

64 Everard Drive, Springburn, Glasgow, G21 1XG

Test Report

Client Ref No: A MCPHERSON

Report Date:

23 March 2020

Test Report No:

70663632

Issue No:

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Contract: NLBLOCK

North Lanarkshire Council **Business Regulation Service**

Fleming House Tryst Road Cumbernauld G67 1DZ

Technical Enquiries: Mass Spec

Phone 0141 276 0628

Glasgow.Gov.uk Fax 0141 276 0669

Sample Details:

Client's Description:

Passive Air Monitoring

Date received:

10/03/2020

Sampled by:

Sample Type:

Passive Tenax air sample for VOCs

Site:

St Ambrose High

Sample Point:

Date/Time on:

17/01/2020 at 16:00

Date/Time off:

06/03/2020 at 15:25

Tenax I.D.

MI056741

Test Note:

Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere

and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

<u>Determination</u>	Result	<u>Units</u>
Sample collected by	Karen Macvicar	
Total VOC ng	5720	ng
Total VOC mg/m3	0.081	mg/m^3
Benzene	0.0003	
Toluene	0.0018	
m- & p- xylene	0.0004	
n-heptane	0.0030	mg/m^3
Butan-1-ol	0.0019	mg/m^3
Arcosolv	0.0061	mg/m^3
Limonene	0.0013	
2-ethyl hexanol	0.0038	mg/m^3
Decamethyl cyclopentasiloxane	0.0127	mg/m^3
Nonanal	0.0031	
Menthol	0.0028	mg/m^3

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Test Details Continued:

<u>Determination</u> <u>Result</u> <u>Units</u>

Opinions/Comments:

- 1. The total volatile organic contamination (TVOC) was 0.081 mg/m3. This TVOC was within the range we expect for indoor air.
- 2. The following comments are related to the total volatile organic contamination (TVOC). The statement below is from Molhave: "Volatile Organic Compounds, Indoor Air Quality and Health" states the health effects may be experienced at the following concentrations of VOCs in indoor air. Odour complaints, irritation and discomfort can occur between 0.2 3.0 mg/m3.

The TVOC level detected is below the lower range stated above and would not be expected to cause a complaint.

- 3. Compounds detected are not unusual for a school environment where there has been recent refurbishment and painting.
- 4. Benzene level of 0.0003 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m^3. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.
- 5. Toluene is a common solvent, found in paints, paint thinners, silicone sealants, rubber, adhesives (glues), lacquers and disinfectants.
- 6. Decamethyl cyclopentasiloxane DMPS, is an oily odourless solvent which is commonly used in paints, decdorants, hairsprays, polishes and many other cleaning materials.
- 7. Butanol, limonene and nonanal are common compounds found in cleaning products.
- 8. 2-ethyl hexanol is in the production of plasticisers, coatings, adhesives and other specialty chemicals. The largest market for 2-ethyl hexanol has been the plasticisers dioctyl phthalate which is used in the manufacture polyvinyl chloride products.
- 9. Xylene compounds can come from rubber and plastics, in solvents, and in paints and lacquers.
- 10. Arcosolv is used in adhesives and paints.
- 11. In summary, the compounds detected in the atmosphere and the concentration levels were not uncommon. The recent refurbishments that have occurred could have contributed to a number of the compounds detected.

Approved Signatory:



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North Lanarkshire Council **Business Regulation Service**

Fleming House Tryst Road Cumbernauld G67 1DZ

Technical Enquiries: Mass Spec

Phone 0141 276 0628 @Glasgow.Gov.uk

Fax 0141 276 0669

Sample Details:

Client's Description: Passive Air Monitoring

Date received: Sampled by:

10/03/2020

Sample Type:

Passive Tenax air sample for VOCs

Site:

St Ambrose High

Sample Point:

Maths 6 1-080C 17/01/2020 at 15:50

Date/Time on: Date/Time off:

06/03/2020 at 15:34

Tenax I.D.

MI056732

Test Note: Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere

and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

Determination	Result	<u>Units</u>	
Sample collected by	Karen Ma	Karen Macvicar	
Total VOC ng	7299	ng	
Total VOC mg/m3	0.103	mg/m^3	
Benzene	0.0003		
Toluene	0.003		
m- & p- xylene	0.0004		
n-heptane	0.0030	mg/m^3	
Butan-1-ol	0.0023	mg/m^3	
Arcosolv	0.0055	mg/m^3	
Limonene	0.0013		
2-ethyl hexanol	0.0044	mg/m^3	
Decamethyl cyclopentasiloxane	0.0217	mg/m^3	
Nonanal	0.0036		
Menthol	0.0028	mg/m^3	

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Test Details Continued:

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Determination

The total volatile ere:

1. The total volatile organic contamination (TVOC) was 0.10 mg/m3. This TVOC was within the range we expect for indoor sir.

Result

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2. The following comments are related to the total volatile organic contamination (TVOC).
The statement below is from Molhave: "Volatile Organic Compounds, Indoor Air Quality and Health" states the health effects may be experienced at the following concentrations of VOCs in indoor air.
Odour complaints, irritation and discomfort can occur between 0.2 - 3.0 mg/m3.

The TVOC level detected is below the lower range stated above and would not be expected to cause a complaint.

3. Compounds detected are not unusual for a school environment where there has been recent refurbishment and painting.

4. Benzene level of 0.0003 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m^3. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.

5. Toluene is a common solvent, found in paints, paint thinners, silicone sealants, rubber, adhesives (glues), lacquers and disinfectants.

6. Decamethyl cyclopentasiloxane DMPS, is an oily odourless solvent which is commonly used in paints, deodorants, hairsprays, polishes and many other cleaning materials.

7. Butanol, limonene and nonanal are common compounds found in cleaning products.

8. S-ethyl hexanol is in the production of plasticisers, coatings, adhesives and other specialty chemicals. The largest market for S-ethyl hexanol has been the plasticisers dioctyl phthalate which is used in the manufacture polyvinyl chloride products.

9. Xylene compounds can come from rubber and plastics, in solvents, and in paints and lacquers.

10. Arcosolv is used in adhesives and paints.

11. In summary, the compounds detected in the atmosphere and the concentration levels were not uncommon. The recent refurbishments that have occurred could have contributed to a number of the compounds detected.



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North Lanarkshire Council Technical Enquiries: Mass Spec **Business Regulation Service** Phone 0141 276 0628 Fleming House

Tryst Road Cumbernauld G67 1DZ

Glasgow.Gov.uk ax 0141 276 0669

Sample Details:

Client's Description: Passive Air Monitoring

Date received:

10/03/2020

Sampled by:

Sample Type:

Passive Tenax air sample for VOCs

Site:

Buchanan High School

Sample Point:

ICT G-031

Date/Time on:

17/01/2020 at 16:15

Date/Time off:

06/03/2020 at 15:40

Tenax I.D.

MI056747

Test Note: Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere

and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

Determination	Result	<u>Units</u>
Sample collected by	Karen Macvicar	
Total VOC ng	4919	ng
Total VOC mg/m3	0.070	mg/m^3
Benzene	0.0003	
Toluene	0.020	
m- & p- xylene	0.001	
Butan-1-ol	0.0012	mg/m^3
Arcosolv	0.0013	mg/m^3
Limonene	0.0012	
2-ethyl hexanol	0.0009	mg/m^3
Decamethyl cyclopentasiloxane	0.0023	mg/m^3
Nonanal	0.0015	
Menthol	0.0002	mg/m^3
Butanone	0.0044	mg/m^3

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Test Details Continued:

<u>Determination</u>

Result Units

0.0086 mg/m^3

Butyl acetate

Opinions/Comments:

1. The total volatile organic contamination (TVOC) was 0.070 mg/m3. This TVOC was within the range we expect for indoor air.

2. The following comments are related to the total volatile organic contamination (TVOC). The statement below is from Molhave: "Volatile Organic Compounds, Indoor Air Quality and Health" states the health effects may be experienced at the following concentrations of VOCs in indoor air.

Odour complaints, irritation and discomfort can occur between 0.2 - 3.0 mg/m3.

The TVOC level detected is below the lower range stated above and would not be expected to cause a complaint.

- 3. Compounds detected are not unusual for a school environment where there has been recent refurbishment and painting.
- 4. Benzene level of 0.0003 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m^3. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.
- 5. Toluene is a common solvent, found in paints, paint thinners, silicone sealants, rubber, adhesives (glues), lacquers and disinfectants.
- 6. Decamethyl cyclopentasiloxane DMPS, is an oily odourless solvent which is commonly used in paints, deodorants, hairsprays, polishes and many other cleaning materials.
- 7. Butanol, limonene and nonanal are common compounds found in cleaning products.
- 8. 2-ethyl hexanol is in the production of plasticisers, coatings, adhesives and other specialty chemicals. The largest market for 2-ethyl hexanol has been the plasticisers dioctyl phthalate which is used in the manufacture polyvinyl chloride products.
- 9. Xylene compounds can come from rubber and plastics, in solvents, and in paints and lacquers.
- 10. Arcosolv is used in adhesives and paints.
- 11. The level of toluene was higher than other rooms and this sample and also had butan-2-one and butyl acetate, these could have came from the use of permanent ink pens.
- 12. In summary, the compounds detected in the atmosphere and the concentration levels were not uncommon. The recent refurbishments that have occurred could have contributed to a number of the compounds detected.

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Determination

Result Units

Approved Signatory:



Chemist

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North Lanarkshire Council Business Regulation Service Fleming House Tryst Road Cumbernauld

Technical Enquiries : Mass Spec Phone 0141 276 0628 Glasgow.Gov.uk Fax 0141 276 0669

Sample Details:

Client's Description: Passive Air Monitoring

Date received:

10/03/2020

Sampled by:

G67 1DZ

Sample Type:

Passive Tenax air sample for VOCs

Site: Sample Point: St Ambrose & Buchanan High

Date/Time on:

Outside on downpipe at entrance doors across from carpark 17/01/2020 at 16:40

Date/Time off:

06/03/2020 at 15:15

Tenax I.D.

MI056748

Test Note:

Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere

and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

Determination <u>Result</u> <u>Units</u> Sample collected by Karen Macvicar Total VOC ng 533 ng Total VOC mg/m3 800.0 mg/m³ Benzene 0.0006 Toluene 0.0009 0.0005 m- & p- xylene

Opinions/Comments:

- 1. The total volatile organic contamination (TVOC) was 0.008 mg/m3. This TVOC was lower than the expected range 0.01 0.1 mg/m3 for rural outdoor atmospheres.
- 2. Benzene level of 0.0006 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m³. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.
- 3. Toluene was detected at 0.0009 mg/m3 and xylene at 0.0005 mg/m3, traffic and industrial activities are primary

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Test Details Continued:

Determination

Result

<u>Units</u>

sources contributing to outdoor levels of these compounds.

Approved Signatory:



Chemist



64 Everard Drive, Springburn, Glasgow, G21 1XG

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North Lanarkshire Council Business Regulation Service Fleming House

Tryst Road Cumbernauld G67 1DZ Technical Enquiries : Mass Spec

Phone 0141 276 0628 @Glasgow.Gov.uk Fax 0141 276 0669

Sample Details:

Client's Description: Passive Air Monitoring

Date received: Sampled by: 10/03/2020

Sample Type:

Passive Tenax air sample for VOCs

Site:

Buchanan High School English Base G099A

Sample Point: Date/Time on:

17/01/2020 at 16:20 06/03/2020 at 15:45

Date/Time off: Tenax I.D.

V03361

Test Note:

Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

<u>Determination</u>	Result	<u>Units</u>
Sample collected by	Karen Macvicar	
Total VOC ng	2470	ng
Total VOC mg/m3	0.035	mg/m^3
Benzene	0.0002	
Toluene	0.0036	
m- & p- xylene	0.0008	
2-butoxy ethanol	0.0032	mg/m^3
Arcosolv	0.0012	mg/m^3
Limonene	0.001	
2-ethyl hexanol	0.0009	mg/m^3
Decamethyl cyclopentasiloxane	0.0018	mg/m^3
Nonanal	0.0013	
Menthol	0.0002	mg/m^3

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Test Details Continued:

<u>Determination</u>

Result

<u>Units</u>

Opinions/Comments:

- 1. The total volatile organic contamination (TVOC) was 0.035 mg/m3. This TVOC was within the range we expect for indoor air.
- 2. The following comments are related to the total volatile organic contamination (TVOC). The statement below is from Molhave: "Volatile Organic Compounds, Indoor Air Quality and Health" states the health effects may be experienced at the following concentrations of VOCs in indoor air. Odour complaints, irritation and discomfort can occur between 0.2 - 3.0 mg/m3.

The TVOC level detected is below the lower range stated above and would not be expected to cause a complaint.

- 3. Compounds detected are not unusual for a school environment where there has been recent refurbishment and painting.
- 4. Benzene level of 0.0002 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m^3. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.
- 5. Toluene is a common solvent, found in paints, paint thinners, silicone sealants, rubber, adhesives (glues), lacquers and disinfectants.
- 6. Decamethyl cyclopentasiloxane DMPS, is an oily odourless solvent which is commonly used in paints, deodorants, hairsprays, polishes and many other cleaning materials.
- 7. Limonene and nonanal are common compounds found in cleaning products.
- 8. 2-ethyl hexanol is in the production of plasticisers, coatings, adhesives and other specialty chemicals. The largest market for 2-ethyl hexanol has been the plasticisers dioctyl phthalate which is used in the manufacture polyvinyl chloride products.
- 9. Xylene compounds can come from rubber and plastics, in solvents, and in paints and lacquers.
- 10. Arcosolv is used in adhesives and paints.
- 11. In summary, the compounds detected in the atmosphere and the concentration levels were not uncommon. The recent refurbishments that have occurred could have contributed to a number of the compounds detected.

Approved Signatory:



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64 Everard Drive, Springburn, Glasgow, G21 1XG

Test Report

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North Lanarkshire Council Business Regulation Service Fleming House Tryst Road Cumbernauld G67 1DZ

Technical Enquiries : Mass Spec

Fax 0141 276 0669

Sample Details:

Client's Description: Air Monitoring
Date received: 10/03/2020
Sampled by:

Sample Type:

Passive Tenax air sample for VOCs

Site:

St Ambrose High

Sample Point:

1st floor outside Staff Room in Social Area

Date/Time on: Date/Time off: 17/01/2020 at 15:45

T----- ID

06/03/2020 at 15:45

Tenax I.D.

MI056735

Test Note:

Tenax adsorption tubes are used to absorb volatile and semi volatile organic compounds in the atmosphere and do not distinguish between the background odours in a room (e.g. cleaning and personal hygiene

products) and the complaint odours.

TVOC - Total Volatile Organic Contamination, is the Total of VOC detected in the sample tube

Test Details:

<u>Determination</u>	Result	<u>Units</u>	
Sample collected by	Karen Ma	Karen Macvicar	
Total VOC ng	5353	ng	
Total VOC mg/m3	0.076	mg/m^3	
Benzene	0.0003		
Toluene	0.0028		
m- & p- xylene	0.0013		
Arcosolv	0.0049	mg/m^3	
Limonene	0.0025		
2-ethyl hexanol	0.0024	mg/m^3	
Decamethyl cyclopentasiloxane	0.0057	mg/m^3	
Nonanal	0.0041		
Menthol	0.0009	mg/m^3	

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Test Details Continued:

Determination

Result Units

Opinions/Comments:

- 1. The total volatile organic contamination (TVOC) was 0.076 mg/m3. This TVOC was within the range we expect for indoor air.
- 2. The following comments are related to the total volatile organic contamination (TVOC). The statement below is from Molhave: "Volatile Organic Compounds, Indoor Air Quality and Health" states the health effects may be experienced at the following concentrations of VOCs in indoor air. Odour complaints, irritation and discomfort can occur between 0.2 3.0 mg/m3.

The TVOC level detected is below the lower range stated above and would not be expected to cause a complaint.

- 3. Compounds detected are not unusual for a school environment where there has been recent refurbishment and painting.
- 4. Benzene level of 0.0003 mg/m3 was considerably lower then The Expert Panel Air Quality Standards (EPAQS) in Table D4 of document IPPC H1 Horizontal Guidance Note, which states that the annual mean for benzene is 0.005 mg/m^3. Benzene, for example is a combustion product of coal, wood fuels and car exhausts.
- 5. Toluene is a common solvent, found in paints, paint thinners, silicone sealants, rubber, adhesives (glues), lacquers and disinfectants.
- 6. Decamethyl cyclopentasiloxane DMPS, is an oily odourless solvent which is commonly used in paints, deodorants, hairsprays, polishes and many other cleaning materials.
- 7. Limonene and nonanal are common compounds found in cleaning products.
- 8. 2-ethyl hexanol is in the production of plasticisers, coatings, adhesives and other specialty chemicals. The largest market for 2-ethyl hexanol has been the plasticisers dioctyl phthalate which is used in the manufacture polyvinyl chloride products.
- 9. Xylene compounds can come from rubber and plastics, in solvents, and in paints and lacquers.
- 10. Arcosolv is used in adhesives and paints.
- 11. In summary, the compounds detected in the atmosphere and the concentration levels were not uncommon. The recent refurbishments that have occurred could have contributed to a number of the compounds detected.

Approved Signatory:



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