The Production of Eco Ink Based on Leaves Waste

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Waste, especially organic waste, is a global problem that has not been handed properly, whereas the leaves waste containing carbon and can be used as a pigment source in the ink manufacture. Producing eco-friendly ink with high quality and low production cost is a challenge on ink industry. The purpose of the research is to recycle leaves waste as pigment source in ink. The procedure of research includes pyrolysis of dry leaves waste, carbon refining, and production of Eco Ink by varying the amount of distilled water, carbon powder, and alcohol to obtain the optimum result. The indicators tested in this study are the color intensity level, the absorption rate, the drying time rate, and the performance of Eco Ink on the printer. The more carbon is used, the darker the Eco Ink is. The higher concentration and more volume of alcohol, the faster the Eco Ink dries. Best quality of the Eco Ink is obtained with composition of 1.5 g of acacia gum, 4 g of carbon, 20 ml of distilled water, and 20 ml of alcohol 96% which has darker color than market ink, has absorption rate as fast as market ink, and has drying time rate 23 seconds faster than market ink. The production cost of Eco Ink is less than the market ink. Eco ink is proven to be applicable to the printing equipment. Keywords: Eco Ink, Leaves Waste, Recycling

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