13 June, 1967

1415 TH/MLF

Mr. Frank Dexter
Union Carbide Corporation
Chemicals & Plastics Division
270, Park Avenue
New York, N.Y. 10017

Re: ASBESTOS TOXICOLOGY

Dear Frank:

I assume that you are aware of the occasional reports concerning possible toxicity and carcinogenic properties of asbestos. Dr. Dernehl of Union Carbide Medical Department has followed this area very closely and has maintained a very close check on the working conditions at the King City plant.

Perhaps the most publicity and "interest" in this problem has been in England. There, only two ports will handle normally bagged asbestos, at the other ports the Union of Dock Workers have refused to handle the shipments of asbestos.

We have been permitted to bring in several shipments with not very favorable results. The last shipment, because of rather poor handling and packing, was in bad shape with many broken bags and much free asbestos. Copies of reports on these shipments have undoubtedly already come to your attention.

Mr. Sayers of the asbestos group in UCL has written a report summarizing the findings and feelings concerning asbestos in the U.K. I assume that you have also seen a copy of this report. I am enclosing with this letter, a copy of the comments Dr. Dernehl made in response to this report from England.

My main purpose in writing this to you is to confirm that at the July asbestos meeting in Oxford we will implement the suggestion made by Mr. Sayers and agreed to by Dr. Dernehl that Union Carbide join in the cooperative standard sample comparisons to the extent of arranging for standard samples to be forwarded to Niagara Falls for trace element analysis. In joining the program to this extent we will be able to keep in close contact with the progress of this study and will also be aware of any adverse findings which may develop.

I assume that this is satisfactory to you. We will, of course, keep you directly advised of any information that may develop over here. If these findings or any others of which we may not be aware cause any change in marketing plans or programs for asbestos, we assume you will immediately advise us.

TJ Hall

UNION CARBIDE CORPORATION
270 PARK AVENUE, NEW YORK, N.Y. 10017

MEDICAL
DEPARTMENT

June 7, 1967

Dr. T. J. Hall
Union Carbide Europa A.A.
40, Rue Du Rhone
1211 Geneve 3
Suisse

Dear Tom:

I have reviewed the report, "Asbestos As A Health Hazard In The United Kingdom", prepared by I. C. Sayers, and in general I find that it is reasonably accurate. I do not attach very much importance to the data on the incidence of asbestosis and death from asbestosis and cancer because these are merely tabulations of events and do not take into consideration the numbers of people who were subjected to the possibility of the event occurring.

We had been interested in the possibility that the short fiber Coalinga product might have a greater hazard than the more conventional forms of asbestos because sub-micron silica has been known to cause a rapidly progressive silicosis after exceedingly brief exposure. We were concerned about whether the Coalinga material with its exceedingly fine fibril diameter might have a similar effect in causation of asbestosis. We therefore made some preliminary studies in which the material was injected into the belly cavity of guinea pigs, rats and rabbits and also was injected intratracheally by a method which distributes the asbestos throughout the lungs of rats. The materials injected were the standard fiber, a refined fiber and a long fiber obtained from Johns Manville for purposes of comparison. In the injection study the Coalinga refined fiber produced the most severe reaction in the belly cavity, whereas the

standard fiber and the Johns Manville fiber were essentially the same and less severe. In the injection study in the lung the crude fibers caused a more severe lesion, the refined fiber was intermediate and the Johns Manville fiber was least reactive. The only conclusion we can draw from this crude test is that it is possible that our Coalinga product may be more hazardous to use than long fiber asbestos in that it may induce the disease, asbestosis, at an early time after exposure.

The question was raised whether the 5 million particles per cubic foot were still valid as a Threshold Limit Value. I maintain that this value is still correct in terms of preventing the disease, asbestosis. There is no evidence of asbestosis occurring among people who have worked in an environment where the concentration was kept within the Threshold Limit Value. It is probable that the 5 million particles per cubic foot will not be acceptable for the prevention of mesothelioma. I have no idea what concentration might be effective in preventing this disease and I would wonder whether even a limit of 1 million particles per cubic foot would be effective in this regard.

Finally, I would give my unquestionable support to the request of the Pneumoconiosis Research Council for trace element analysis of the standard sample of asbestos. By so doing we would develop techniques which could be applied to our product from King City and which would be useful in making comparisons with the standards.

I hope this will be helpful to you, if you have any further questions please let me know.

Very truly yours,

C. U. Dernehl

Associate Medical Director

C. U. Dernehl, M.D.
ed