

June 6, 1957

Mrs. [REDACTED]
Box 7
Calhan, Colorado

Dear Mrs. McIlvain:

Your letter of May 28, addressed to Ethyl Corporation, has come to me, as Medical Director, for reply.

The handling of gasoline containing tetraethyl lead at filling stations, bulk stations and refineries has never caused any cases of lead poisoning in the United States during the entire period of its use. There were cases of poisoning among men engaged in the manufacture of tetraethyl lead during the early period of the development of manufacturing processes, and there was a time when such cases occurred in connection with the cleaning and repairing of large gasoline storage tanks, (in which the type of exposure is totally different). It is these cases that have been responsible for the idea, which still exists in some parts of the country, that the ordinary handling of gasoline is dangerous from the aspect of its lead content. The truth of the matter is that this problem was investigated very extensively in the early days of the use of leaded gasoline, and it was shown that no such danger existed under ordinary circumstances. The reason back of this safety is that the lead content of the gasoline is so low that, (1) there is no measurable absorption of lead during contact of the gasoline with the skin, and (2) the vapor given off from gasoline in open containers contains only negligible amounts of lead. It is for these reasons that leaded gasoline could be marketed, for if the facts had been otherwise, this type of gasoline could never have been used.

I am quite sure, therefore, that Mr. [REDACTED] was not poisoned by tetraethyl lead and that the physicians at the Veterans' Hospital were correct in their opinion. It is of some importance in this connection, to know that the absorption of lead in this form does not damage the peripheral nerves so as to produce a neuritis. At least, we have never seen a case of neuritis even in the cases that have been known to be due to the absorption of tetraethyl lead in large quantities in the operations to which I referred previously.

The report of the finding of lead in your husband's urine "at the upper limits of normal" tends in itself (dependent upon how and where the analyses were carried out) to show that he had not absorbed

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KE 0012560

[REDACTED] -(2)- June 6, 1957

abnormal quantities of lead as tetraethyl lead or otherwise, since if he had absorbed dangerous quantities, the amount found in the urine should have been well above the normal limits.

Despite what I have said above, if your husband's physician would like to have further tests made of the lead content of the blood and urine, we would be glad to send him containers with instructions for the collection of these samples and will report our results to him, at no cost to you.

As to the precautions which should be taken by persons who handle gasoline of any kind, regardless of the presence or absence of tetraethyl lead, it should be recognized that the danger of injury lies in the gasoline itself. It is irritating to the skin, and some persons cannot endure even brief minor types of contact. In general, people with healthy skin can have some contact without much trouble, but prolonged contact, especially contact of the skin with clothing or other fabrics that are saturated with gasoline, will usually cause severe burns and always causes some damage. It is wise, therefore, to avoid such contact as much as possible, and to wash the skin clean and free of gasoline as promptly as possible, whenever such contact occurs.

The vapors of gasoline also cause dizziness, nausea, drunkenness and, in sufficient concentration, unconsciousness and death. Exposure to gasoline by inhalation, therefore, should be attended by considerable caution. People get somewhat accustomed to these vapors and often disregard them without suffering damage or illness, and illness short of fatality is usually brief in duration, but nevertheless there is always danger. Of course, as everyone knows, there are always dangers from fire and explosion in the handling of gasoline. People tend to become careless about this also, and so fires and explosions occur from time to time, and sometimes lives are lost.

I trust that this letter answers your questions, but if you wish to write further, do not hesitate to do so.

Very truly yours,

Robert A. Kenoe, M. D.

RAK:ef

KE 0012561

June 6, 1957

Mrs. [REDACTED]
Box 217
Calhan, California

Dear Mrs. McElvain:

Your letter of May 28, addressed to Ethyl Corporation, has come to me, as Medical Director, for reply.

The handling of gasoline containing tetraethyl lead at filling stations, bulk stations and refineries has never caused any cases of lead poisoning in the United States during the entire period of its use. There were cases of poisoning among men engaged in the manufacture of tetraethyl lead during the early period of the development of manufacturing processes, and there was a time when such cases occurred in connection with the cleaning and repairing of large gasoline storage tanks, (in which the type of exposure is totally different). It is these cases that have been responsible for the idea, which still exists in some parts of the country, that the ordinary handling of gasoline is dangerous from the aspect of its lead content. The truth of the matter is that this problem was investigated very extensively in the early days of the use of leaded gasoline, and it was shown that no such danger existed under ordinary circumstances. The reason back of this safety is that the lead content of the gasoline is so low that, (1) there is no measurable absorption of lead during contact of the gasoline with the skin, and (2) the vapor given off from gasoline in open containers contains only negligible amounts of lead. It is for these reasons that leaded gasoline could be marketed, for if the facts had been otherwise, this type of gasoline could never have been used.

I am quite sure, therefore, that Mr. [REDACTED] was not poisoned by tetraethyl lead and that the physicians at the Veterans' Hospital were correct in their opinion. It is of some importance, in this connection, to know that the absorption of lead in this form does not damage the peripheral nerves so as to produce a neuritis. At least, we have never seen a case of neuritis even in the cases that have been known to be due to the absorption of tetraethyl lead in large quantities in the operations to which I referred previously.

The report of the finding of lead in your husband's urine "at the upper limits of normal" tends in itself (dependent upon how and where the analyses were

KE 0012562

Mrs. [REDACTED] - (2) - June 6, 1957

carried out) to show that he had not absorbed abnormal quantities of lead as tetraethyl lead or otherwise, since if he had absorbed dangerous quantities, the amount found in the urine should have been well above the normal limits.

Despite what I have said above, if your husband's physician would like to have further tests made of the lead content of the blood and urine, we would be glad to send him containers with instructions for the collection of these samples and will report our results to him, at no cost to you.

As to the precautions which should be taken by persons who handle gasoline of any kind, regardless of the presence or absence of tetraethyl lead, it should be recognized that the danger of injury lies in the gasoline itself. It is irritating to the skin, and some persons cannot endure even brief minor types of contact. In general, people with healthy skin can have some contact without much trouble, but prolonged contact, especially contact of the skin with clothing or other fabrics that are saturated with gasoline, will usually cause severe burns and always causes some damage. It is wise, therefore, to avoid such contact as much as possible, and to wash the skin clean and free of gasoline as promptly as possible, whenever such contact occurs.

The vapors of gasoline also cause dizziness, nausea, drunkenness and, in sufficient concentration, unconsciousness and death. Exposure to gasoline by inhalation, therefore, should be attended by considerable caution. People get somewhat accustomed to these vapors and often disregard them without suffering damage or illness, and illness short of fatality is usually brief in duration, but nevertheless there is always danger. Of course, as everyone knows, there are always dangers from fire and explosion in the handling of gasoline. People tend to become careless about this also, and so fires and explosions occur from time to time, and sometimes lives are lost.

I trust that this letter answers your questions, but if you wish to write further, do not hesitate to do so.

Very truly yours,

Robert A. Kehoe, M. D.

RAK ef

C.C.: Dr. L. W. Sanders (Blind)
Mr. A. F. Ryan
Ethyl Corporation, Denver, Colorado (Blind)

KE 0012563

Dr. C. E. Calkins, Colorado

May 28, 1957

Ethyl Corporation
Boston Building
Denver, Colo.

Dear Sir:

I have been told that you might be able to give me some information concerning lead poisoning caused by inhaling gasoline fumes and handling leaded gasoline.

Over two years ago my husband was quite ill with neuritis which some of the Doctors that examined him thought might be caused by lead from gasoline, he has been a Commission Agent for Continental Oil Co. for over nine years and has never been careful in the way he handled gasoline in delivering the products, at the time he was ill one test was taken showing the urinary lead concentration was at the upper limits of normal, however when he entered Veteran's Hospital in Denver they seemed to convince him he did not have lead poisoning although they did not take any further tests on him. In all this time I have felt something has affected his nerves and he has never had the energy or physical stamina he had before he was ill.

Would you be able to send me information about the effects of lead from gasoline, also what tests would have to be taken to determine if he might have chronic poisoning, also what precautions should be taken when working around gasoline. I have been told so many different things about it that I would like information from the Company which makes the lead.

Sincerely,

Mrs Ernest McElvian

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