

February 3, 1953

Dr. G. H. Gehrman
Medical Director
E. I. Du Pont de Nemours and Company, Inc.
Wilmington 98, Delaware

Dear Gehrman:

I am pleased to write to you about the work being done in the Laboratory on the metabolism of tetraethyl lead. You will remember that a considerable amount of work was done years ago on the distribution of lead in the organism following the absorption of tetraethyl lead. This served its purpose, but it left us in doubt as to the sequence of events and the mechanism involved. Several important questions arise out of the known facts.

1. What is the rate and course of the chemical decomposition of TEL in the body?
2. What is the end product of the decomposition, or what are the end products? It is known that it is not the same, at least not all the same, as that which results when inorganic lead is absorbed, since it seems largely incapable of being absorbed into (or adsorbed upon) the erythrocyte.
3. To what extent does it escape from the central nervous system after absorption, especially after prolonged periods of the absorption of small quantities such as is associated with exposure in the manufacturing plants?

All of these matters relate to our attempts, by any means, to devise a better therapy of TEL poisoning, which, despite our best efforts, continues to occur from time to time, especially in connection with the cleaning of gasoline storage tanks in out-of-the-way places. They also relate to the long-term effects, if any, of prolonged exposure to small amounts of TEL. There are other facts which point to the desirability of investigating this matter, but this I think is enough to justify the attempt to learn more.

We now have fairly good facilities for working with radio active materials, and it has been in my mind, for many years, to tackle this problem, when such facilities become available to us. One of our men, a biochemist, Charles Stevens (Ph. D.), has been working with radio active materials, and is deeply interested in the problem of organic lead in connection with his efforts to

KE 0003297

Mr. M. L. Ernsberger - (2) - February 2, 1953

the decision for present purposes, I shall be grateful to you for your advice.

Cordially yours,

Robert A. Kehoe, M. D.

RAK ef

Dictated but not read.

Enc.

RE 0003298