

April 6, 1935

Dr. E. C. Fischbein
209 S. Main Street
Dayton, Ohio

Dear Dr. Fischbein:

I have just received a report from Captain Dingman at Wright Field with reference to one of their men whom you examined some days ago. Captain Dingman also sent me a copy of your examination and conclusions and because there are certain aspects of your discussion which are very mis-leading, I am taking the liberty of writing you with regard to the nature of the potential hazards associated with the handling of gasoline containing tetraethyl lead.

It is, of course, quite true that tetraethyl lead of itself is a very toxic material and that it is dangerous to handle. However, in the quantities in which tetraethyl lead appears in gasoline, there are at present no indications that the tetraethyl lead adds in any way to the toxicity of the gasoline. Years ago when leaded gasoline was first put on the market, it was felt that there might be danger associated with its use for purposes other than a motor fuel. Therefore, the gasoline was colored and its use was limited, so far as possible, for automobile purposes only. Moreover, when the United States Public Health Service investigated the matter, they shared the general doubt as to the possible eventual results of prolonged exposure to skin contact with such gasoline, *as well as by inhalation* and therefore promulgated regulations which did not become a matter of law but which were accepted as proper by the Ethyl Gasoline Corporation so that warning plates were put on all pumps advising against the use of the gasoline for purposes other than as a motor fuel. Despite these regulations, it is a matter of observation that leaded gasoline has been used for a variety of purposes and there has yet to be seen a case of lead poisoning or of demonstrable lead absorption as a consequence of these mis-uses of the gasoline. My associates and I have been investigating this subject rigidly over a period of years and both the experimental and clinical evidence is in support of the conclusion that tetraethyl lead in the concentrations which occur in commercial gasoline is not absorbed out of the gasoline through the skin, and moreover, both physical and physiological evidence demonstrates that lead is not given off in the vapors from containers in which gasoline is stored or handled. In

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order to familiarize you with the many investigations which have been made both by us and by others on this subject, I am sending you a reprint which presents the latest published material. However, the evidence goes far beyond that which is found in this reprint, and I am in the process of preparing for publication at this time evidence which I think is absolutely conclusive as to the lack of danger associated with the handling and use of the gasoline under conditions of skin contact as well as vaporization.

I am having Dr. Schradin see the man at Wright Field and also investigate the question of the manner in which leaded gasoline is being handled at Wright Field. We will study the man carefully and will make the necessary laboratory analyses to determine whether or not he shows evidence of lead absorption. Naturally we approach every case of this sort with an open mind, and we are willing to abide with whatever conclusions are justified in the case in question. However, I should point out to you that with the complete absence of any cases of tetraethyl lead poisoning except where concentrated tetraethyl lead has been handled, the history of exposure is entirely without any validity, and it is fairly safe to assume that lead exposure does not exist. The diagnosis, therefore, in every such case must rest entirely upon the existence of characteristic symptoms and signs of lead poisoning, including specific evidence that lead occurs in the blood, the tissues, or in the excreta in amounts beyond the normal range. As a matter of fact it may be assumed with absolute certainty that if one's lead exposure has been limited to contact with commercial leaded gasoline, the central nervous system manifestations of tetraethyl lead absorption will not occur. The only evidence of lead absorption which may be even imagined in connection with these cases is that chronic lead accumulation of the customary type might be found as a consequence of prolonged exposure under the most severe conditions. You will note in the reprint which I am sending you the results of certain investigations which in my mind exclude even this latter hypothetical possibility.

Without prejudicing our later conclusions which will depend upon the examination of this man with great care, I must tell you in advance that I think we shall have to look elsewhere for the cause of his symptoms. I shall be glad to report our findings to you when we have completed our examination.

Very truly yours,