

Eldredge

May 11, 1932.

Mr. S. M. Wagner,
Ethyl Gasoline Corporation,
Subway Terminal Building,
Los Angeles, California.

Dear Sam:

I wish to confirm the message I gave over the telephone yesterday relative to the lethal dose of tetraethyl lead when taken through the mouth.

Extensive work done by the Bureau of Mines and our people at Cincinnati with animal experimentation gives the following result, taking for example a two pound rabbit:

The lethal dose for such rabbit was 120 mgs. of tetraethyl lead, and in work of this character it is assumed to be good technique in trying to arrive at a lethal dose for an individual to multiply the number of milligrams required for a lethal dose for a two pound rabbit to the same extent as the multiple of the individual's weight over the rabbit's weight. For instance, if the individual weighs 120 pounds, then obviously he would weigh 60 times as much as the rabbit; multiplying 120 milligrams by 60, equals 7200 milligrams, which would be a fair approximation of a lethal dose for the 120 pound individual.

If Ethyl Gasoline should contain 2 c.c. tetraethyl lead per gallon of gasoline this would be equal to approximately 1 mg. per c.c. of gasoline, and inasmuch as there are 3785 c.c. in a gallon of liquid, such gasoline would therefore contain 3785 mgs.

If the lethal dose for the 2 pound rabbit is 120 mgs. and the lethal dose for the 120 pound individual would, as above stated, be 7200 mgs., it would be necessary to have the equivalent, roughly, of 2 gallons of Ethyl Gasoline containing 2 c.c. of lead in order for the individual to get a lethal dose.

If the gasoline contained 3 c.c. of tetraethyl lead, such individual would have to consume about $1\frac{1}{2}$ gallons of Ethyl Gasoline to get a lethal dose.

Or, as I otherwise stated it, a mouth will scarcely hold more than 50 c.c. of liquid, which is about $\frac{1}{80}$ of a gallon. On the basis of a maximum of 3 c.c. tetraethyl lead per gallon of gasoline, it is estimated one would have to swallow approximately $1\frac{1}{2}$ gallons of the gasoline to get a lethal dose, or I might say he would have to swallow 120 mouthfuls of gasoline - which is obviously an impossibility.

Dr. Calingaert yesterday experimented to see how much liquid he could get in his mouth. The best he was able to do was 30 c.c. I would not be surprised that this

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was about a fair average. If so, and 30 c.c. consisted of Ethyl Gasoline of the concentration of 3 c.c. of tetraethyl lead per gallon, there would be about 40 mgs. of lead in the mouthful, which as above stated is $\frac{1}{3}$ of a lethal dose for a 2 pound rabbit.

It is inconceivable to me that any man who accidentally got his mouth full of gasoline would swallow it all. He certainly would make some effort to get rid of it and in all likelihood there would be less than a spoonful actually swallowed; but even if he swallowed it all our scientific people are as sure as anything that the amount of lead in such mouthful of gasoline would not add in the slightest to the discomfort or the harmful effects other than what would naturally come from swallowing a mouthful of ordinary gasoline.

I shall not make any further comments regarding the article that appeared in the Los Angeles Times until we have heard further from you on the subject, other than to say that we were pleased to get your telegram yesterday from San Diego stating that the matter did not seem so serious.

With best wishes,

Very truly yours,

E. W. Webb

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