Lignin polymerization of epoxy compound -1

Early epoxy lignin had been reported in 1962, they are prepared by mixing 100 parts of lignin, 140 parts of phenol and three sulfuric acid, heated to 140 ~ 180 ℃, after a period of reaction, the residual phenol by vacuum distillation and distilled water removal, leaving lignin phenol resin, the lignin phenol resin, 32 chloro 1,2 - propylene oxide, methyl ethyl ketone mixture was heated while stirring and adding 40% sodium hydroxide. The next day, after filtration and distillation, separable from epoxy resin.

Nonaka YJ other industrial alkali lignin with an epoxy compound and a water-soluble polyoxyethylene diglycidyl ether (PEGDGE) and a curing agent reaction, the product had a novel resin, and found that as the lignin content increased, the change in the epoxy compound , the type of curing agent, to form an interpenetrating polymer network structure (IPNS).

Specifically the following experiment, a phenolic hydroxyl content of 2.7% (UV method) alkali lignin, dissolved in 1% sodium hydroxide solution at 60 ℃, the epoxy compound to the lignin solution with a polyoxyethylene diglycidyl ether blending, and addition of an aliphatic amine cross-linking agent, adding the amount of the epoxy crosslinked with 80% at room temperature after adding 1d, and then heated to 150 ℃, heat 3h, the cured film is a brown, transparent and has good The rigidity and strength of the product obtained as the glass transition temperature tunable large, so can be used as adhesives and insulation materials.