

PERSISTENT ORGANIC POLLUTANTS IN DOME A, ANTARCTICA

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ABSTRACT

Persistent organic pollutants (POPs) including hexachlorocyclohexanes and hexachlorobenzene were analyzed in 2.4 m-depth snowpack samples collected in Dome A (4093 meter above sea level), the highest ice feature in Antarctica during the 2004/2005 Chinese Antarctic Research Expedition (CHINARE). α -hexachlorocyclohexane (HCH), γ -HCH, and hexachlorobenzene (HCB) were frequently detected in the snow with concentrations ranging 37.7–59.5, 45.3–99.4, and ND–27.2 pg L⁻¹, respectively. The most abundant pesticide was γ -HCH, with a mean concentration of 66.4 pg L⁻¹ followed by α -HCH with an average concentration of 46.2 pg L⁻¹. Our data suggest that some POPs were subjected to a long-range atmospheric transportation and deposited into the snow of inland Antarctica.