

PENGEMBANGAN KUALITAS PEREKAT LIKUIDA TANDAN KOSONG SAWIT

(Development of Wood Liquid of Oil Palm Empty Fruit Bunches Quality)

Surdiding Ruhendi¹⁾, Tito Sucipto²⁾

¹⁾Dep. Hasil Hutan, Fakultas Kehutanan, Institut Pertanian Bogor

²⁾Program Studi Kehutanan, Fakultas Pertanian, Universitas Sumatera Utara

ABSTRAK

Sebagian besar perekat untuk industri kayu komposit merupakan perekat sintetis, seperti urea, phenol dan melamin formaldehida (UF, PF, MF). Perekat berbahan formaldehida merupakan perekat sintetis yang bahan bakunya diperoleh sebagai hasil olahan minyak bumi. Kelebihan perekat formaldehida adalah sifat perekatan yang baik, sedangkan kelemahannya yaitu sumber bahan baku yang semakin berkurang serta menimbulkan emisi formaldehida terhadap lingkungan. Sumberdaya alam yang cukup potensial sebagai bahan baku perekat dan papan komposit kelapa sawit (*Elaeis guineensis* Jacq.). Tandan kosong sawit (TKS) dapat digunakan sebagai bahan baku perekat melalui proses pencairan (likuifikasi). Penelitian ini bertujuan untuk mendapatkan karakteristik kualitas perekat likuida TKS, dan mengetahui pengaruh penambahan resorsinol terhadap kualitas perekat likuida TKS campuran. Hasil penelitian menunjukkan bahwa perekat likuida TKS yang dihasilkan merupakan golongan perekat phenolik dengan karakteristik bentuk cair, warna cokelat merah kehitaman, bebas kotoran, pH 11,60, kekentalan 101,00 cps, berat jenis 1,192, kadar padatan 49,77%, waktu gelatinasi 151,20 menit, kadar abu 20,46% dan derajat kristalinitas 19,94%. Sebagian besar karakteristik perekat likuida memenuhi karakteristik perekat PF untuk kayu lapis (SNI 06-4567-1998). Penambahan resorsinol pada perekat likuida TKS cenderung menyebabkan penurunan keasaman (pH), tetapi meningkatkan kepekatan warna (warna lebih gelap), kekentalan, berat jenis, kadar padatan, waktu gelatinasi, kadar abu dan derajat kristalinitas.

Kata kunci: Tandan kosong sawit, likuifikasi, perekat likuida, resorsinol, kualitas perekat

ABSTRACT

Most of adhesive used in wood industry were synthetic adhesive, such as urea, phenol, and melamine formaldehyde (UF, PF, MF). Formaldehyde adhesive were synthetic adhesive which its material contents derived from petroleum manner. The advantage of formaldehyde adhesive was its good adhesion, meanwhile the disadvantage was its main contents was on the wane and causes formaldehyde emission. Potential natural resources which can be used as adhesive main contents and biocompocite were oil palm (*Elaeis guineensis* Jacq.). The oil palm empty fruit bunches (EFB) could be used as adhesive main contents through liquefaction process. The research consists of research of making EFB wood liquid, its characterization, and resorcinol addition to have better quality. The research results show that EFB liquids which were produced belong to phenolic adhesive type, which specified by characteristics as follows: liquid, brown-red-black in color, free of dirt, pH 11.60, viscosity 101.00 cps, density 1.192, solid content 49.77%, gelatin time 151.20 minutes, ash content 20.46%, and cristallinity degree 19.94%. Adhesive quality, in general, fulfill the spesification for phenol formaldehyde as plywood adhesives (SNI 06-4567-1998). Adding resorcinol on EFB wood liquids decrease pH, but adding resorcinol on EFB wood liquids increase color, viscosity, density, solid content, gelatin time, ash content, and cristallinity degree.

Keywords: Oil palm empty fruit bunches, liquefaction, wood liquids, resorcinol, quality