

ee kin Can Company, Park and
orest Ave., Norwood, Ohio.

September 28, 1944

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Mr. S. H. Champlin,
The Heekin Can Company,
Park, Forest and Pennsylvania R. R.,
Norwood, Ohio.

Dear Mr. Champlin:

I am sending you herewith two copies of Mr. Cholak's report of his findings on the samples which you provided me, in accordance with your letter of September 22. I am sending these results without comment, partly because I am to be away for a number of days, and there is not time to give the matter any further thought, but mainly because all of the information that you are likely to require has been given by Mr. Cholak. If there are any questions in your mind concerning the results, I suggest that you get in touch with him by telephone.

Very truly yours,

Robert A. Lehoe, M. D.

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Enc.

KE 0013664

LEAD DETERMINATION IN AIR SAMPLED BY IMPINGER
AT THE HESKIN GAS COMPANY, HONOLULU, OTC

Samples submitted 9/22/44 by S. H. Champlin

Rate 4.7 liters per minute for 80 minutes at 82°F.

Total air sample = 376 liters at 82°F.

Sample A

First absorber or impinger (250 ml. 5% HNO_3)

Pb Found = 0.24 mg.

Sample B

Second absorber or impinger (250 ml. 5% HNO_3)

Pb Found = 0.25 mg.

Sample C

Control on reagents (250 ml. 5% HNO_3)

Pb Found = 0.03 mg.

Total lead found (corrected for reagents) = 0.43 mg. corresponding to
11.4 mg. Pb per 10 m³ air.

Note: From the results obtained for A and B, it is doubtful whether all of the lead was removed by the sampling train at the sampling rate employed. This rate is much too low for the removal of vapors or very fine particulate matter by impingement. Increased efficiency of removal is obtained by employing high rates of air flow -- at least 1 cfm. (approximately 30 liters per minute). The effectiveness of removal depends on the change in the kinetic energies of the particles when they strike the plate. This change

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is so low at the rate of flow employed that a low efficiency can be expected which would be in line with the results obtained.

The blank (control) appears to be somewhat high, and undoubtedly is due to contamination in the laboratory. If lead-free distilled water is used, 10-15 ml. of reagent nitric acid should contain no more than 0.001-0.002 mg. lead.

Reported: 9-25-44

KE 0013666

LEAD DETERMINATION IN AIR SAMPLED BY IMPINGER
AT THE MERRIN CAN COMPANY, HOBBS, OHIO

Sample submitted 9/22/44 by S. V. Champlin

Rate 4.7 liters per minute for 30 minutes at 82°F.

Total air sample = 376 liters at 82°F.

Sample A

First absorber or impinger (250 ml. 5% HNO_3)

Pb found = 0.24 mg.

Sample B

Second absorber or impinger (250 ml. 5% HNO_3)

Pb found = 0.25 mg.

Sample C

Control on reagents (250 ml. 5% HNO_3)

Pb found = 0.03 mg.

Total lead found (corrected for reagents) = 0.13 mg. corresponding to
11.1 mg. Pb per 10 m^3 air.

Note: From the results obtained for A and B, it is doubtful whether all of the lead was removed by the sampling train at the sampling rate employed. This rate is much too low for the removal of vapors or very fine particulate matter by impingement. Increased efficiency of removal is obtained by employing high rates of air flow -- at least 1 cfm. (approximately 30 liters per minute). The effectiveness of removal depends on the change in the kinetic energies of the particles when they strike the plate. This change

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is so low at the rate of flow employed that a low efficiency can be expected which would be in line with the results obtained.

The blank (control) appears to be somewhat high, and undoubtedly is due to contamination in the laboratory. If lead-free distilled water is used, 10-15 ml. of reagent nitric acid should contain no more than 0.001-0.002 mg. lead.

Reported: 9-23-44

KE 0013668