Green Delignification of Sago Bark Waste (Metroxylon sagu Rottb L.) Using Deep Eutectic Solvents Choline Chloride-Oxalic Acid

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Abstract. This study was conducted to determined lignin from sago bark waste using deep eutectic solvent choline chloride-oxalic acid (DES Oxaline) as extraction agent. The variation in molar ratio that has been used is 1:1; 1;1,5; and 1;2. Extraction was carried out by sonication for 30 minutes to produce a cherry red mixture. The resulting mixture was homogenized at 2000 rpm to produce red cherry supernatant and dark red precipitate. Further homogenization at 8000 rpm of the supernatant produced a near colourless supernatant and a faint red precipitate. The yield for each molar variation of oxaline DES showed that the first precipitate was 66%; 66% and 62% for 1:1; 1;1,5; and 1;2 molar ratio variations. Meanwhile, the second deposit were 31%; 32% and 32% for the same molar ratio variations.

Keywords: Oxaline, lignin, sago bark waste.