

July 23, 1939

Dr. John F. White
Monsanto Chemical Company
Boston, Mass.

51632

Dear Dr. White:

I have to thank you for your interesting letter of July 24 and for the pound of Santocel, which you are sending. With Dr. Sayers we have been very much interested in working with various forms of silica in an attempt to discover the mechanism by which it exerts its effects upon the body. We have not been able to demonstrate that silica gel, as ordinarily prepared, or is artificially dehydrated to furnish variable water contents, are capable of causing fibrosis. In fact the only colloidal silica that has been biologically active is a natural diatomite. This substance, in pure state, causes as much fibrosis as quartz itself.

I was particularly interested in what you had to say about the formation of cristobalite in crystals of colloidal dimensions. We have found that ordinary high-temperature cristobalite is even more active than normal quartz, but I had not appreciated that this substance could form at such low temperatures in the crystalline sizes that you mention.

I would ask whether you have had x-ray diffraction patterns made of the freshly prepared aerogel and compared them with similar patterns from the finished alcogel? I would feel that this might be highly instructive.

You may rest assured that we will keep you informed of any results that we may obtain.

Thank you for your cooperation.

Sincerely yours,

Leroy U. Gardner, M.D.
Director

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