November 16, 1937

Dr. Alexander Laird Story
Blenheim
Ontario

Dear Doctor Story:-

Some time ago I received a brief notation concerning the illness of a Mr. [redacted] a truck driver for Thayers Limited, who, I believe, is a patient of yours. Perhaps I had better explain my interest in this case.

Over a period of years, my associates and I have been investigating all cases of complaints which have arisen in connection with the use and distribution of leaded gasoline. Our purposes in doing so have been to maintain our own information of any and all difficulties which might be associated with this product, but we have also been reporting cases of all kinds in the United States to the Public Health Service. By reason of my connection in this University I have been the chief investigator of the hygienic problem of leaded gasoline but I shall also tell you that for this very reason I have been the chief consultant and medical advisor of the Ethyl Gasoline Corporation. In this latter capacity I trust that I am not biased as to the medical facts but I think you should know my connections since I am taking the liberty of asking you to give me such information as you feel is proper about your patient. If you can let me have it, I should like to have the entire story of his illness, its onset and its course, and the entire clinical picture as you saw it. I am enclosing a self-addressed stamped envelop for your convenience.

I do not mind giving you a brief history of this problem and the opinions which have developed over a period of years as a consequence of our study of this problem.

From an experimental point of view, it has been demonstrated without any significant doubt, I believe, that the handling of leaded gasoline does not involve any risks of lead poisoning. In the concentration in which tetraethyl lead occurs in gasoline, there is no appreciable lead absorption even on continued massive exposure, either by way of skin contact or to the vapors. I shall not go into the detailed experimental evidence for this statement, but a large amount of work

Dr. Story

has been done in substantiation of this point of view in this laboratory, and our work has been checked carefully by the United States Public Health Service and the British Ministry of Health. All investigators are in general agreement on this point. We have studied large groups of the most exposed persons and not only have we not been able to find cases of lead poisoning, but we have not even been able to find evidence of lead absorption among garage mechanics, tank wagon handlers of gasoline and filling station employees even after prolonged and repeated contacts. However we have investigated the problem further by studying every case of complaint of injury which has come to our attention. Over a period of now thirteen years, most of these complaints have been due to some type of skin irritation. Therefore we became interested in knowing whether the small lead content of gasoline constituted a factor in the skin irritation. It seemed unlikely that this was the case since tetraethyl lead is not as irritating to the skin as is gasoline. On the other hand, we investigated carefully the cases which came to our attention and we have come to the conclusion that we are dealing here with a gasoline dermatitis. We have also found that the current grades of gasoline are apparently somewhat more irritating than those which were on the market in the days of a pure distillate. At present most gasolines contain some quantity of hydro-carbons obtained from vapor-phase cracking, or some other cracking process. These materials are rich in unsaturated hydro-carbons and are definitely more irritating to the skin than are the straight-run distillates. I am sending you herewith a report on one such case as studied by one of my associates in the laboratory in collaboration with one of Cincinnati's ablest dermatologists.

In view of what we have said above, it will be apparent to you that I doubt very much the possibility of lead poisoning in connection with your patient. On the other hand, I would like to have the facts as you saw them. There is a further practical matter concerning Mr. [redacted] future occupation. In as much as I do not believe that Mr. [redacted] had lead poisoning, I see no reason why he should not return to his former occupation unless he has such a degree of sensitivity to skin contact with gasoline as will make it impossible for him to carry on his work without a recurrence of his dermatitis. We find an occasional man who having developed such a sensitivity, can not handle gasoline or petroleum products without a recurrence of his dermatitis. Such men have to be removed from this occupation either indefinitely or until such a time as their sensitivity subsides or disappears. Therefore if Mr. Shaw can continue his work without being continually upset by a recurrence of his dermatitis, I should advise him to return.

Mr. Story

your observation for a time, and if you feel that he can get along without great difficulty, you need not have any fear as to any serious chronic effects due to his occupational exposure.

Please accept my thanks in advance for the courtesy of a reply, and if I can be of any service to you, do not hesitate to call upon me.

Very truly yours,

RAK:is

Robert A. Kehoe, M.D.

P.S. If you should be sufficiently interested in this question of lead poisoning in relation to leaded gasoline, that you would like to know the details of some of the experimental studies which support the conclusions which I expressed above, I should be glad to send them to you on request. RAK.

~~cc Mr. Lewis~~