

October 7, 1940

Dr. George Calineart  
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Detroit, Michigan

My dear Cal:

Concerning the matter of the proposed use of leaded gasoline in cooking equipment by the United States Army, you will recall that Dr. Kehoe felt that we should look into the matter and probably obtain one of the Army stoves for the purpose of determining whether or not a lead hazard existed. Accordingly, on Friday of last week I attended a conference in Washington with Colonel Hoss of the Procurement Section of the United States Quartermaster Corps who is fully familiar with this whole subject.

Colonel Hoss informed me that the only stoves in which it is proposed to use leaded gasoline are those developed by the Army for this specific purpose. These stoves are of a variety of types but they all use a burner designed to remove the lead from leaded gasoline. A photograph of this burner is enclosed herewith and later Colonel Hoss told me that he would send me a copy of their bulletin describing in detail the use of the equipment and giving drawings showing the details of design. Substantially, the principle is as follows: the gasoline vapors pass through an iron tube which is heated by the burner and is supposed to decompose the tetraethyl lead. The vapors then pass through an asbestos filter which is easily removable and is shown in the center of the burner in the photograph. This burner was tested by the Army Medical Corps at the Walter Reed Hospital in January of this year. A copy of their report is enclosed. There are obvious questions raised by the report. One of these is that only about 0.75 cc. of tetraethyl lead was found in the Ethyl gasoline. I do not know of any Ethyl gasoline carrying as little lead as this. The other is the apparent assumption that all of the combustion products were analyzed. A rough calculation on my part would indicate that about 200 cubic feet of air is necessary to burn one pound of gasoline and, therefore, the estimates given in the report of the percentage of lead removed are in error. However, if the analyses of the combustion products are correct, the conclusion that no lead hazard exists may also be correct.

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Colonel Hoss informed me that he was somewhat doubtful of the validity of the conclusion reached at Camp Holabird concerning the use of Thrift-O-Lene in the gasoline as a means of prolonging the life of the filter but, in any case, whether Thrift-O-Lene is used or not, leaded gasoline will only be used in this particular type of burner.

I will appreciate it if you will review this subject carefully and then send the photograph, filter, and a copy of the Medical Report to Dr. Machle together with any comments you may wish to make. I will appreciate a copy of such comments. If Dr. Machle feels that we should pursue the subject further, I will be glad to attempt to make the necessary arrangements. If, however, he feels satisfied with the situation, I suggest that we drop the whole matter, although we might attempt to determine the composition of Thrift-O-Lene.

Very truly yours,

Graham Edgar

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