



#026-1920

HEALTH, SAFETY & RISK MANAGEMENT
 Michael O'Rourke
 Program Administrator

175 Route 32 North • New Paltz, NY 12561
 Telephone: 845-255-1400 • Facsimile: 845-255-3826
 Email: morourke@ulsterboces.org



Environmental Hygiene Report

Attn: Mr. Guy Gardner
 Facilities & Operations
 New Paltz Central School District
 196 Main Street, New Paltz, NY 12561
 Prepared by: Michael O'Rourke, RPIH – No. 0500399

Location(s)	High School
Project No.	026-1920
Site Visit(s)	July 17, 2019
Report Date	August 20, 2019
Investigator(s)	Michael O'Rourke

Ulster County BOCES Health, Safety & Risk Management does not assert that all potential health or safety hazards at this site were evaluated during this survey. This survey is strictly limited to that which is identified in the Project Scope of the report.

BRINGING ULSTER COUNTY SCHOOLS TOGETHER TO ENHANCE TEACHING & LEARNING

Ellenville Central Schools • Highland Central Schools • Kingston City Schools • New Paltz Central Schools •
 Onteora Central Schools • Rondout Valley Central Schools • Saugerties Central Schools • New Paltz Central Schools

TABLE OF CONTENTS

Executive Summary	1
Project Scope	1
Materials & Methods	2
Results Summary	2
Discussion	2
Comments & Recommendations	3
References	3
Appendix A	Laboratory Report(s)
Appendix B	NYSED Memo

Author's Note: Parenthetical numerals at the end of a sentence reference the work with the corresponding notation in the **References** section. *Please read this report in its entirety, including any attached appendices, to fully understand this investigation.*

Executive Summary

On June 11, 2019 the NYS Education Department released a memo regarding the presence of mercury in certain polyurethane flooring systems (see the **Appendix**). Some of these rubber-like floors, installed from the 1960s through the 1990s, were cured with a phenyl mercuric acetate (PMA) catalyst. Some of these floors are giving off mercury vapor. The memo directed school districts and BOCES to check their buildings for the presence of these floors and, if present, have them sampled and tested for the presence of mercury. On July 17, 2019 we sampled one such floor in the New Paltz High School that met the criteria outlined in the SED memo. This floor, in the aerobics room, was likely installed in the last five years. Though it is outside the range noted in the memo the district chose to have it sampled anyway. There is also flooring on a second floor ramp in the district's middle school that we assumed was vinyl but sampled anyway at the request of the district. We sent the samples to EMSL Labs for analysis. We were contacted by the lab and informed that the middle school sample was indeed vinyl and, therefore, was not analyzed. The high school sample showed no mercury detected. The district must complete the Public School/BOCES Polyurethane Flooring Survey for New Paltz High School.

Project Scope

Perform an inspection of the schools in the New Paltz Central School District for the presence of rubber-like polyurethane flooring that may contain mercury. Collect a sample of the rubberized in

flooring in the aerobics room at the high school for analysis for mercury. Review the data and information and prepare a written report for the New Paltz Central School District.

Materials & Methods

The inspection was performed by a NYS certified code enforcement officer (#1195-0535B). Inspections were performed using the protocols outlined in *The Minnesota Protocol*. The sample of 5+ grams of flooring was collected using a knife. The sample was placed in a plastic zip-to bag and shipped overnight via UPS to EMSL for analysis for mercury.

Results Summary

All sample results and other data were reported to the administration of the local educational district (LEA) via phone, fax, or e-mail as they became available to our department.

Flooring Bulk Sample(s)

Material/Sample #	Location	Results	Analytical Method
Rubberized Flooring HSHg	Aerobics Rooms	None Detected	7471B

Discussion

Mercury is a heavy, silvery element that is the only metal that is a liquid at standard temperature and pressure. (2) Mercury has been used in thermometers, barometers, mercury switches and fluorescent lamps. It was also used as in a catalyst to help cure rubber-like flooring in from the 1960s through the 1990s. Exposure to mercury vapors can cause adverse health effects.

Comments & Recommendations

On June 11, 2019 the NYS Education Department released a memo regarding the presence of mercury in certain polyurethane flooring systems (see the **Appendix**). Some of these rubber-like floors, installed from the 1960s through the 1990s, were cured with a phenyl mercuric acetate (PMA) catalyst. Some of these floors, particularly those that are damaged or deteriorated, are giving off mercury vapor. The memo directed school districts and BOCES to check their buildings for the presence of these floors and, if present, have them sampled and tested for the presence of mercury. If the level of mercury is above the target level (20 ppm) there is an air sampling protocol to be followed.

On July 17, 2019 we sampled one such floor in the New Paltz High School that met the criteria outlined in the SED memo. This floor, in the aerobics room, was likely installed in the last five years. Though it is outside the range noted in the memo the district chose to have it sampled anyway. There is also flooring on a second floor ramp in the district's middle school that we assumed was vinyl but sampled anyway at the request of the district. We sent the samples to EMSL Labs for analysis. We were contacted by the lab and informed that the middle school sample was indeed vinyl and, therefore, was not analyzed. The high school sample showed no mercury detected. The district must complete the Public School/BOCES Polyurethane Flooring Survey for New Paltz High School.

References

1. **Bailey, R.A. et. al.:** *Chemistry of the Environment*. New York, NY: Academic Press, 1978.
2. **Klaassen, C.D. (ed.):** *Toxicology: The Basic Science of Poisons, 3rd ed.* New York, NY: Macmillan Publishing, 1986.

APPENDIX A

Laboratory Report(s)



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn:

**Maureen Ryan
New Paltz Central School District
196 Main Street
New Paltz, NY 12561**

8/15/2019

Phone: (845) 256-4092
Fax: (845) 256-4089

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 8/9/2019. The results are tabulated on the attached data pages for the following client designated project:

Flooring MS/HS Two

The reference number for these samples is EMSL Order #011909876. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>EnvChemistry2@emsl.com

EMSL Order: 011909876

CustomerID: NPSD62

CustomerPO:

ProjectID:

Attn: **Maureen Ryan**
New Paltz Central School District
196 Main Street
New Paltz, NY 12561

Phone: (845) 256-4092
 Fax: (845) 256-4089
 Received: 08/09/19 9:15 AM

Project: **Flooring MS/HS Two****Analytical Results**

Client Sample Description HSHg **Collected:** 7/17/2019 **Lab ID:** 011909876-0001
 Flooring - Aerobics Room

Method	Parameter	Result	RL	Units	Prep Date & Analyst	Analysis Date & Analyst
METALS						
7471B	Mercury	ND		0.047 mg/Kg	8/13/2019 SW	08/13/19 0:00 SW

Definitions:

MDL - method detection limit

J - Result was below the reporting limit, but at or above the MDL

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit (Analytical)

D - Dilution

APPENDIX B

NYSED Memo



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK

Commissioner of Education
President of the University of the State of New York
89 Washington Avenue, Room 111
Albany, New York 12234

E-mail: commissioner@nysed.gov
Twitter: @NYSEDNews
Tel: (518) 474-5844
Fax: (518) 473-4909

June 11, 2019

To: District Superintendents
Superintendents of Schools
Nonpublic School Leaders
Charter School Leaders

From: MaryEllen Elia, Commissioner

Subject: **MERCURY-CONTAINING FLOORING**

The Department has received several reports regarding school districts with flooring of a certain type which may contain mercury. In response to the reports, NYSED staff have consulted with their colleagues at the Department of Health (DOH) to obtain information to assist school districts. While there is not an established New York State protocol to address this situation or a standard for acceptable presence of environmental mercury, DOH has provided advice to districts with these concerns in the past.

We have learned that rubber-like polyurethane floors using phenyl mercuric acetate (PMA) catalyst were installed in school multipurpose rooms, gyms, cafeterias, auditoriums, stages, and indoor tracks between the 1960s and the 1990s. PMA can break down and release odorless, colorless mercury vapor at room temperatures. The floors and items that have been in contact with them emit mercury vapor indefinitely. Although there is not an exhaustive list of the manufacturers who used PMA as a catalyst, the floors in question are:

- rubber-like and water-resistant
- usually one-piece and poured in place but sometimes pieced
- can be smooth, stippled, or mesh-like
- may have been covered by another floor

Exposure to mercury vapor may be worse if floors are damaged or deteriorated or located in hot rooms with poor ventilation or a lack of air-conditioning. However, you should be aware that:

- not every polyurethane floor used mercury as a catalyst
- the mercury content of this type of flooring varies
- not every floor which used mercury as a catalyst is a source of mercury vapor

Investigations by DOH and other agencies have generally found mercury vapor levels in spaces with undisturbed polyurethane flooring in good condition are low, and below levels used for health comparisons, but levels can temporarily increase during floor renovations and removal.

Although New York State does not have a standard for mercury exposure, the Department of Health recommends that schools which have this type of polyurethane flooring assess the mercury exposure potential by following [guidance developed by the State of Minnesota](#).

The Minnesota guidance suggests that the flooring should be tested for total mercury content. If it is above the target level (20 ppm), the school should perform an indoor air screening that evaluates both the mercury release by the flooring as well as the room ventilation. If necessary, more in-depth air testing could be carried out. If the additional tests are performed, they should be done using the NIOSH method 6009 (modified).

Professionals familiar with these standards should be consulted for this process. Laboratories performing the floor testing or National Institute for Occupational Safety and Health (NIOSH) air method should be certified by the New York State Environmental Laboratory Approval Program (ELAP). To find a currently certified laboratory, one should contact ELAP at (518) 485-5570 or ELAP@health.ny.gov. NYS DOH will continue to work with SED to determine if more specific guidance would be helpful to assist schools and their environmental consultants evaluate this potential source of airborne mercury.

While the existence of this type of flooring has been known for many years, the Department would like current information to better assess the scope of the issue. Districts and BOCES are requested to perform an inventory to determine whether there are rubber-like polyurethane floors installed in your district that are of an age noted above, including the condition of the flooring, and submit data to the Department at the following link: [School District and BOCES Flooring Survey Link](#). Leaders of nonpublic schools, charter schools, and the state supported schools for the blind and deaf can use this link for a survey designed for their purposes. [Charter, nonpublic, state-supported and state-approved school survey](#). Once data is collected, the Department, together with DOH, anticipates providing guidance based on the results of this inventory effort.

[More information about mercury](#) can be found on the [Department of Health's website](#).

If you have additional questions, you can reach out to the Department's Office of Facilities Planning at (518) 474-3906 or your BOCES health and safety office.