Miller, Diane M. (CDC/NIOSH/EID)

From: Amar Nath [anath@unca.edu]
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It is a well written document. It is nice to know that the efforts would be directed to in vitro and in vivo short term studies.
Further to the discussion in section 2.4, I would like to add the following. One of the reasons why we have not achieved these goals even after 40-50 years of intensive research is that the emphasis was placed only on toxicological studies rather than on the physical properties of the surfaces. There is considerable circumstantial that the nature and concentration of surface defects determine to a large extent the biotoxicity of asbestos. Attention should be given to determining the characteristics of these defects and their tendencies to donate or accept electrons. The exchanges of charge in the lung could trigger a chain of biological events leading to deleterious health effects. Fubini and Pezart's s finding of enhanced biological activity on cleaving the asbestos fibers and German group's correlating thermoluminescence with biotoxicity support the above notion. If further studies on surface defects show that they are important contributory factor, then purely physical measurements determining the nature and concentration of defects could help us in predicting the biotoxicity of any sample of asbestos instead of a time consuming and not so cost-effective study on animals.

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