May 7, 1932

California Chemical Corporation
Newark, California

Attention: Mr. Paul A. Gross

Dear Sir:

I wish to thank you for your letter of May 3rd describing your procedure in the handling of drums shipped to you by the Ethyl Gasoline Corporation containing Ethylene di-bromide.

Your description of the condition of the man who was made ill, does not suggest that he was exposed to the vapors of Ethyl fluid. The symptoms which arise from the inhalation of considerable quantities of Tetra-Ethyl lead are so striking and so persistent that there is usually very little difficulty in recognizing them. On the other hand, the presence of Ethylene di-bromide contributes an additional factor which may sometimes cloud the picture, since certain of the symptoms of the di-bromide inhalation in high concentration resemble the symptoms of the absorption of Tetra-ethyl lead vapor.

For your own information, I should mention the fact that the diagnosis in these instances must be made on the basis of symptoms and can not possibly be made by looking for the customary signs of lead absorption. To this extent the examination of gums is entirely without avail. Following a short exposure to a high concentration, there are likely to be no evidences whatever of lead absorption of the usual type. Under these conditions a lead line is never seen, changes in the blood cells are not found while the excreta may or may not contain significant increase in lead. I mention this merely to show that lead may not be excluded on the basis of the examinations which you described as having been made by Dr. Davis.

What does occur in every instance is that the patient develops a very distressing inability to sleep, he is in a state of greatly increased nervous excitement, he has no appetite and if he does eat, is very likely to become nauseated and reject his food. With this there is

a sharp drop in blood pressure, a slowing of the pulse and sub-normal temperature. If the individual is vortunate enough to obtain some sleep, he usually wakens very greatly fatigued as a consequence of frightful dreams. The individual, furthermore, is very pale, feels very weak and in general shows all the evidences of a very acute depressive intoxication. I take it from what your letter has said, that very few of these symptoms presented themselves. It seems quite certain therefore that your employee either was not exposed to Tetra-ethyl lead or he did not absorb sufficient amounts to produce any considerable intoxication.

In the case of inhalation of excessive amounts of di-bromide, one would expect certain of the same symptoms with weakness, nausea, loss of appetite and muscular tremors being especially prominent. There is a tendency for the development of an edema of the lungs following severe exposure. This develops within forty-eight hours and in as much as it did not occur in the case you describe, or apparently did not occur, it would seem to me one need not anticipate any grave denger.

I would appreciate it very much if you would inform me further as to the outcome in this case. If there is any further development or if any unusual symptoms present themselves, I should wish to know about them at once.

Very truly yours,

RAK:IS