electron Microscopy / EDX (in accordance with ISO14966)		
Location	6- May 19	Executive employee air measurement:	Nabil Bouhbouh
Activities / method Surface area	Stationary pump	Executive analyst SEM / rapporteur:	Alexander Berenpas
Influence on measurement result Data related to ventilation	Ariensplein 1 in Enschede	An asbestos air duct is coated by means of a spray nozzle -	
Environmental conditions	-	Number of room units Dust Duration of exposure	3 pieces
Equipment used Material: Particularities	T = 14.0 ° C p = 1008 hPa	Air sampling pumps, Flow meter, SEM-EDX	86 minutes
Concerns baseline measurement	Applications:% w / w: Air duct, source 8.1	Asbestos type: Gebonden:	10-15% CHR Ja

AIR MEASUREMENT

Preparation serial numbers.	1	/	2	/	3	
Pump location	Ground floor		Ground floor		1e floor	
Start time	7:39	/	7:39	/	7:42	uur
End time	9:05	/	9:05	/	9:07	uur
Duration of sampling	86	/	86	/	85	min
Begindebit	8,3	/	8,3	/	8,3	l/min
Final flow	8,3	/	8,3	/	8,3	l/min
Avg flow rate	8,3	/	8,3	/	8,3	l/min
Total Volume	714	/	714	/	706	V in l
Eff. filter surface	346,4	/	346,4	/	346,4	A(f) in mm2

Results analysis Screened

filter area Dilution factor	4,040	/	4,040	/	4,040	A(0) in mm2
	1	/	1	/	1	f

Chrysotile fibers

	Fiber length class		Fiber length class		Fiber length class		um
	5 < L < 100	< 359	5 < L < 100	< 359	5 < L < 100	< 363	
CHR lower limit	0	0	0	0	0	0	w/m³, aantal (n)
CHR Upper Limit	0,0	0,0	0,0	0,0	0,0	0,0	w/m³, aantal (n)
Amphibole asbestos fibers	359	3,0	359	3,0	363	3,0	w/m³, aantal (n)
AMF Lower Limit	< 359	0	< 359	0	< 363	0	w/m³, aantal (n)
AMF Upper Limit	0	0,0	0	0,0	0	0,0	w/m³, aantal (n)
Inorganic fibers	359	3,0	359	3,0	363	3,0	w/m³, aantal (n)
Calcium sulfate (CaSO4)	< 359	0	< 359	0	< 363	0	w/m³, aantal (n)
Exposure index - B	< 359	0	< 359	0	< 363	0	w/m³, aantal (n)
	0,00		0,00		0,00		-

Calculations

Concentration conform ISO-14966, formula $c = (n \cdot A(f) \cdot f \cdot 1000) / (A(0) \cdot V)$ [fiber/m³ air]
Exposure index, BI = (conc. CHR / grensw. CHR) + (conc. AMF / grensw. AMF)

Testing against limit values

Preparation no. 1	The total asbestos concentration, converted to exposure index, is smaller than the limit value
Preparation no. 2	The total asbestos concentration, converted to exposure index, is smaller than the limit value
Preparation no. 3	The total asbestos concentration, converted to exposure index, is smaller than the limit value

If SGS Search Laboratory B.V. has not taken the samples itself, SGS Search Laboratory B.V. no responsibility regarding origin and representativeness as well as safety during sampling.

The conclusion of the air measurement is highly dependent on the purpose of the research and the related laws and regulations as well as the analysis technique.

Getekend te Heeswijk d.d. 6-5-2019
SGS Search Laboratorium B.V.

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Ir. Eric J.H.B. Marques
Hoofd Laboratorium

(Technisch Verantwoordelijk)



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ORIGINAL CUSTOMER

Research data Reason for research Purpose of research Simulation method Analysis method	Can a proposed activity lead to unauthorized risk Activities do not lead to increased asbestos fibre concentrations. Specific activities take place during the air measurement Determination of the concentration of asbestos fibers by means of Scanning Electron Microscopy / EDX (in accordance with ISO14966		
Date of sampling	6- May-19	Executive employee air measurement:	Nabil Bouhbouh
Type of measurement	Stationary pump Ariensplein	Executive analyst SEM / rapporteur:	Alexander Berenpas
Location	1 in Enschede		
Activities / method Surface area	An asbestos air duct is coated by means of a spray nozzle -	3 pieces	
Influence on measurement result Data related to ventilation Environmental conditions Equipment used	Number of room units Dust Duration of exposure	86 minutes	
Material:	T = 14.0 ° C p = 1008 hPa Air sampling pumps, Flow meter, SEM-EDX		
Particularities Concerns baseline measurement	Applications: Air duct, source 8.1	% w/w: 10-15 %	Asbestos type Be bound to: CHR Ja

AIR MEASUREMENT

Preparation serial numbers.	4	/	5	/	6					
Pump location	1e floor		2e floor		2e floor					
Start time	7:42	/	7:46	/	7:46	uur				
End time	9:07	/	9:09	/	9:09	uur				
Duration of sampling	85	/	83	/	83	min				
Initial flow	8,3	/	8,3	/	8,3	l/min				
Final flow	8,3	/	8,3	/	8,3	l/min				
Avg. flow rate	8,3	/	8,3	/	8,3	l/min				
Total Volume	706	/	689	/	689	V in l				
Eff. filter surface	346,4	/	346,4	/	346,4	A(f) in mm2				
Results analysis										
Screened filter area	4,040	/	4,040	/	4,040	A(0) in mm2				
Dilution factor	1	/	1	/	1	f				
Chrysotile fibers	Fiber length class			Fiber length class			Fiber length class			
CHR lower limit	5 < L < 100			5 < L < 100			5 < L < 100			um
CHR upper limit	< 363	0	< 372	0	< 372	0	w/m³, aantal (n)			
Amphibole asbestos fibers	0	0,0	0	0,0	0	0,0	w/m³, aantal (n)			
AMF lower limit	363	3,0	372	3,0	372	3,0	w/m³, aantal (n)			
AMF upper limit	< 363	0	< 372	0	< 372	0	w/m³, aantal (n)			
Inorganic fibers	0	0,0	0	0,0	0	0,0	w/m³, aantal (n)			
Calcium sulfate (CaSO4) Exposure index - BI	363	3,0	372	3,0	372	3,0	w/m³, aantal (n)			
	< 363	0	< 372	0	< 372	0	w/m³, aantal (n)			
	< 363	0	< 372	0	< 372	0	w/m³, aantal (n)			
	0,00		0,00		0,00		-			

Calculations
Concentration in accordance with ISO 14966, formula $c = (nA (f) \cdot f \cdot 1000) / (A (0) \cdot V)$
[fibers / m³ air] Exposure index, BI = (conc. CHR / limit CHR) + (conc AMF / AMF limit)

Testing against limit values

Preparation no. 4	The total asbestos concentration, converted to exposure index, is smaller than the limit value
Preparation no. 5	The total asbestos concentration, converted to exposure index, is smaller than the limit value
Preparation no. 6	The total asbestos concentration, converted to exposure index, is smaller than the limit value

If SGS Search Laboratory B.V. has not taken the samples itself, SGS Search Laboratory B.V. no responsibility regarding origin and representativeness as well as safety during sampling.

The conclusion of the air measurement is highly dependent on the purpose of the research and the related laws and regulations as well as the analysis technique.

Getekend te Heeswijk
SGS Search Laboratorium B.V.

d.d. 6-5-2019

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Ir. Eric J.H.B. Marques
Hoofd Laboratorium

(Technical Responsible)



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Laboratory report number	LW-NBO-19040801	Opsteller	Nabil Bouhbouh
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Research data Reason for research Purpose of research Simulation method Analysis method	Can a proposed activity lead to unauthorized risk Activities do not lead to increased asbestos fiber concentrations Specific activities take place during the air measurement Determination of the concentration of asbestos fibers by means of Scanning Electron Microscopy / EDX (in accordance with ISO14966)		
Date of sampling	6- May-19	Executive employee air measurement:	Nabil Bouhbouh
Type of measurement		Executive analyst SEM / rapporteur:	Alexander Berenpas
Location	An asbestos air duct is coated by means of a spray nozzle -		
Activities / method Surface area	Number of room units Dust Duration of exposure		
Influence on measurement result Data related to ventilation Environmental conditions Equipment used	-	3 pieces	
Material:	T = 14.0 ° C p = 1008 hPa Air sampling pumps, Flow meter, SEM-EDX	101 minutes	
Particularities	Stationary pump		
Concerns measurement during coating	Ariensplein 1 in Enschede	Asbestos type: Be bound to:	
	Applications: % w / w: Air duct, source 8.1	10-15 %	CHR Ja

AIR MEASUREMENT						
Preparation serial numbers.	1	/	2	/	3	
Pump location	2e floor		2e floor		1e floor	
Start time	10:12	/	10:12	/	10:13	uur
End time	11:45	/	11:45	/	11:50	uur
Duration of sampling	93	/	93	/	97	min
Initial flow	8,3	/	8,3	/	8,3	l/min
Final flow	8,3	/	8,3	/	8,3	l/min
Avg flow rate	8,3	/	8,3	/	8,3	l/min
Total volume	772	/	772	/	805	V in l
Eff. filter surface	346,4	/	346,4	/	346,4	A(f) in mm2
Results analysis Screened filter area Dilution factor	4,040	/	4,040	/	4,040	A(0) in mm2
	1	/	1	/	1	f

	Fiber length class		Fiber length class		Fiber length class		µm
	5 < L < 100	< 332	5 < L < 100	< 332	5 < L < 100	< 318	
Chrysotile fibers	0	0	0	0	0	0	v/m³, aantal (n)
CHR lower limit	0	0,0	0	0,0	0	0,0	v/m³, aantal (n)
CHR upper limit	332	3,0	332	3,0	318	3,0	v/m³, aantal (n)
Amphibole asbestos fibers	< 332	0	< 332	0	< 318	0	v/m³, aantal (n)
AMF Lower limit	0	0,0	0	0,0	0	0,0	v/m³, aantal (n)
AMF Upper limit	332	3,0	332	3,0	318	3,0	v/m³, aantal (n)
Inorganic fibers Calcium sulfate (CaSO4)	< 332	0	< 332	0	< 318	0	v/m³, aantal (n)
	< 332	0	< 332	0	< 318	0	v/m³, aantal (n)
Exposure index - BI	0,00		0,00		0,00		

Calculations
 Concentration according to ISO 14966, formula c = (nA (f) .f.1000) / (A (0) .V) [fibers / m³ air]
 Exposure index, BI = (conc. CHR / limit CHR) + (conc AMF / AMF limit)

Testing against limit values	
Preparation no. 1	The total asbestos concentration, converted to exposure index, is smaller than the limit value
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Preparation no. 3	The total asbestos concentration, converted to exposure index, is smaller than the limit value

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SGS Search Laboratorium B.V.
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Ir. Eric J.H.B. Marques
 Hoofd Laboratorium (Technical Responsible)



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Research data Reason for research Purpose of research Simulation method Analysis method	Can a proposed activity lead to unauthorized risk Activities do not lead to increased asbestos fiber concentrations Specific activities take place during the air measurement Determination of the concentration of asbestos fibers by means of Scanning Electron Microscopy / EDX (in accordance with ISO14966)		
Date of sampling	6- may-19		
Type of measurement	Stationary pump	Executive employee air measurement:	Nabil Bouhbouh
Location	Ariensplein 1 in Enschede	Executive analyst SEM / rapporteur:	Alexander Berenpas
Activities / method Surface area	An asbestos air duct is coated by means of a spray nozzle - Number of room units Dust Duration of exposure 3 pieces		
Influence on measurement result Data related to ventilation Environmental conditions Equipment used	T = 14.0 ° C p = 1008 hPa Air sampling pumps, Flow meter, 101 minutes SEM-EDX		
Material:			
Particularities	Applications:	% w/w:	Asbestos type: Gebonden:
Concerns measurement during coating	Air duct, source 8.1	10-15 %	CHR Ja

AIR MEASUREMENT

Preparation serial numbers.	4	/	5	/	6	
Pump location	1e floor		Ground floor		Ground floor	
Start time	10:13	/	10:15	/	10:15	uur
End time	11:50	/	11:56	/	11:56	uur
Duration of sampling	97	/	101	/	101	min
Begin Flow	8,3	/	8,3	/	8,3	l/min
End Flow	8,3	/	8,3	/	8,3	l/min
Average Flow	8,3	/	8,3	/	8,3	l/min
Total volume	805	/	838	/	838	V in l
Eff. filter surface	346,4	/	346,4	/	346,4	A(f) in mm2
Results analysis Screened filter area Dilution factor	4,040 1	/	4,040 1	/	4,040 1	A(0) in mm2 f
Chrysotile fibers	Fiber length class 5 < L < 100		Fiber length class 5 < L < 100		Fiber length class 5 < L < 100	
CHR lower limit	< 318	0	< 306	0	< 306	0
CHR upper limit	0	0,0	0	0,0	0	0,0
Amphibole asbestos fibers	318	3,0	306	3,0	306	3,0
AMF Lower limit	< 318	0	< 306	0	< 306	0
AMF Upper limit	0	0,0	0	0,0	0	0,0
Inorganic fibers Calcium sulfate (CaSO4)	318	3,0	306	3,0	306	3,0
Exposure index - BI	< 318	0	< 306	0	< 306	0
	< 318	0	< 306	0	< 306	0
	0,00		0,00		0,00	
Calculations	Concentration according to ISO 14966, formula c = (nA (f) .f.1000) / (A (0) .V) [fibers / m³ air] Exposure index, BI = (conc. CHR / limit CHR) + (conc AMF / AMF limit)					

Testing against limit values

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