LEMNOS EARTH: QUALITY AND SUITABILITY FOR MEDICINAL USES

DIMITRIS PAPOULIS*, ELENI ZAGANA, ELENI KOUTSOPOULOU, PERSEFONI ROUMELIOTI

Geology Department, University of Patras, Patras, 26504, Greece/Ahaia
Papoulis@upatras.gr

In the Ancient Greek period, mud materials (Lemnos Earth) were used for medicinal uses (e.g. as antiseptic cataplasms, to cure skin afflictions, as cicatrisers, as a cure for snake bites). Hippocrates, Aristotle and others, produced classifications of medicinal earths. Most of these materials are clays, given different names depending on various factors including origin, differences in their mineralogical composition and properties. For example, Terra Samia, T. Sigillata, T. Lemnia, T. Cimolia, T. Sono / ptica, T. Eretria, T. Negra, etc (Beck 1996; Giammatteo et al., 1997).
At present, clay minerals used for therapeutic purposes are basically smectites, palygorskite, kaolinite and talc. In order to determine the quality of Lemnos Earth, its suitability and efficiency for medicinal uses a series of samples were collected and studied by various techniques. The mineralogical composition of the material was determined using XRD and SEM and it was found to be rich in smectite and specifically in Ca-montmorillonite. The chemical analyses of major trace elements and REE, as well as the determination of a series of physical properties such as CEC and BET, show that the material was suitable and effective for therapeutic purposes but prolonged use of the material could cause serial health problems.

[1] Bech, J., 1996. Aspectos histo / ricos y te / cnicos de las arcillas de uso medicinal. In: IX Simp. Grupo Especializado de Cristalograf / a. La Cristalograf / a y la Industria Farmace / utica. Ed. Reales Soc. Esp. F / sica y Qu / mica. Univ. Granada, pp. 15– 17
[2] Giammatteo, M., Cipriani, N., Corona, L., Magaldi, D., Pantaleoni, G., 1997. Osservazioni sull'origine e la composizione chimicomineralogica delle ''terre sigillate'' dell'Isola di Samo. Miner. Petrogr. Acta 327– 337.

Keywords: lemnos earth, medicinal uses, ca-montmorillonite