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## Erionite occupational exposure at Yucca mountain project in Nevada

**Baumann Francine**

University of Hawaii Cancer Center, USA

Erionite fiber is categorized as a class I carcinogen by the IARC. Environmental and occupational exposure to erionite may result in the development of malignant mesothelioma (MM), and possibly other asbestos-related disease, including lung cancer. MM is a fatal tumor of the pleura due to exposure to mineral fibers, with a latency of 20 to 50 years after beginning of exposure. MM risk increases with exposure levels and with time of continued exposure. *In vivo* studies showed that erionite is 500-800 times more carcinogenic than chrysotile and 200 times more carcinogenic than crocidolite asbestos. However, because it was not commercially used, erionite was not regulated as asbestos. In three villages of central Turkey, 6.25 to 51.2 percent of total death was due to MM following exposure to erionite fibers present in rocks used to build houses. In North Dakota, US, a recent EPA study discovered asbestos-like radiographic changes among workers having used erionite gravels to pave roads. At the Yucca Mountain Project (YMP), Nevada, there is a serious concern that workers have been exposed to erionite fibers during the construction of a tunnel in an area containing erionite deposits, with inadequate protection. Recent studies showed that low-CAT scans have a detection rate of 24.2 percent while conventional X-rays can detect only 6.9 percent of MM cases. We recommend medical surveillance of all YMP employees using low level-CAT scans for early detection of MM and lung cancer, better medical care, and increased survival.

### Biography

Baumann Francine is Assistant Professor of Environmental Epidemiology and Biostatistics at the University of Hawaii Cancer Center. She analyses the relations between environmental exposure to mineral fibers and cancer for nearly ten years. She was the Principal Investigator of a research team composed of geologists, mineralogists and epidemiologists in New Caledonia. She has developed a multi-disciplinary methodology to study the environmental risk of mesothelioma in the US.

[fbaumann@cc.hawaii.edu](mailto:fbaumann@cc.hawaii.edu)