

ETHYL CORPORATION
RESEARCH LABORATORIES • 1600 WEST EIGHT MILE ROAD
FERNDAL 20, DETROIT, MICHIGAN

April 27, 1953

Dr. Robert A. Kehoe
Kettering Laboratory
Eden Avenue
Cincinnati 19, Ohio

Dear Bob:

We are sending to you with this letter two Ethyl laboratory reports:

- RM-46 Airborne Combustion Products of Leaded Fuels
by Karl Beaver, March 5, 1952.
- RM-74 Airborne Combustion Products of Leaded Fuels
by Karl Beaver, April 21, 1953.

The first of these you have seen before, but we send it again for your convenience as background for the second.

As you know, we send them as bait to persuade you to come up here, when you can, and talk about them. They deal with where we stand, technically, on "what comes out of the tailpipe of an automobile", as far as lead is concerned.

The first report considers the total amount of lead. It may be interpreted by thinking of the muffler and tailpipe system as a partial condenser. At low rates of through-put as low as 10% of the input lead comes out under steady operation, but at 60 mph as much as 50%. The residues seem to stay behind and come out in bursts and big pieces during acceleration or sudden temperature changes.

The second report deals with particle sizes of the lead compounds, and the indications, from steady speed and accelerating tests, are that most of the lead exhausted in normal city operation appears as particles larger than 5 microns.

We would be very glad to have your critical opinion of this work and the opportunity of discussing with you what direction future work might take.

With best personal regards,

Very truly yours,

Jack Macaulay