

July 25, 1962

F. Curtis Dohan, M.D.
221 Maloney Clinic Building
Hospital of the University of Pennsylvania
36th and Spruce Streets
Philadelphia 4, Pennsylvania

Dear Doctor Dohan:

There are no references, so far as I know, to the ingestion of tetraethyllead except my initial article on the toxicology of this compound, which deals fairly lightly with the problem. There have been cases of poisoning in association with the accidental or intentional ingestion (I have the records from *four* such cases, only two of which recovered), but so far as I know, there are no published accounts that are useful. As to the metabolism of the compound in the body, there are some publications (I send two reprints and give a few references), but the investigative work has not yielded too much definitive information. However, there is very little (probably none) decomposition of TEL in the intestinal tract, but a considerable portion of the compound undergoes decomposition to triethyl compounds, and subsequently, it seems likely (but is hard to prove) that it degrades further to diethyl compounds. Only a small proportion of it ever breaks down completely to inorganic lead in the tissues, as can be concluded from the fact that very little is capable of being taken up - as are the inorganic compounds - in the erythrocytes. Accordingly, the concentration of lead in the blood remains low - often essentially unchanged - in tetraethyllead poisoning - even fatal intoxication - although the lead in the urine is often remarkably high. *with some
further
study*

The references which I would cite (no reprints are now available) are as follows:

Kehoe (Toxicity of TEL, etc.) J. Lab. & Clin. Med. 12:554, 1927.
same et al (Behavior of TEL) Am. J. Hyg. 13:478, 1931.
Machle (TEL Poisoning - human cases) J.A.M.A. 105:578, 1935.
Cremer, J. E. (Biochemical Studies - TEL) Brit. J. Industr. Med. 16:191, 1959.

We are about to publish a paper on the comparative toxicity of tetraethyllead and tetramethyllead. It will appear in the A.M.A. Archives sometime in the autumn.

Cordially yours,

RAKwp
Enclosure as stated

Robert A. Kehoe, M.D.