CLAIMS

[Claim 1]

A method for producing a hydrogenated petroleum resin comprising a copolymerization reaction step of subjecting a cyclopentadiene-based compound and a vinyl aromatic compound to a copolymerization reaction in the presence of a polymerization solvent; a step of performing a removal treatment of a volatile component which is contained in a copolymerization reaction product liquid obtained in the copolymerization reaction step, to obtain a petroleum resin; a hydrogenation reaction step of subjecting the petroleum resin to a hydrogenation reaction in the presence of a hydrogenation solvent; a step of performing a removal treatment of an unreacted component and a volatile component which are contained in a hydrogenation reaction product liquid obtained in the hydrogenation reaction step, to obtain a hydrogenated petroleum resin concentrate; and a removal step of a volatile organic compound component by removing a volatile organic compound component from the hydrogenated petroleum resin concentrate, to obtain a hydrogenated petroleum resin containing 6 to 10% by mass of a hydrogenated low-molecular weight material, wherein

the removal step of a volatile organic compound component is constituted of a first step of supplying the hydrogenated petroleum resin into a thin film distillation apparatus, to control the content of the volatile organic compound component to less than 2,000 wt ppm; and a second step of supplying the hydrogenated petroleum resin having passed the first step into a nitrogen-stripping apparatus or a steam distillation apparatus, to control the content of the volatile organic compound component to less than 100 wt ppm.

[Claim 2]

The method for producing a hydrogenated petroleum resin according to claim 1, wherein the content of the hydrogenated low-molecular weight material which is contained in the hydrogenated petroleum resin in the hydrogenated petroleum resin concentrate is 7 to 13% by mass in 100% by mass of the hydrogenated petroleum resin containing the hydrogenated low molecular material.

[Claim 3]

The method for producing a hydrogenated petroleum resin according to claim 1 or 2, wherein in the thin film distillation apparatus, a treatment temperature is 100 to 300°C, a treatment pressure is 0.1 to 15 kPa, and a treatment time is 5 to 180 minutes.

[Claim 4]

The method for producing a hydrogenated petroleum resin according to any one of claims 1 to 3, wherein in the nitrogen-stripping apparatus or the steam distillation apparatus, a treatment temperature is 150 to 300°C, a treatment pressure is 0.5 to 150 kPa, a nitrogen or steam flow rate is 100 to 1,000,000 mL/min relative to 100% by mass of the hydrogenated petroleum resin, and a treatment time is 10 to 180 minutes.

[Claim 5]

The method for producing a hydrogenated petroleum resin according to any one of claims 1 to 4, wherein a molecular weight of the hydrogenated low-molecular weight material which is contained in the hydrogenated petroleum resin is 200 to 350.

[Claim 6]

The method for producing a hydrogenated petroleum resin according to any one of claims 1 to 5, wherein the nitrogen-stripping apparatus is a rotary evaporator or a flash drum, and the steam distillation apparatus is a flash drum or a stripping tower.