

ETHYL EXPORT CORPORATION

Incorporated in the State of Delaware, U.S.A. with limited liability.

ABFORD HOUSE, VICTORIA
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ETHYLEXPORT, LONDON.

ETHYLPORT, LONDON.

Head Office

135, EAST 42nd STREET,
NEW YORK, U.S.A.

4th June, 1931.

Dr. R. A. Kehoe,
Department of Physiology,
College of Medicine,
University of Cincinnati,
CINCINNATI, Ohio.

Dear Dr. Kehoe,

I was very glad indeed to get your letter of May 22nd giving me your opinions on Dr. Zangger's article. These will be extremely useful to us when next we tackle the Authorities in Switzerland.

As I explained to you in my previous letter, we tackled both Dr. Carriere, Head of the Swiss Public Health Department, and Dr. Zangger, and left with them both all the available data that we had on the public health aspect of Ethyl.

Since writing to you last, I have heard that Dr. Zangger after having studied the reports that we left with him, has again expressed an unfavourable opinion to the Public Health Department. He has stated that after having studied both the American and British reports, he feels there is still sufficient danger to be feared from the import of Tetraethyl Lead to warrant the present ban being continued.

Surgeon General Cumming has recently been over here, and spent some time at the League of Nations Conference in Geneva. During this conference he came in contact several times with Dr. Carriere, and had a short discussion with him on the subject of Ethyl. I rather felt that Dr. Carriere after his talk with Dr. Cumming would probably be prepared to reconsider his decision. The latest information I have, however, is a letter written from Dr. Carriere to Dr. Zangger in which he thanks him for his report, and mentions that it is also his opinion at the present time that the existing ban should be continued. All this of course is extremely unfortunate.

I am trying at the moment to get a copy of Dr. Zangger's recent report, and, as soon as I obtain this, I would like to send it to you for your comments, and as soon as I feel that I have sufficient information on the subject, I will take the matter up again with Dr. Carriere, and see whether it is not possible to get him to reconsider his decision.

I am afraid that some of these Public Health Authorities are very difficult people to tackle, since they seem to be under the impression that their country has very different problems to face to those of any other country. It would almost appear from the attitude they take up, that the human body is quite different in each country.

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Dr. R. A. Kehoe.....

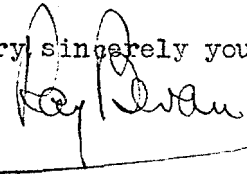
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I shall be extremely glad to receive from you copy of your latest report which you say you hope to have ready within the next few weeks. This I am sure will be most valuable to us in tackling some of these Health Authorities over here.

Dr. Boldero was in yesterday, and asked to be remembered to you, as also do all the rest of your many friends over here. I would very much like to have the benefit of your presence over here in tackling some of these people, but I appreciate very well that it would not be worth wasting your time as things are at present. I sincerely hope that everything is going well with you, and also with Mrs. Kehoe and Kathleen. I shall be glad if you will give them both my kindest regards.

Kindest personal regards,

Very sincerely yours,

A handwritten signature in cursive script, appearing to read "Ray B. Evans", written over a horizontal line.

RE 0007077

May 22, 1931

Mr. Ray Bevan,
Ethyl Export Corp.,
Abford House, Victoria
London, S. W. 1, England.

My dear Bevan:

I have your letter of May 1, which I was very happy to receive. Thanks very much for the photostat copy of Dr. Zangger's article on the subject of Ethyl Gasoline. I have had the article translated and have gone over it very carefully. Detailed criticisms are difficult to make for the reason that practically all of the results which Dr. Zangger has predicted have been shown not to occur. A few specific points, however, deserve comment.

(1) In any discussion with Dr. Zangger, it should be pointed out that the attempts of American investigators have been not only to detect evidences of injury as a consequence of this commercial venture, but that in addition well founded efforts have been made to determine whether or not lead absorption could be brought about under the conditions produced by the distribution of Ethyl Gasoline. It has been definitely shown that lead excretion in a large number of subjects may be regarded as an adequate criterion of lead absorption. The attempt has been made on this basis therefore, by very careful chemical methods, to determine whether or not any increase in lead absorption resulted from the distribution of Ethyl Gasoline. The results of such investigation, carried out on a large number of men particularly selected because of their exposure, have been entirely negative. It is fairly safe to assume that where lead absorption cannot be demonstrated to occur, lead poisoning would not be expected.

(2) It has been shown beyond any reasonable doubt that in the concentrations involved, lead is not absorbed through the skin out of gasoline as result of skin contact. As a consequence of this the public has no opportunity for exposure to tetraethyl lead, but is limited solely to whatever exposure there may be from exhaust gases which contain lead bromide. Thus the question of tetraethyl lead poisoning in the general public need not be considered at all.

(3) The deposition of lead compounds on the surface of the earth as result of lead in exhaust gases, has not up to the present shown itself to be significant. Consid-

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ering the fact that tons of lead have been deposited on the earth as the result of the use of lead paints, without having produced a noticeable effect, it is much less to be feared that lead from exhaust gases will accomplish any bad effect. Two factors enter into this. One of these is that the finely divided character of the lead spreads it very widely but very thinly on the earth. On the other hand, in those places in which its accumulation would reach the greatest level, it is to be confidently expected that the greater portion of the lead will be washed away in its soluble form as a consequence of rain-fall, the flushing of streets, etc.

(4) It should be pointed out that under the conditions of combustion no undecomposed tetraethyl lead or other intermediate lead compounds can appear in the exhaust gas; that lead can appear there only as bromide or oxide.

(5) It should further be pointed out that the other difficulties of which Dr. Zangger speaks, have been anticipated and have been confidently expected to appear by Public Health workers in the United States and also in Great Britain; that experienced workers have been somewhat surprised that their expectations in the matter have failed entirely to develop due to such rather fortuitous matters as the partial accumulation of the compound in the manifold and exhaust system, and more importantly to the fact that tetraethyl lead in the quantity in which it occurs commercially in gasoline shows no volatilization out of gasoline.

Our report on the last investigation, which includes some two hundred garage mechanics, some fifty filling station employees of long service, tank wagon handlers of gasoline and men engaged in filling barrels with gasoline, is now nearing completion. The statistical study is being made at present and should be finished in a few weeks. I shall get the report in shape as soon as possible and make it available to you. For your information, which you can accept as just as true a statement as though it were now in the literature, I can tell you that we have not found the slightest evidence of any change in the picture in the United States. We have demonstrated, I believe, conclusively that lead is not absorbed out of gasoline through the skin. We have this information on the basis of what I regard as a crucial experiment. Due to the peculiar conditions in New York City it was impossible for a time to transport gasoline in tank wagons. As a consequence of this, distributing companies handled their gasoline in fifty gallon drums. Early in 1927 I became interested in studying the effects of severe gasoline exposure and hit upon two of these barrel filling plants as an ideal place for the observations. In these plants men were barrelling gasoline all day under conditions of the most amazing exposure. The rooms were so

Mr. Bevan #3 5-22-31

filled with vapor that an unaccustomed individual could scarcely endure it. In addition, the manner of barrel filling was such that at frequent intervals the men were soaked from head to foot with gasoline. Their shoes were at all times gasoline-soaked. Some few weeks after our first examination these two plants began to barrel Ethyl Gasoline under exactly the same conditions. Six months after the beginning of this daily exposure, we selected a group of men, most of whom had been examined previously, and made a complete study of them. You will be interested in knowing that in no instance was there any evidence of lead absorption. The level of faecal and urinary excretion of lead before and after showed no difference whatever. In fact, there was no instance in the entire group of an individual whose lead excretion had increased during the interval. This I believe to be a full and complete answer to the question as to whether lead may be absorbed out of commercial Ethyl Gasoline as result of skin contact. It is not what I would have anticipated exactly, but it is none the less definite. All of this material will be made a matter of record in a very short time. At that time I expect to publish a brief resume of the whole report in one of the medical journals. I can tell you, not for publication, that I am of the opinion that our last investigation settles the problem very nearly for all time.

I hope the above information will be of some use to you. In any case it has served for an excuse for me to write to you, and I hope you will take advantage of the opportunity to write to me again at an early date.

My very kindest regards to yourself and to my good friends in London.

Sincerely,

RAK:EJ

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1st May, 1931.

Dr. R. A. Kehoe,
Department of Physiology,
College of Medicine,
University of Cincinnati,
CINCINNATI. Ohio.

Dear Dr. Kehoe,

I recently paid a visit to Switzerland with Mr. Breme of the D.A.P.G. in Hamburg, in order to interview the Swiss Health Authorities, with a view to getting them to remove the ban placed on the importation of our product by the Swiss Federal Department of Public Health in 1926.

We were able to see Dr. Carrière, Director of the Swiss Federal Department of Public Health, and discuss the matter fully with him. In view of Dr. Cumming's visit to Geneva this month and his kind offer to assist us in any way possible, we attempted to arrange a meeting between Dr. Carrière and Dr. Cumming, which I hope will materialise.

Dr. Carrière was quite open minded on the subject and was prepared to have his specialists investigate the situation as it is at present, and if their results prove satisfactory, he stated that the Public Health Department would be prepared to remove the ban at present existing on our product.

In addition to Dr. Carrière we also saw Dr. Werder Professor of the University of Berns, who acts as technical adviser to Dr. Carrière.

Dr. Carrière advised us to visit Professor Dr. Zangger of the University of Zurich who is considered one of the leading authorities in Switzerland, and who was responsible for the investigation work carried out in 1926 on the subject of Tetra-ethyl lead, which lead directly to the ban being placed on our product.

Dr. Zangger although at first rather unwilling to see us, eventually turned out to be an extremely interesting and open minded individual. He informed us that at the time he made his report, he felt fully justified in suggesting that our product should not be allowed to be imported into Switzerland. He stated, however, that a great deal of work had probably been done on the subject since that time, and he would be only too glad to study all this work, and if he felt justified in changing his mind he would be quite ready to do so. I can quite believe that he will be prepared to change his opinion, since he struck me as being a particularly fair and just man.

I am hoping also to arrange a meeting in Geneva between Dr. Zangger and Dr. Cumming. Dr. Zangger expressed great interest in meeting Dr. Cumming and talking

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TO.....

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I am enclosing herewith photostat copy of report made by Dr. Zangger in 1925 on the subject of Tetraethyl lead. I am sending you this report in German, since I imagine it will be just as easy for you to have it translated in Cincinnati as it would be for us to have it done here.

I would appreciate it very much if after having read Dr. Zangger's report, you would let me have your comments, so that I can, if necessary, pass them on to him. Should you consider it more advisable to write to Dr. Zangger direct, I would appreciate it if you would send me a copy of your correspondence, so that I can keep up to date on this situation.

With kindest personal regards to both Mrs. Kehoe and yourself

Very sincerely yours,

Ray Kevan

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