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Evaluation of the Mesotheliogenic Potential of Fibrous Talc Relative to Amphibole Asbestos in *in vitro* and *in vivo* Studies.

Elongate mineral particles (EMPs), also sometimes called mineral fibers, refer to any mineral particle with a length-to-width ratio of at least 3:1 and a length ≥5 μm. Asbestos is an EMP and, depending on the type, has long been causally related to the development of mesothelioma in humans. Fiber dimensions, durability, and surface characteristics are thought to be some of the key determinants of asbestos carcinogenicity. Experiences with asbestos have generated interest in the potential for non-asbestos EMPs to pose cancer risks, including mesothelioma, in humans. Although the mineral talc used in cosmetic applications has a predominantly plate-like (non-EMP) structure, talc mined for industrial applications can be found in the form of long, thin fibers that meet the definition of an EMP and, further, can be of the more specific dimensions thought to be important for asbestos to cause mesothelioma. We have identified studies in which historical samples containing fibrous talc have been characterized for mineral composition and dimensions using various analytical methods (*e.g.*, energy dispersive spectroscopy) and that have been employed alongside asbestos-containing samples in *in vivo* implantation and/or *in vitro* experiments designed to examine outcomes relevant to mesotheliogenic potential. These studies provide evidence that fibrous talc, including fibrous talc in samples where the dimensions are consistent with the most potent forms of asbestos for inducing mesothelioma, does not cause mesothelioma or other relevant outcomes in experiments where asbestiform amphiboles did. These findings are consistent with animal and epidemiology evidence in supporting that talc, unlike some types of asbestos, does not possess the important characteristics sufficient to cause mesothelioma. These findings also support that there is more to EMP pathogenicity than fiber dimensions, such as mineral type and crystal structure.