

ETHYL CORPORATION

INTER-OFFICE CORRESPONDENCE

TO	Dr. R. A. Kehoe	ADDRESS	Cincinnati, Ohio
FROM	Mr. A. J. Baldwin	ADDRESS	New York
SUBJECT	Analytical Findings on Hose Lines	DATE	September 16, 1954

Dear Dr. Kehoe:

Van Fleck, Bill Trelease and I have been discussing your report on analytical findings on segments of the air line hose which I had sent to you. We will be interested to know what your further tests, on passing air through the hose and attempts to clean it, show.

In reading through our files on this subject, it appears that you were not sent a copy of D. Forsdick's report dated July 9th, in which he describes a cleaning procedure and results after cleaning. We are now attaching a copy of that letter. You will note that after washing the interior of the hose with a strong solution of soap and hot water and drying with an air stream, he still got a lead-in-air reading of 12 micrograms. This bears out the results of Bob Kimpton and I after thoroughly flushing out one length of hose with clear cold water, as reported in my letter of June 21st. Copy of that letter was sent to Dr. Kitzmiller.

We ran so many tests on different lengths of hose that it would seem to eliminate the possibility of a single length being contaminated. You will note that George O'Connell's test on three lengths of "Ethyl's" hose gave practically a zero reading on the Lead-in-Air Analyzer. "Ethyl's" hose tested had been used relatively few times and at widely separated intervals which might indicate there are time and frequency of use factors involved. After use, our hose is usually cleaned in the same manner as customer companies' or contractor's hose.

All the hoses tested were of one make, Mine Safety Appliance Co. We hesitate to make any other field tests for fear the results might cause considerable apprehension among the tank cleaning crew. If you deem it desirable, we could probably arrange to exchange a new hose for a length of used hose of some other make.

You have pointed out, too, that we do not know what the inorganic lead content is in new hose and until that is known, your findings may not be too significant. However, isn't it safe to say that all of the organic lead found to be present would have to come from contamination during tank cleaning operations? It is not common practice to flush the inside of the hose at the end of each day but maybe we should recommend that this be done.

We will be interested in knowing the results you get by passing air through the hose and your attempts to clean the hose on the inside with dilute acid

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Dr. R. A. Kehoe

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and water. We question the practicability of field cleaning the hose by this method even though it does prove effective.

The thing that concerns us in the field is this: we would not think of permitting men to work in tanks without protective equipment when TEL concentrations are 20 to 25 micrograms and yet here are air line hoses supplying air to workmen for hours at a time, day after day, with concentrations of that magnitude. So far as we know, there have been no illnesses due to breathing this air. Have we been lucky or is there a reasonable explanation?

I sincerely hope that, as a result of your tests, you will be able to determine the source of the high lead readings or find there is no hazard in spite of lead-in-air analyzer readings. In the case of the latter, we should know why such concentrations are hazardous in one case and not in another.

Very truly yours,



A. J. Baldwin

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Enc.

CC: MR. L. R. FLECK

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ETHYL CORPORATION

INTER-OFFICE
CORRESPONDENCE

TO	Mr. A. J. Baldwin	ADDRESS	New York
FROM	D. Forsdick	ADDRESS	Cohasset, Mass.
SUBJECT	Lead-in-air check of the McKin Co. Air Line Hoses	DATE	July 9, 1954

The following is an account of my findings on the McKin Co. air line hoses:

During our conversation of June 18th in New York, you may recall I stated that I detected a slight odor of gasoline in the McKin Co. hoses while making a lead-in-air check. Early Saturday morning (June 19th) before entering a small horizontal tank to make a lead-in-air check, I checked the air line hose. After cleaning the end of the hose thoroughly, for a distance of ten feet, one of the crew turned the crank on the blower as if the air line hose mask was in use. I then placed the scrubber nozzle on the end of the air line hose and took the 175 turns, which was the number prescribed for my lead-in-air analyzer. As you will recall, this was calibrated by you on June 7th.

The results of this check was 20 plus micrograms. I then cleaned out my scrubber and comparator tube with fresh water and then with distilled water and ran a sample with the lead-in-air analyzer in the same place that I had taken the previous test, this time without the air line hose mask, and got a reading of 2 micrograms. I again rinsed out my apparatus in the same way as above and took a reading in the tank, which was 1 microgram. After talking to you on the phone I advised the foreman when he returned to his shop to wash the hoses thoroughly both inside and out and made arrangements to see him on his next tank cleaning.

This came up on the following Tuesday, June 22nd, at Shell Oil Co. in East Hartford. Through a misunderstanding by the McKin Co. this tank cleaning started at 9 o'clock instead of 3 o'clock in the afternoon, and the air line hose mask had been used for 2½ hours before I could check. In talking to the foreman, Dick Craven, he explained that he washed the outside of the hose thoroughly. Then he took a tub and mixed a strong solution of soap and hot water in the tub. He circulated this solution thoroughly through the hose for a half hour. This was done by a pump that had never been used for gasoline and therefore should not be contaminated. After this he rinsed it thoroughly with fresh water, replaced all the washers, and then dried it out by blowing air through it by a compressor. I took a sample of the air coming through the air line hose and got a reading of 12 micrograms. In both instances, the air line hose consisted of two sections approximately two years old and one section (which the face piece was attached to) which had been used less than five hours. I called Mr. Fleck to check what should be done so far as the rest of the cleaning, which would take about two hours. Van advised me to take a calculated risk and let them go ahead with the rest of the cleaning. They are going to wash all their air line hoses when they return more thoroughly with a stronger solution.

Very truly yours,

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