

May 7, 1940

Dr. M. O. Boudry  
Waupaca Clinic  
Waupaca, Wisconsin

Dear Doctor Boudry:

After going through a number of hands, your letter of April 9th has come to my desk and I hasten to make up for some of the delay that has been occasioned by my pre-occupation with a number of other duties. Before arriving at a conclusion on your request for a sample of tetraethyl lead, I should like to have some idea of what you want to use it for, and how you propose going about it. Tetraethyl lead is a very toxic material which is absorbed from the subcutaneous tissue and also directly through the skin. A very great amount of toxicological work on experimental animals has been done, and a very wide experience with various types of exposure has been had over a period of years since 1923. Therefore it seems unlikely that there are any very serious questions unanswered as to its mode of behavior which could be answered by a few clinical observations. Accordingly I have some considerable hope that the matters which you wish to investigate have already been investigated, and that you can be spared the trouble, as well as the risks of undertaking experimental observations with this material.

By reason of the fact that my associates and I in this laboratory have done the major portion of the toxicologic work on tetraethyl lead, and that by reason of this fact we became the medical advisers of Ethyl Gasoline Corporation in connection with all the clinical and hygienic problems associated with the use of this material, we have kept closely in touch with the problems which have arisen from its use. From our experience I would assume that you are interested in obtaining some knowledge as to the skin irritations which are associated with contact with gasoline containing tetraethyl lead. As a matter of fact, such irritations occur in connection with all gasolines, though somewhat more so from the present type of high test gasolines, most of which contain considerable concentrations of unsaturated compounds that result from modern refining and cracking processes. There is, we believe, some increase in skin irritations and in the severity of skin irritations as a consequence of the use of these modern gasolines, and although there have not been a large number of cases

of skin irritation at any time, it would seem that there is some tendency for increase. This we attribute to the changed character of base gasoline rather than to any effect of tetraethyl lead. As a matter of fact, tetraethyl lead itself is not a skin irritant, and we have not able to establish any evidence of sensitivity phenomena in connection with tetraethyl lead. As fairly good evidence that no such phenomena exists, I may cite the fact that dermatoses do not occur in connection with the manufacture of tetraethyl lead where, presumably, the contact is greater than in the case of gasoline containing small percentages of tetraethyl lead.

I have gone to some detail in mentioning these points since it seems probable that your interest in tetraethyl lead and its effect upon the skin had originated from your interest in a case or cases of dermatitis among persons who handle leaded gasoline. If this is your point of interest, I shall be glad to send you a report of the experimental work which has been done on this problem. If this is not the case, I should like to know what you have in mind as a means of arriving at a conclusion.

Very truly yours,

RAK:s

Robert A. Kehoe, M.D.