

Please Post!

Memo

Date: 11/11/2019
To: All Employees
From: Bruce Minke
RE: Formaldehyde Monitoring Results

Formaldehyde monitoring was performed on October 24, 2019. Employees wore the formaldehyde monitoring badge during their work shift. The badges were sent to an off-site lab for analysis to determine the amount of formaldehyde absorbed on the badge during the work shift. The results were returned and reported as a time weighted average. The values were then compared to the OSHA Permissible Exposure Limit (PEL) 0.75ppm for formaldehyde exposure.

Position	Department	Result Reported	OSHA PEL
Operator	TMP	0.057 ppm	0.75 ppm
Field Process Operator	FA	0.123 ppm	0.75 ppm
Field Process Operator	FA	0.242 ppm	0.75 ppm
Assist. Operator	Penta	0.061 ppm	0.75 ppm
Operator	Penta	0.170 ppm	0.75 ppm
Power House Op.	Penta	0.048 ppm	0.75 ppm
Mechanic	Maint	0.031 ppm	0.75 ppm
Insulator	Maint	0.044 ppm	0.75 ppm
Assist. Operator	TMP	0.033 ppm	0.75 ppm



Analytics Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

November 8, 2019

BRUCE MINKE
PERSTORP POLYOLS, INC
600 MATZINGER ROAD
TOLEDO, OH 43612-2695

Laboratory Workorder ID: X310063

Client Project ID: FA MONITORING FALL19

Received: November 6, 2019

Reported: November 8, 2019

Attached are the results we obtained on the analysis of your samples submitted to Analytics. Any Chains-of-Custody associated by this sample group are enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical air volumes for passive monitors are calculated using the sampling time submitted and the manufacture's listed sampling rate for each compound. Results provided in this report relate only to the items tested.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for the analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our customer services department at (800) 888-8061.

A handwritten signature in black ink, reading "Andrew L. Teague". The signature is fluid and cursive, with the first name "Andrew" and last name "Teague" clearly legible.

Andrew L. Teague, CIH
Technical Director

Enclosures



Analytics Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310063

PERSTORP POLYOLS, INC
600 MATZINGER ROAD
TOLEDO, OH 43612-2695

Customer: 34701025
Attention: BRUCE MINKE
PO Number BA001645

Date Received: 11/06/19

Client Project ID FA MONITORING FALL19

Lab ID: X310063001 Sample ID: A312327 Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 471

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.47	0.1 ug			1.01 ug	0.0749 mg/M3 0.061 ppm

Lab ID: X310063002 Sample ID: A312345 Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 455

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.01	0.1 ug			0.773 ug	0.059 mg/M3 0.048 ppm

Lab ID: X310063003 Sample ID: A312541 Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 394

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	11.27	0.1 ug			0.452 ug	0.0405 mg/M3 0.033 ppm

Lab ID: X310063004 Sample ID: A312352 Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 474

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.56	0.1 ug			0.955 ug	0.07 mg/M3 0.057 ppm



Analytix Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310063

Lab ID: X310063005 Sample ID: A308033

Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 452

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	12.93	0.1 ug			0.496 ug	0.0381 mg/M3

0.031 ppm



Analytix Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310063

General Laboratory Comments

Abbreviations:

ug = micrograms; mg=milligrams; g = grams, ppm=parts per million (volume), ppb = parts per billion (volume), mg/M3=milligrams per cubic meter of air, ug/M3=micrograms per cubic meter of air, Min=minutes, Qual=Qualifiers

LABORATORY TEST REQUEST

ACCOUNT NUMBER, NAME AND ADDRESS
PERSTORP POLYOLS

600 MATZINGER ROAD
TOLEDO, OH 43612-2695
Phone: 419-727-6727
Fax: 1-419-726-5925
ACCT#: 34701025

ANALYTICS



DATE SHIPPED	# OF SAMPLES 5	SAMPLE TYPE/MEDIA VMEX 100	PROJECT NAME OR NUMBER FA monitoring Fall 2019	
PURCHASE ORDER NO. BA001645		CONTACT Bruce Minke	TELEPHONE NUMBER 419 729 5448	
TURN AROUND TIME * ☐ SAMEDAY * ☐ 1 DAY * CALL FOR AVAILABILITY		SPECIAL INSTRUCTIONS AND/OR UNUSUAL CONDITIONS:		☐ FAX RESULTS FAX NUMBER: () ☒ EMAIL RESULTS - EMAIL: bruce.minke@perstorp.com
* ☐ 2 DAY * ☒ STANDARD * EXTRA CHARGE				
FOR LABORATORY USE ONLY	SAMPLE # OR SAMPLE AREA	SAMPLE DATE	SAMPLE VOLUME/LITERS	ANALYSIS REQUESTED-PLEASE USE SEPARATE LABORATORY TEST REQUEST FOR EACH SAMPLE TYPE
	A312327	10/24/19	8:37 - 4:28	formaldehyde TWA
	A312345	10/24/19	8:45 - 4:20	
	A312541	10/24/19	8:51 - 3:25	
	A312352	10/24/19	8:54 - 4:48	
	A308033	10/24/19	8:59 - 4:31	

CHAIN OF CUSTODY RECORD

SAMPLES HAVE BEEN SEALED FOR TRANSPORT AND DELIVERED TO LABORATORY VIA:

SIGN HERE TO INITIATE CHAIN OF CUSTODY

CARRIER

IF "ANALYTICS COURIER" SIGN HERE

DATE

DATE/TIME 11-6-19 11:45	CONDITION OF SAMPLE OK	SAMPLES RECEIVED BY: SIGNATURE(SAMPLE RECEIVING) 	SAMPLES RELEASED BY: SIGNATURE(SAMPLE RECEIVING)
		SIGNATURE(SAMPLE ADMINISTRATION) PAULA ORTIZ	SIGNATURE(SAMPLE ADMINISTRATION)
		SIGNATURE(LAB)	SIGNATURE(LAB)
		SIGNATURE(LAB)	SIGNATURE(LAB)

PLEASE RETAIN PART 3 FOR YOUR RECORDS



Analytics Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

November 8, 2019

BRUCE MINKE
PERSTORP POLYOLS, INC
600 MATZINGER ROAD
TOLEDO, OH 43612-2695

Laboratory Workorder ID: X310066

Client Project ID: FA MONITORING FALL19

Received: November 6, 2019

Reported: November 8, 2019

Attached are the results we obtained on the analysis of your samples submitted to Analytics. Any Chains-of-Custody associated by this sample group are enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical air volumes for passive monitors are calculated using the sampling time submitted and the manufacture's listed sampling rate for each compound. Results provided in this report relate only to the items tested.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for the analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our customer services department at (800) 888-8061.

A handwritten signature in black ink, reading "Andrew L. Teague". The signature is fluid and cursive, with the first name "Andrew" and last name "Teague" clearly legible.

Andrew L. Teague, CIH
Technical Director

Enclosures



Analytics Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310066

PERSTORP POLYOLS, INC
600 MATZINGER ROAD
TOLEDO, OH 43612-2695

Customer: 34701025
Attention: BRUCE MINKE
PO Number BA001645

Date Received: 11/06/19

Client Project ID FA MONITORING FALL19

Lab ID: X310066001	Sample ID: A312545	Media: UMEX Formaldehyde Badge	Sample Date: 10/24/2019	Sampling Time: 480
--------------------	--------------------	--------------------------------	-------------------------	--------------------

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.73	0.1 ug			16.6 ug	1.21 mg/M3 0.984 ppm

Lab ID: X310066002	Sample ID: A312356	Media: UMEX Formaldehyde Badge	Sample Date: 10/24/2019	Sampling Time: 415
--------------------	--------------------	--------------------------------	-------------------------	--------------------

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	11.87	0.1 ug			1.79 ug	0.151 mg/M3 0.123 ppm

Lab ID: X310066003	Sample ID: A312349	Media: UMEX Formaldehyde Badge	Sample Date: 10/24/2019	Sampling Time: 380
--------------------	--------------------	--------------------------------	-------------------------	--------------------

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	10.87	0.1 ug			0.586 ug	0.054 mg/M3 0.044 ppm

Lab ID: X310066004	Sample ID: A312381	Media: UMEX Formaldehyde Badge	Sample Date: 10/24/2019	Sampling Time: 470
--------------------	--------------------	--------------------------------	-------------------------	--------------------

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.44	0.1 ug			4.00 ug	0.297 mg/M3 0.242 ppm



Analytix Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310066

Lab ID: X310066005 Sample ID: A312357

Media: UMEX Formaldehyde Badge Sample Date: 10/24/2019 Sampling Time: 475

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Formaldehyde-Net Total	NIOSH Method 2016M	11/08/19	13.59	0.1 ug			2.84 ug	0.209 mg/M3
								0.170 ppm



Analytics Corporation
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA-LAP, LLC Accreditation ID 100531

Final Report

Work Order X310066

General Laboratory Comments

Abbreviations:

ug = micrograms; mg=milligrams; g = grams, ppm=parts per million (volume), ppb = parts per billion (volume), mg/M3=milligrams per cubic meter of air, ug/M3=micrograms per cubic meter of air; Min=minutes, Qual=Qualifiers

LABORATORY TEST REQUEST

ACCOUNT NUMBER, NAME AND ADDRESS
PERSTORP POLYOLS

600 MATZINGER ROAD
TOLEDO, OH 43612-2695
Phone: 419-727-6727
Fax: 1-419-726-5925
ACCT#: 34701025

ANALYTICS



DATE SHIPPED	# OF SAMPLES 5	SAMPLE TYPE/MEDIA VMEX 100	PROJECT NAME OR NUMBER FA monitoring FALL 2019
PURCHASE ORDER NO. BA001645		CONTACT Bruce Minke	TELEPHONE NUMBER 419 729 5448
TURN AROUND TIME ☐ SAMEDAY ☐ 1 DAY ☒ 2 DAY ☐ STANDARD ☐ EXTRA CHARGE		SPECIAL INSTRUCTIONS AND/OR UNUSUAL CONDITIONS: ☐ FAX RESULTS FAX NUMBER: EMAIL RESULTS - EMAIL: bruce.minke@perstorp.com	

FOR LABORATORY USE ONLY	SAMPLE # OR SAMPLE AREA	SAMPLE DATE	SAMPLE VOLUME/LITERS	ANALYSIS REQUESTED-PLEASE USE SEPARATE LABORATORY TEST REQUEST FOR EACH SAMPLE TYPE
	A312545	10/24/19	8:20 - 4:20	formaldehyde TWA
	A312356	10/24/19	8:20 - 3:15	
	A312349	10/24/19	8:20 - 2:40	
	A312381	10/24/19	8:30 - 4:20	
	A312357	10/24/19	3:30 - 4:25	

CHAIN OF CUSTODY RECORD

SAMPLES HAVE BEEN SEALED FOR TRANSPORT AND DELIVERED TO LABORATORY VIA:

SIGN HERE TO INITIATE CHAIN OF CUSTODY

CARRIER

IF "ANALYTICS COURIER" SIGN HERE

DATE

11/5/19

DATE/TIME	CONDITION OF SAMPLE	SAMPLES RECEIVED BY:	SAMPLES RELEASED BY:
11-6-19 11:51	OK	SIGNATURE(SAMPLE RECEIVING) <i>[Signature]</i>	SIGNATURE(SAMPLE RECEIVING)
		SIGNATURE(SAMPLE ADMINISTRATION) PAULA ORTIZ	SIGNATURE(SAMPLE ADMINISTRATION)
		SIGNATURE(LAB)	SIGNATURE(LAB)
		SIGNATURE(LAB)	SIGNATURE(LAB)

PLEASE RETAIN PART 3 FOR YOUR RECORDS

A312524

10/24/2019	Name	Badge #	Start Time AM	End Time PM
1	FA Blower Room	A3125245	8:20	4:20
2	STORYARD RUMBLEY	A3123560	8:20	3:15
3	Fred Barker	A312349	8:20	2:40
4	Brett Dale	A312381	8:30	4:20
5	and walker	A312357	8:30	4:25
6	JAMIE MALLORY	A312327	8:37	4:28
7	JAC BELL	A312345	8:45	4:20
8	MARTIN HELTON	A312541	8:51	3:25
9	NICK DUVAL	A312352	8:54	4:48
10	Dom Spinalc	A308033	8:59	4:31