Physisorption Analysis And Interpretation Of Earthy Materials Applied Topically As Cosmetics In Some Selected African Countries

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Earthy materials are those indigenous substances which various communities apply for beautification, sunscreening, cleansing and against UV light, this is common to African communities. They are useful for both industrial and indigenous practices. The study focused on using the physisorption data to interpret and classify them according to their adsorption isotherm (Type I-IV). 22 samples was collected from Botswana (BTS), Cameroon (CMR), Democratic Republic of Congo (DRC), Nigeria (NG), South Africa (SCC) and Swaziland (SWL) respectively. Micromeritics BET, Tristar II 3020 instrument and N_2 (g), a standard laboratory method was used to determine the various classifications, porosity and surface area. BTS 1 and BTS 2, CMR 1 and CMR 2, NG 1 and NG 2, SCC 4, SCC 5, SCC 8, SCC 9, SCC 11 and SCC 12 and SWL 1 and SWL 2 fell within Type II adsorption isotherm, whereas samples SCC 2, SCC 3, SCC 6, SCC 7 and SCC 7 are Type III isotherm. The study revealed that the shape (Type) of the pore and the surface chemistry of an earthy materials enhances its usefulness for topical application.