

January 7, 1942

AIR MAIL

Dr. R. C. Carrell,
c/o Lago Oil and Transport Co., Ltd.,
Aruba, Curacao.

Dear Dr. Carrell:

I am sending you herewith a group of articles which have to do with the hazards and medical problems associated with the handling of Ethyl Fluid and the distribution and use of leaded gasoline. Among these you will find a memorandum which I have directed to the attention of medical consultants in this field and which I believe covers our point of view in a general way. There are two points which I wish particularly to stress.

The one is that if the equipment is properly built and properly operated, and if the men follow the instructions given them, there will be no lead exposure associated with this work, and there will be no danger from that source. Indeed, the whole purpose of our medical supervision of these men is to establish with certainty that the work is done properly and with adequate precautions. The slightest evidence of lead absorption among the men will indicate clearly, either that the equipment is out of order or that the men are not following instructions. The material is quite dangerous and unless we are able to maintain complete compliance with the regulations, difficulties will develop. Such difficulties have been avoided thus far by the maintenance of a strict medical supervision, which keeps the men aware of the potential dangers of their work and causes them to exercise the necessary precautions.

The second point is that the cleaning of tanks that have been used for the storage of leaded gasoline is an acutely dangerous task. It must be carried out under the strictest precautionary measures. The regulations which have been prescribed for this purpose and which are incorporated in the booklet which I am sending you, are adequate to provide protection against danger. They must be followed rigidly. Especially important is the use of properly fitted airline hose masks in good condition. For your own information, I can tell you that the concentration of lead vapors inside one of these tanks may be such as to bring about fatal poisoning in the course of fifteen minutes to a half hour exposure. These conditions would occur only when the quantity of sludge in the bottom of the tank is considerable and when such sludge is unusually rich in tetraethyl lead. However, a combination of circumstances which I can not go into in detail may result in the accumulation of considerable quan-

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titles of tetraethyl lead in the sludge. It is impossible to predict on the basis of present information whether the concentration of lead in the sludge in a tank will be high or low. It is necessary, therefore, to assume that it may be high and to have the work of cleaning conducted accordingly.

There have been some articles written by South American workers indicating that the lead exposure and men engaged in mixing tetraethyl lead with gasoline is considerable. These conclusions have been arrived at on the basis of microscopic blood findings which were ^{not}adequately controlled by corresponding observations on numbers of unexposed persons. The conclusions have been erroneous and have been chiefly the result of inexperienced work in this field. I mention them only because these articles may come to your attention. I wish again to assure you that if the work is done properly, there will be no untoward results.

I should appreciate it if you would acknowledge the receipt of the material which I am sending you, and if you would write me from time to time as questions arise or as things of interest occur.

Very truly yours,

Robert A. Kehoe, M. D.

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