Ethyl Corp. of Canada Limited
Corunna, Ontario
Canada

Corunna, Ontario

Dear Doctor Warren:

Dr. Kitzmiller and Mr. Cholak have called my attention to samples received from you and to your letter of February 25 in which these samples are listed and described, and because of certain problems which they present, I elected to write to you about them.

I hasten to say that I am quite willing to comply with your wishes in the matter of these analyses, but it seems wise to find out what you have in mind and to express our own view about them.

First, in order that we may keep our line of communications straight, it is of some importance, I believe, to clarify the organizational pattern of our relationships now that I have retired from the medical directorship of Ethyl Corporation. I should have done this sooner, perhaps, but no harm has been done by the delay except that this particular batch of samples has been held for my instructions, and I only found this out today, having had no word about them previously.

The analytical and experimental services for Ethyl Corporation of Canada, as those of Ethyl in the U.S.A. are primarily a function of The Kettering Laboratory, and as such they come under my direction. In effect, and without being "stuffy" about the procedure, the Medical Department of the Corporation, which is situated administratively in The Kettering Laboratory, requests the Director of The Kettering Laboratory to carry out certain work, and informs him fully of its background. So long as I wore both of these hats, this was handled without spoken or recorded words. Now, however, the two organizations are separate and must be maintained separately, since otherwise the position of the Laboratory and the responsibilities of the persons who render technical services become confused and uncertain. The material sent to the Laboratory for handling, whether by analytical or other procedures should come to me, with such information as may be required for their interpretation, and with a copy to Dr. Kitzmiller, who then will know what is going on and can, if necessary, take any steps he deems necessary. Time will be saved, however, in that the machinery of the Laboratory will have been put in motion promptly.

The handling of the present series of samples will illustrate the advisability of this procedure. Had I had your letter to Dr. Kitzmiller (or a copy of it) I would have initialed this inquiry at once. I'll raise certain questions and comment on them later, but now I continue to the completion of the procedural

of the Corporation. If our findings are to have their full legal weight - if such weight should be needed - they must not have any of the bias that is presumed (incorrectly, of course) to exist within the industry.

It is our main purpose, I believe, to provide a satisfactory check on the precision of the analytical work done by the Sarnia General Hospital, so as, thereby, to substantiate their results for the purposes of both valid industrial hygiene and legal medicine. If I am right in this attitude, the analysis of the present series of samples will serve no useful purpose, since these samples are not identical, or for that matter, not even similar, necessarily, to those analysed by the Hospital Laboratory. If we are to analyse them with a comparison in mind, we should so treat them as to make homogeneous solutions of them, split them and return half of each of them to you or to the Hospital. This can be done, but considering the difficulty of getting them across the international boundary, I have thought that it might be simpler for you to obtain a completely new set of samples. If you agree that this is the best procedure we shall discard the present series of samples.

If you are to obtain a new set of samples, the following procedure should be followed. (I had thought that we had discussed this, but I may have failed to do so in my concern for other matters at an earlier time.) Have the employee (or patient) urinate into two containers, one after the other, in the course of a single voiding. (Almost from the moment the sample has been voided into a single container, it ceases to be homogeneous; the flocculation of the phosphates on cooling, for example, results in inhomogeneity with respect to lead. Thus one must add a lead-free acid in known volume to dissolve all traces of precipitate and then divide the sample. This can be done only in the analytical laboratory where appropriate containers, reagents and surroundings have been provided.

If you had in mind that our results, in complete independence of the Hospital Laboratory, would reveal the general status of the men listed in your letter, individually and in relation to their work assignment, we can complete the analysis and report the results shortly. If, on the other hand they are expected to be essentially parallel observations, as a check on the precision of the other laboratory, they will fail utterly.

While I am speaking of technical procedures, I may as well comment on the proposal made by one of your colleagues in relation to the examination of certain samples of urine and blood, as set forth in another letter to Dr. Kitzmiller, which he showed me. I have no way of knowing just what background of technical skill and experience this man (whose name slips me and is unimportant at this point) may have had, but there are at least three very serious faults in his proposal.

of larger volume is an utter impossibility unless one treats it as I have indicated above and makes absolutely sure that all sediment and solid deposits on the side of the container have been dissolved.

(3) Blood samples prepared in the manner requested will be entirely valueless for the determination of the partition of lead between plasma and erythrocytes. Any separation of the two requires centrifugation at once before any autolyses occurs in a fresh sample of blood. As a matter of fact and physiology there is no point in such determinations in any case, since the lead in the plasma in fresh blood is so minute a proportion of the total lead as to be beyond the precision of the best methods of analysis now available.

It should be realized also that the concentration of lead in the blood of persons exposed to tetraethyl lead is low and that the contemplated observations may just about as well be carried out on normal individuals. Indeed, the men under your supervision are very poor material for the study of individual lead absorption and of associated physiological and clinical phenomena because of the low level of their exposure.

No doubt these facts are known to you and have been of concern to you in relation to this request. My only concern in this is that your people should not be used for observations that may not be valid in either the factual or the interpretative sense. Whether it is good company policy to collaborate in such investigations as these is not in my present province to decide. I lean toward the fullest collaboration with medical and scientific colleages. It is never good policy, however, on any score, to be involved in anything less than well-planned and well executed observations.

I am most appreciative of your kind words in relation to my retirement and associations in the past. It seems likely, however, that we shall continue to have some activities and interests in common, and certainly I shall be available if I can be of service.

With kindest regards.

Sincerely,

Robert A. Kehoe, M.D.

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