

February 5, 1941

Dr. E. L. Whitman
Walla Walla
Washington

Dear Doctor Whitman:

Some days ago I received a communication from Mr. Harry Kuhe, a representative of the Ethyl Gasoline Corporation, telling me about his conversation with you concerning a patient named [REDACTED] who apparently is suffering from a severe case of dermatitis which, presumably, was the result of contact with gasoline. Mr. Kuhe stated that that you were interested in knowing what part may have been played in this by the lead content of the gasoline. Accordingly I am writing to tell you of our experience in this connection.

First I might point out that the maximal lead concentration in gasoline is approximately 1 part of tetraethyl lead to 1260 parts of gasoline. Experimental observations on animals have shown that at concentrations of this order of magnitude in gasoline, lead is not absorbed through the skin. Systemic poisoning, as the result of skin contact with commercial gasoline containing tetraethyl lead, is, therefore, not possible of occurrence, it seems. Indeed clinical experience has borne out this conclusion arrived at by experimentation. We have not seen a single case of lead poisoning among the thousands of persons who handle leaded gasoline and come in contact with it daily, and after fifteen years of experience we feel that there is little doubt on this score.

As to the irritating effects of leaded gasoline, we have found no evidence that the lead is a contributory factor in the irritation. Indeed tetraethyl lead itself in concentrated form is not as irritating to the skin as is gasoline, and in the low concentration in which it occurs in commercial gasolines, it can scarcely be regarded as a factor.

On the other hand, some of the special gasolines containing lead are more irritating than are ordinary petroleum distillates, and it would seem that there are more cases of dermatitis and more severe cases of dermatitis than used to occur. All the evidence in our hands leads us to believe that this is the result of the use of new method in manufacturing gasolines, in that the unsaturated and cyclic compounds which result from various types of cracking and reforming processes, are considerably more irritating than straight run gasolines. We have seen a few cases of very severe dermatitis that showed rather striking sensitization phenomenon, and it occurs to me that you might be interested in a report of one of these cases, as prepared by my associate Dr. Willard Machle.

I am not sure that I have answered the questions which may have occurred to you, or that Mr. Kuhe has properly transmitted to me your questions on this case. However, if there is any further information which I can give you, I shall be pleased to do so.

Very truly yours,

RAK:is

Robert A. Kehoe, M.D.