

September 13, 1971

Mr. L. B. Hitchcock
Environment Management Council
State University of New York at Buffalo
Faculty of Engineering and Applied Sciences
Buffalo, New York 14214

Dear Mr. Hitchcock:

I am glad to comment on the legislation proposed in Erie County in relation to the matter of lead antiknock compounds in gasoline, but I shall do so very briefly. My reasons for my brevity are, first of all, that this subject simply cannot be dismissed with a few brief comments. If I were simply to express my opinion without citing the evidence in support of them, I would be regarded by most people as speaking purely in defense of the industry concerned, if for no other reason than that I was the Medical Director of Ethyl Corporation for the 32 years beginning in 1925 and ending in 1958. My scientific position would simply be assessed on that basis. Your attitude, I am sure, would not be of that type, but the people concerned with the proposed activity would generally be so described, as my experience tells me.

A better reason, no doubt, is that a report covering the situation admirably, in almost every detail, has been issued by the National Research Council - as the work of a special committee appointed for the purpose. It will answer your questions, including my opinions on the matter (for I find this a most excellent and comprehensive survey of the problem).

I am sure you can obtain a copy of this report by writing to Dr. Louise H. Marshall, of the Division of Medical Sciences of the National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418. In writing to her, I would mention the situation in Erie County.

As to my views on the matter, let me say that I have had occasion lately to examine the literature on the subject in a fairly comprehensive manner, and also to continue our investigations in the Kettering Laboratory. No evidence has been found of any deleterious effect upon people generally or upon specific groups of people whose occupations involve them in more severe and prolonged exposure to the urban atmosphere as it is influenced by automobiles and automobile traffic (traffic police, parking garage attendants, drivers of automobiles, etc.). There has been little or no change in the concentration of lead in the air of our cities for well over 20 years, and where change has occurred it has, as a rule, been in the direction of a decrease. The explanation of these facts has been difficult to find, but the work of investigators in recent years has brought forth the reasons - or at least the basic reason. It is clear that the particle size of the lead emissions is of two types - large particles which fall out of the air promptly near the streams of traffic, and minute particles

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which remain airborne for relatively long periods of time and are rapidly dissipated from the sources of their origin and carried into distant parts of the atmospheric envelope. Obviously, the extent to which this occurs is influenced by local meteorologic and topographic features, so that in Los Angeles, for example, the average concentration of lead in the ambient air is about $2\frac{1}{2}$ micrograms per cubic meter, while in Cincinnati it is somewhat less than 1.5 micrograms per cubic meter. (No doubt the total quantity of the emissions in a given area is a factor, but the unhindered dissipation of the emissions is a remarkably potent feature.) It is true also that the methods of investigating the human population have been improved considerably with the years, and attention is being focused upon subclinical effects (such as the effects of lead upon enzyme systems in man and animals). Not only has the sensitivity of man to change been heightened in search of remote influences of lead in the environment, but also the behavior of lead in the environment has been followed in such a manner as to explain, or yield an approach to the explanation, the situation.

Practically all of the available information on these matters has been assembled in the Report of the Panel on Lead to whom this assignment was issued, under the authority of the National Research Council, and the result is the first comprehensive and sensible report that has ever been issued from governmental sources on this subject. Incidentally, the references to this report in the press have over-emphasized the speculative comments of this panel on the possibility that there is, or may be, a potential threat to small children in certain areas of our cities. It is fair to say, I believe, that the evidence on this point is remarkably thin, and that the real problem lies elsewhere (ingestion of paint, etc.) rather than in airborne lead. The latter is, indeed, of minute theoretical magnitude, as contrasted with the known quantities of lead-containing paint on the interior woodwork of houses (in the slums), built many years ago and never freed of the layers of lead-containing paint. We in the profession have known about this situation for many years. It is indeed tragic, and the tragic aspect of it has had a tremendous influence on public and professional apprehension, and, unfortunately, on official opinion in Washington.

This, in brief, covers the situation, which now, with this report, has taken a new course in the consideration of sensible people.

Sincerely yours,

Robert A. Kehoe, M.D.
Professor Emeritus of
Occupational Medicine

RAK:wb

P.S. I'm sorry to have replied so slowly to your letter of August 16. I returned from a vacation in Montana only a few days ago, and have been unable to attend to correspondence sooner.

RAK