

August 19, 1960

Mr. Dan M. Guy
Ethyl Corporation
1600 West Eight Mile Road
Ferndale 20, Detroit
Michigan

Dear Mr. Guy:

This letter, in response to your telephone call of August 18, has to do with further investigation of the potential hazard associated with the use of tetramethyl lead (TML) in gasoline, and the attitude of the Public Health Service on the matter. You will understand of course that I can describe the position of the Service only to the extent that it has been revealed to me in my informal contacts with its representatives.

In the consideration of the problem presented by the proposed use of TML, I regarded the potential exposure to lead on the part of persons who handle gasoline, after it has been fully prepared for use, as the main issue. There are other hazards, of course, among which the exposure of manufacturing personnel looms out significantly; this, however, is the type of hazard that we are well equipped to handle. The handling of gasoline on the other hand cannot be supervised directly or controlled effectively. Therefore the gasoline must be intrinsically safe from the aspect of its lead content; that is to say that leaded gasoline, whether containing TEL or TML, or both, must be no more dangerous to the handlers of such gasoline than is the gasoline itself. This, in effect, has been the situation with respect to TEL, and so it must remain.

We investigated this problem in the field in a briefly maintained (6 weeks) commercial operation, and convinced ourselves that no significant risk was involved in the use of TML for that period of time. On the background of previous experience and experiment we concluded that no appreciable risk would be involved over much longer (indefinitely prolonged) periods of time. The latter conclusion, however, valid as I believe it to be, is an extrapolation from sound but indirect physiological evidence, and in the long run, the facts can be established only by experience. I recognized, therefore, that in accord with precedent and sound judgment, we would have to prove or disprove the correctness of our conclusion by monitoring the commercial use of TML, just as we did many years ago and for several years after the introduction of TEL into general use. The industries involved in this technological development dare not base their future on the best prejudgment of this situation by anyone or by any group, for it is their business and their responsibility. We had no other thought, therefore, than to follow up our preliminary investigation with a full scale program of surveillance of the commercial operation.

This entire matter was taken by me to the appropriate representatives of the

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Public Health Service, in an entirely informal and full discussion, not with the idea of obtaining their consent to the proposed use of TML, but to solicit their views and advice. It was agreed by them that there was no evidence that would support me or them in urging the industry not to make use of TML. It is also clear from the record, (since it became necessary for them to state their position because of inquiries addressed to them by responsible people in the petroleum industry), that they are in full accord with me on the necessity of proving what we believe to be the case, or alternatively, of demonstrating the existence of a hazard which we have not foreseen. Accordingly, they have requested that we supply them with a report of our observations at the end of the first year of commercial operations.

This is the full explanation of the situation which now exists, and I trust that it will be clear to all concerned that nothing can be said or done by anyone until or unless some positive evidence should be obtained in indication of the existence of hazard. Thus far, all the evidence is negative, and the search for positive information will have to be made by the use of highly precise methods of chemical analysis and by highly sensitive methods of statistical analysis. It will require at least a year to collect the necessary data to reach any conclusions.

Perhaps it may not be clear that what we are seeking, by way of evidence, is not the occurrence, nor the rate of occurrence, of lead poisoning among the exposed persons. No such thing is anticipated or feared. Rather we are looking for evidence that these men, or some of them, are absorbing measurably increased quantities of lead in consequence of their exposure to gasoline containing TML. It is not possible that any large increase of this kind will occur, but it is conceivable, although unlikely, that there may be an increase sufficient to be revealed by the application of statistical methods in the examination of the data. We will have no clue to the answer of this question until sometime, probably late, in 1961.

I trust this gives you the information which you require.

Sincerely yours,

Robert A. Kehoe, M. D.

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