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Electrochemical impedance study of new alkyd paints prepared with green components (resin and anticorrosive pigment)

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Electrochemical impedance spectroscopy (EIS) was applied to describe the efficiency of anticorrosive alkyd paints (primers) prepared with different resins based on oils with high content of polyunsaturated fatty acids. Peruvian raw materials were used to prepare both the oil-based alkyd resin under study and the anticorrosive pigments (zinc tannates). Nowadays, sustainable technology goals in the paint industry seek to replace petroleum-based polymers and substitute the widely used conventional anticorrosive pigments, such as lead or chromate, because of their harmful toxicity to the environment and human health. New bio-based alkyd primers could have the necessary requirements to be considered an efficiently, green and low-cost alternative for prevention of corrosion.