

Title *

Erionite - a new world of mystery

Abstract *

Erionite is a zeolite mineral found in association with volcanic rocks, as relatively large crystals or crystal aggregates in the vesicles of mainly basaltic lavas, or as microscopic crystals dispersed in ash-fall deposits known as tuffs. Erionite associated with volcanic tuffs in the Cappadocia area of Turkey has been associated with mesothelioma in both local and emigrant populations. This has led to major concerns in the USA, as similar erionite-containing tuffs are widespread in western States. Exposures to erionite fibers in the USA have been demonstrated in local populations where erionitic tuffs have been used as road gravels, but even incidental contact with rocks and soils, such as encountered by Forest Service workers, can lead to measurable exposures. Current mesothelioma data sets in the USA do not reveal any obvious correlations and there is some evidence for a genetic component to the Turkish experience, which may be absent elsewhere. A methodology for properly identifying erionite has been developed, but it has also highlighted further uncertainties in our understanding of this complex issue. Careful examination of erionites from different locations suggests a wide range of morphologies and chemistries, which also may play a role in any adverse response. Further work is needed to elucidate the risk factors associated with erionite.

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